



QUINSIGAMOND
Community College

2016|2017 Catalog



www.QCC.edu

Our Mission

Quinsigamond Community College is the gateway to advanced educational and employment opportunities in Central Massachusetts. We are a public, student centered institution of higher learning, providing accessible, affordable, and high quality educational and training programs and services that are relevant and responsive to diverse regional and student needs.

Our Vision

Quinsigamond Community College is a premier learning community...recognized for teaching and learning excellence, relevant and responsive programming, students' success, and community outreach and impact. We thrive as a vital regional asset and first choice for transforming lives and sustaining healthy, prosperous communities. All are welcomed and embraced in our community, where students come first and faculty and staff strive to develop potential and help make dreams come true.

At QCC, we excite...we ignite...we open new vistas of opportunity.

Our Mission Principles

In fulfillment of mission, the college community commits to the following principles:

- Students First
- Teaching and Learning
- Comprehensive, Flexible Programming and Services
- Open Access to Learning
- Potential for Success
- Community Outreach and Support

Our Values

Faculty and staff infuse life in our vision and live mission principles by creating and sustaining a college climate and culture where all are warmly welcomed, accepted and valued for their individual dignity and worth. We recognize the importance of diversity and acknowledge the rich and unique contributions that each community member makes to advance the College. To this end, the following values guide our individual actions and community interactions.

- Excellence and Quality
- Integrity and Accountability
- Inclusiveness
- Cooperation and Collaboration
- Respect and Trust
- Open, Civil Communications and Collegiality
- Creativity and Innovation

Welcome

A message from the President

Dear Student,

Welcome to Quinsigamond Community College, and thank you for considering QCC for your educational pursuits.

I am especially passionate about QCC because I was a community college student myself. My community college educational experience was transformational, and I am certain that our dedicated faculty and staff will support you throughout your journey.

Quinsigamond Community College is one of the fastest-growing community colleges in the nation, featuring quality and innovative instruction, accessible tutoring and counseling, and academic advising from professionals who care deeply about your success.

Whether you are here to pursue a certificate or degree, intend to transfer to a four-year college or university, or if you are here for personal enrichment, all of us at QCC will do whatever we can to help you achieve your goals.

In 2016-2017 there are more exciting new programs, opportunities and activities available to you at QCC than ever before. We proudly offer specialized training and academic programs that will give you the QCC edge as you seek employment opportunities. Take advantage of our continued growth in Southbridge, Marlborough, and at our new Healthcare and Workforce Development Center in downtown Worcester. No matter your career goals, you will find a degree, certificate or class that can help you on your way.

I hope you find this QCC catalog a helpful guide, informing you of our college administration, policies, and academic program options. The opportunities to reach your academic, personal, and professional goals await you at QCC. We look forward to seeing you on campus!

Sincerely,



Dr. Gail E. Carberry
President



QUINSIGAMOND
Community College

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Founded in 1885

New England Association of Schools and Colleges Accredited Member

Quinsigamond Community College is accredited by the New England Association of Schools and Colleges, Inc., through its Commission on Institutions of Higher Education.

Inquiries regarding the accreditation status by the New England Association should be directed to the administrative staff of the institution. Individuals may also contact:

Commission on Institutions of Higher Education New England Association of Schools and Colleges

209 Burlington Road
Bedford, MA 01730-1433
781.271.0022
E-Mail: cihe@neasc.org

Individual Programs of Study are also fully accredited by various agencies:

These include:

- The Accreditation Commission for Education in Nursing
- The Accreditation Council for Occupational Therapy Education of the American Occupational Therapy Association
- The Commission on Accreditation of Allied Health Education Programs
- The Commission on Accreditation for Respiratory Care
- The Commission on Dental Accreditation of the American Dental Association
- The Department of Public Health Office of Emergency Medical Services
- The Joint Review Committee on Education in Radiologic Technology
- The Massachusetts Board of Registration in Nursing
- The National Association for the Education of Young Children

Equal Opportunity/Affirmative Action Policy

Quinsigamond Community College is an affirmative action/equal opportunity employer and does not discriminate on the basis of race, color, national origin, sex, disability, religion, age, veteran status, genetic information, gender identity and expression, or sexual orientation in its programs and activities as required by Title IX of the Educational Amendments of 1972, the Americans with Disabilities Act of 1990, Section 504 of the Rehabilitation Act of 1973, Title VII of the Civil Rights Act of 1964, and other applicable statutes and college policies. The College prohibits sexual harassment, including sexual violence. Inquiries or complaints concerning discrimination, harassment, retaliation or sexual violence shall be referred to the College's Affirmative Action and/or Title IX Coordinator, the Massachusetts Commission Against Discrimination, the Equal Employment Opportunities Commission or the United States Department of Education's Office for Civil Rights.

Clery Statement

Quinsigamond Community College's Annual Security Report is available to the college community. This report includes statistics for the previous three years concerning reported crimes that occurred on campus; in certain off-campus buildings or property owned or controlled by Quinsigamond Community College; and on public property within, or immediately adjacent to and accessible from, the campus. The report also includes institutional policies concerning campus security, such as policies concerning sexual assault, and other matters. You can obtain a copy of this report by contacting the Campus Police or by accessing the following website:

www.QCC.edu/clery

College Calendar

Summer I 2016

Classes Begin	May 16	(Monday)
Commencement	May 19	(Thursday – No day or evening classes)
Memorial Day Holiday	May 30	(Monday - HOLIDAY – No Classes)
Last Day of Classes/Exams	June 23	(Thursday)

Summer II 2016

July Fourth Holiday	July 4	(Monday – HOLIDAY)
Classes Begin	July 5	(Tuesday)
Last Day of Classes/Exams	August 10	(Wednesday)

Fall 2016

Labor Day Holiday	September 5	(Monday - HOLIDAY)
All College Day	September 6	(Tuesday – No classes)
Classes Begin	September 7	(Wednesday)
Columbus Day Holiday	October 10	(Monday – HOLIDAY - No classes)
Veterans' Day Holiday	November 11	(Friday – HOLIDAY - No classes)
Thanksgiving Recess	Nov. 24 – 27	(Thursday – Sunday – No classes)
Last Day of Classes/Exams	December 20	(Tuesday)

Intersession 2017

New Year's Holiday observed	January 2	(Monday - Holiday)
Classes Begin	January 3	(Tuesday)
Last Day of Classes/Exams	January 13	(Friday)

Spring 2017

Martin Luther King, Jr. Holiday	January 16	(Monday - HOLIDAY)
All College Day	January 17	(Tuesday – No classes)
Classes Begin	January 18	(Wednesday)
Presidents' Day Holiday	February 20	(Monday – HOLIDAY -No classes)
Spring Recess	March 12-18	(Sunday – Saturday – No classes)
No classes	April 16	(Sunday - No classes)
Patriots' Day Holiday	April 17	(Monday – HOLIDAY - No classes)
Last Day of Classes/Exams	May 9	(Tuesday)
Commencement	May 18	(Thursday at 4:00 PM)

College Business Hours: 8:00 a.m. to 5:00 p.m.

College Offices (Admissions, Advising, Financial Aid, and Payment Center) may have variable hours throughout the year. Please contact each office for the most accurate information.



Quinsigamond Community College, one of twenty-seven colleges and universities in the Commonwealth of Massachusetts' system of public higher education, is committed to providing opportunities to meet the diverse educational needs of adult citizens in the Commonwealth. These opportunities are offered in the belief that an open, stimulating, and supporting environment is essential to individual development. Quinsigamond strives to achieve such an environment by developing programs, services, and policies for the College that seek to reduce social, psychological, geographic, and financial barriers to learning.

As a two-year Associate Degree granting public college, governed by a local Board of Trustees in accordance with the policies established by the Massachusetts Board of Higher Education, Quinsigamond Community College provides unique opportunities specifically created to enhance the economic and social well-being of the Greater Worcester/Central Massachusetts region. The trustees, faculty, and staff are cognizant of the long-term educational needs of this large urban area and its diverse populations.

Quinsigamond Community College endeavors to meet the region's educational needs through a comprehensive selection of transfer, career, and special needs courses and programs. Students may select from the various associate degree programs leading to transfer to state colleges and universities or to most private institutions of higher education, especially the members of the Colleges of the Worcester Consortium. Students seeking immediate employment after two years or less may elect associate degree or certificate programs related directly to the workforce needs of regional business, industry, and social agencies. The special needs of non-traditional students are reflected in the many programs and individualized services available to all students throughout the year.

About Quinsigamond

Since 1963, Quinsigamond Community College has provided opportunities for a first-rate education and personal growth to thousands of area men and women. Some students choose to prepare for immediate entry into a career field. Some choose to transfer to bachelor's level programs at four-year colleges and universities, and some choose opportunities for personal growth and cultural enrichment.

A true test of any college is how well its students fare, not only in the classroom, but long after they have graduated. At Quinsigamond, we are proud of the success of our graduates: in beginning careers in their chosen fields, in continuing on to bachelor's and graduate level, and in becoming involved in the affairs of their communities.

Quinsigamond graduates can be found throughout Central Massachusetts in responsible positions in business and industry, in health and human services, in engineering and high technology. Quinsigamond takes a personal interest in its students, helping them identify and achieve their individual goals and making a difference in their lives. Quinsigamond responds to individual student needs. We provide a broad range of programs, quality instruction, and support services.

We Respond to Individual and Community Needs

Quinsigamond Community College was established in 1963 to provide access to higher education to residents of Central Massachusetts. Since then, our enrollment has grown from under three hundred to over sixteen thousand full-time and part-time day and evening students. Over ninety associate degree and certificate study options reflect the needs of the communities we serve. Our flexible admissions policy, low cost, and extensive financial aid program have made a college education possible for thousands of men and women. The educational experience at Quinsigamond is first-rate. Our faculty teach and guide.

Quinsigamond has been making a difference in the lives of people for over five decades. It can make an important difference in your life.

Statement on Cultural Diversity and Inclusion

Quinsigamond Community College affirms its strong support and deep commitment to the continued development and maintenance of an academic community in which the individual dignity and potential of each of its members is given full respect, recognition, and encouragement. Our goal is to provide a college community in which all may study, work securely and productively in an atmosphere characterized by civility and openness to the pursuit of academic excellence in the finest tradition of academia.

Quinsigamond Community College is opposed to acts of harassment, intimidation, or invasion of privacy which interfere with the rights of an individual or group to participate in the activities of the academic community, and these acts shall be considered to be in violation of this policy and may be dealt with appropriately under the applicable College codes and as regulated by statute.

Accreditations

Quinsigamond Community College is accredited by the New England Association of Schools and Colleges (NEASC), which accredits schools and colleges in the six New England states. Membership in the Association indicates that an institution has been carefully evaluated and found to meet standards agreed upon by qualified educators. Individual programs of study are also fully accredited by various agencies. These include the following: The Commission on Dental Accreditation of The American Dental Association; The Accreditation Commission for Education in Nursing (ACEN); The Accreditation Council for Occupational Therapy Education of the American Occupational Therapy Association (AOTA); The Massachusetts Board of Registration in Nursing; The Joint Review Committee on Education in Radiologic Technology; The Joint Review Committee for Respiratory Therapy Education, The Commission on the Accreditation of Allied Health Education Programs and the National Association for the Education of Young Children.

We are Easy to Find

Quinsigamond is only a short drive from most locations in central Massachusetts. Our Main Campus is located on West Boylston Street in north Worcester. We are a short distance from both Routes 290 and 190. Our Main Campus is easily accessed via public transportation; the West Boylston Street or Burncoat Street WRTA (Worcester Regional Transit Authority) bus routes will bring students directly to our campus.

The college also offers courses at: 751 Grove Street, Worcester (Training & Education Center), 5 Optical Drive, Southbridge, 179 Burncoat Street, Worcester at Burncoat High School (Automotive Technology Program), 128 Providence Street, Worcester at the Worcester Senior Center (Hospitality and Recreation Management Program) and 215 Fitchburg Street, Marlborough at Assabet Valley Regional Technical High School, the Healthcare and Workforce Development Center and the Marlborough Senior Center.

Our Student Body is Diverse

Quinsigamond Community College gives personal attention to individual student needs. Our student body is as diverse as the communities we serve. Some students attend right out of high school; some men and women come to Quinsigamond after several years in the workforce. Some of our students are senior citizens. We have full-time students and part-time students, those preparing for immediate entry into a career, those planning to transfer to bachelor's degree programs, and some who just want to improve their skills to qualify for a promotion.

Many of our students choose to attend to begin a new chapter in their lives. Our students come from almost every city or town in Central Massachusetts - Milford to the Brookfields and Dudley to Princeton. They all have one thing in common - the desire to attain a quality education and a chance to succeed.

Many of our students have families. Many work while attending school. We are sensitive to the needs of the individual students. We provide flexible scheduling, options for full-time or part-time study, on-campus child care, and day time, evening, online and weekend courses.

What Makes Us Different

Our Faculty

Quinsigamond's faculty is its most important asset. Our faculty holds advanced degrees in their respective fields of study. Many have published books and served as consultants. They help students succeed whatever their goal. At Quinsigamond, a strong bond is established between faculty and students, witnessed by the fact graduates often return to the campus to visit their former professors.

Our Staff

From the moment a student contacts the College, he/she will know that our staff cares. There are friendly, helpful people throughout the College who want to help students succeed. They will answer questions, guide students through various processes, and take a personal interest in their needs.

Family Education Rights and Privacy Act (FERPA)

Quinsigamond Community College abides by the Federal Family Educational Rights and Privacy Act of 1974, Chapter 766 of the General Laws of Massachusetts. No student's academic or personal records will be released without the student's written consent, except to those specifically exempted in the legislation.

Quinsigamond Community College reserves the right to disclose "directory information" in accordance with regulations published by the Department of Health, Education and Welfare for enforcing the Family Rights and Privacy Act of 1974. For the purpose of this institution, "directory information" includes the following information: the student's name, student's address, major field of study, dates of attendance, full-time/part-time status, degree and awards received, and participation in officially recognized activities and sports.

Electronic Communication Policy

The college uses Qmail as an official means of communication with students. All students are expected to read their college email regularly and respond appropriately. If students choose to forward their Qmail to another email provider, they are still responsible for receiving all college communications. The college also has an Emergency Alert text messaging system. Students can choose to sign up for this service through *The Q*, the college's student and faculty portal.

QCC Mobile App

The QCC Mobile App was developed to provide students with the resources necessary to achieve academic success at QCC, as well as strengthen the student's engagement within the QCC Community.

With our new QCC Mobile App, students (as well as the QCC Community) can access their course information, grades, and find online resources. In addition, students will be able to make bookstore purchases, utilize QCC Library services, campus maps, and much more!

www.QCC.edu/app

Quinsigamond Community College strives to make information in this catalog as accurate as possible. For the most up to date information, please visit us at www.QCC.edu.

Admissions

Quinsigamond Community College believes that everyone should have an opportunity to further his/her education. Whether a student strives to attain an Associate Degree, Certificate or select courses for personal and professional growth, our Admissions Staff will gladly help them through every step of the process.

Quinsigamond Community College has established minimum academic requirements for admission to most programs which are designed to help assure academic success. Information about minimum requirements can be found in the Programs of Study section of this catalog.

Applicants who do not meet the minimum academic criteria for admission may still enroll at QCC. They can take courses to meet the minimum requirements as a non-degree student, or as a student enrolled in the General Studies Program.

How to Apply

1. You may apply online or download an Admissions application at www.QCC.edu. Applications are also available in the Admissions Office at the Worcester or Southbridge campuses or High School Guidance Departments. You may also call the Worcester Admissions Office at 508.854.4262 or the Southbridge Admissions office at 774.318.2110 to request an application.
2. Submit your online application. Return your paper application and application fee to the Admissions Office located in Room 201, of the Harrington Learning Center or via mail at Quinsigamond Community College, 670 West Boylston Street, Worcester, MA 01606-2092. The fee is \$20.00 for in-state students or \$50.00 for out-of-state students. This fee is non-refundable and may be waived if it causes unusual financial hardship. To qualify for the In-State Resident tuition rate, applicants must certify continuous residence in Massachusetts during the six months preceding the application and be a permanent resident of the U.S. Applicants can contact the Admissions Office for details.
3. Quinsigamond Community College requires a high school transcript, diploma or demonstration of high school equivalency (G.E.D., HiSET). Applicants should ask their high school to forward a transcript of their grades directly to the Admissions Office (including the first marking period of the senior year).
4. Applicants who have never obtained a high school diploma or the equivalency may qualify for admission to the College but ARE NOT eligible for Financial Aid under the U.S. Department of Education Title IV Regulations. Applicants may visit www.QCC.edu, email the Admissions Office, or call Admissions at 508.854.4262 for detailed information on how to enroll in the College.

Admission to Health Programs

Students who meet the established Admission requirements for the Health Programs (Dental Assisting, Dental Hygiene, Medical Assisting, Nurse Education, Occupational Therapy, Perioperative Nursing, Paramedic Technology, Practical Nursing, Radiologic Technology, Respiratory Therapy and Surgical Technology) will be accepted on a rolling basis until the class is full. Qualified students will be given a start date for their clinical/core courses and placed on a waiting list if the program is full for the upcoming semester. Students will begin their clinical classes no later than their given start date. If a slot in an earlier semester becomes available, the student will be contacted and given an opportunity to begin sooner. If you wish to enroll in education courses that apply to the program while on the waitlist, please contact the Admissions office.

Applicants who do not meet the Admissions requirements can be accepted to the General Studies Health Care program. Alternatively, they should make an appointment to meet with an Academic Advisor who will assist them in meeting the Admissions requirements of their chosen program.]

January (Spring) and May (Summer) Admissions

Applications for admission to the College for the Spring and Summer Semesters are accepted on a rolling basis. Some programs only have a Fall start and course offerings vary from year to year. Students should visit the website at www.QCC.edu for program start dates.

Undeclared Students

Prospective students who wish to enroll in individual courses and do not wish to pursue a degree or certificate

can enroll at Quinsigamond Community College as an Undeclared Student. All course prerequisites apply to Undeclared Students in the same manner as degree-seeking students. Credits earned in the Undeclared Student status may be applied to a degree or certificate curriculum. Undeclared students are not eligible for financial aid.

Transfer Students

Transfer Student applicants are required to submit a high school transcript, diploma or official documentation of high school equivalency (G.E.D. or HiSET). If a transfer student holds an undergraduate or graduate degree, their high school transcript or equivalent may be waived. To satisfy the college residency requirement, a minimum of 15 credits must be completed at Quinsigamond Community College to receive a degree or certificate.

An official transcript, issued directly from a regionally accredited post-secondary institution mailed to QCC, is required to receive transfer credit. Credit is awarded for courses completed with a grade of "C", or better, provided these courses are applicable to the student's Quinsigamond major. Applicants may also transfer "D" grades if their quality point average (QPA) is 2.0, or higher, at the institution from which they are transferring. However, "D" grades are only accepted in lower sequence courses and only if they have completed the upper sequence of the same course with a grade of "C", or better at the transfer institution.

Campus Tours

Both individual and group campus tours are available. To schedule a tour, please visit www.QCC.edu, email the Admissions Office at Admissions@qcc.mass.edu or call at 508.854.4262

State Immunization Requirements

Massachusetts State Law requires that all full-time students and all students enrolled in Health Career Programs provide proof of immunization to measles, mumps, rubella, tetanus-diphtheria and hepatitis B.

Students in health-related fields and some other programs should expect to receive information on additional health requirements from their academic department. Immunization documentation is requested during the application process and prior to the start of clinicals.

Placement Testing

All new and currently enrolled students are required to take the Accuplacer Placement Test before registering for English and mathematics courses and courses requiring a prerequisite of English or math.

The Accuplacer Placement Test is a computerized test that helps determine the appropriate level at which students should begin their mathematics and English courses. The test is not timed and the majority of the questions are multiple-choice. Students can choose to take the entire test (English and mathematics) during one testing period, or take the English and mathematics tests at different times. The entire test takes approximately two and a half hours. An Academic Advisor will use the results to help students select the appropriate courses during registration.

Students who do not attain college-level placement in both English and mathematics will be recommended into an appropriate level developmental course to prepare them for college-level course work. These courses are especially helpful to students who have been away from the classroom for several years, or who did not receive exposure to college-level preparation during their secondary school years.

It is important to prepare for taking the Accuplacer Placement test. A study guide with practice questions can be accessed online at <http://accuplacer.collegeboard.org/students>.

Students for whom English is a Second Language (ESL) may also take a computerized assessment test. The CELSA test requires students to complete a story or conversation by choosing the correct answer. It is a timed test of forty-five minutes.

Students requiring accommodations for testing should contact Disability Services at 508.854.4471 BEFORE scheduling a test.

The Placement Test and the CELSA test are offered at the main campus, 670 West Boylston St., Worcester; at our Healthcare and Workforce Development Center at 25 Federal St., Worcester; and at our Southbridge campus, 5 Optical Drive, Southbridge. All students who wish to take the Placement Test or the CELSA test may log into www.QCC.edu/services/testing and set up an appointment online, come to 355A on Walk-In Wednesdays, or call 508.854.2784. Placement testing is also available on a walk-in basis at QCC Southbridge. The hours in Southbridge are Tuesdays 8:00 a.m.- 12:00 p.m. and Wednesdays 3:00 p.m.-7:00 p.m. Students should remember to bring photo identification with them to the test.

It is not necessary to take the Accuplacer Placement Test if a student has transcripts showing that they have taken college level English and Math at another accredited college. Students should bring their transcripts to their advising appointment.

High School Equivalency Test

The GED test has been replaced in Massachusetts by the High School Equivalency Test (HiSET) from ETS. The High School Equivalency Test (HiSET) provides students the opportunity to earn a high school credential. This credential is recognized as a key to employment opportunities, career advancement, and further education. The test consists of five parts in the areas of mathematics, writing, science, social studies, and reading.

HiSET is offered at QCC's Healthcare and Workforce Development Center located at 25 Federal St., Worcester, MA, room 114D.

To learn about the test, apply for accommodations, or schedule a test appointment, visit the HiSET website, www.hiset.ets.org.

Test takers who are under 18 need to contact the state office before registering for the HiSET. Please call 781.338.6604 or 781.338.6625

New England Regional Student Program

Quinsigamond Community College participates in the New England Regional Student Program (RSP), which provides tuition savings every year to thousands of New England residents. Students from any of the six New England states can enroll in certain academic programs, not offered at institutions in their home state, at the Massachusetts in-state tuition rate plus 50%. Contact the Admissions Office at 508.854.4262 for specific details. Information is also available at www.nebhe.org.

Home Schooled Students

All home schooled students, without a high school diploma or GED, are eligible to apply for admission to a degree or certificate program provided they have successfully completed an approved home school program in accordance with Massachusetts General Laws or the laws of their home state. If a home schooled student has not completed an approved home school program, the student should contact the Admissions office.

To determine whether a student has participated in an approved home school program, the student shall submit, with the application for admission, evidence that the home school program was approved by the superintendent or school committee of the student's school district. Additionally, if the home schooled student is under the age of compulsory attendance, which is sixteen (16) years old in Massachusetts, a letter from the student's school district's superintendent or school committee is required stating

that the student is not considered truant and would not be required to attend further schooling or continued to be home schooled if the student has completed his/her home school program before the age of sixteen (16).

The College reserves the right to limit or deny enrollment of a student under the age of sixteen (16) in a course or program based on this case-by-case consideration of a variety of factors, including but not limited to: the student's maturity, life experience, placement test scores, prior education, course content, instructional methodology, and risks associated with a particular course or program.

International Students

International students must use the international student application at www.QCC.edu/international-students. Deadlines are July 1 for Fall and Nov. 1 for Spring Semester.

If transferring from another American institution, international students must submit the admissions application at least 60 days before the beginning of the semester. Only students who have a secondary school diploma or who have passed an equivalency test, and can speak, read, write and understand English well enough to take a full-time program will be considered for admission. If a student's native language is not English, he/she will be asked to demonstrate their ability to understand English. International Students must demonstrate adequate financial support for the time they will be attending Quinsigamond Community College. Financial support can be verified by providing a certificate of finances or a certification of sponsorship. International Students who have student visas are required to enroll in a minimum of 12 credits during each semester. Information about International Student regulations, admission, and fees are available from the Admissions Office at 508.854.4262.

Perkins Career Vocational Technical Education (CVTE) Linkages/Articulation Agreements

Quinsigamond Community College has established agreements with local comprehensive and vocational/technical high schools to assist students in making the transition to higher education. Some of these agreements come under the State "2 + 2" programs. All agreements state the conditions and criteria that must be met by graduating high school students in order to receive advanced placement and college credit. Students can contact the Manager of Educational Partnerships at 508.854.2853 for more information.

Twelfth Year Program

Quinsigamond Community College offers the Twelfth Year Program to local high school districts that wish to allow their current students the opportunity to complete high school graduation requirements through concurrent enrollment at QCC. Participation in this program is limited to high school seniors (and in some cases, juniors) who have been properly prepared for appropriate college-level work. High school guidance counselors are expected to lead in the process of identifying potential applicants and assisting students with the application process. In addition, coursework to be taken at QCC is determined collaboratively by the students and appropriate high school guidance personnel. It is the responsibility of the student and parent to consult with the Guidance Office and Principal to ensure that courses selected will meet the requirements for high school graduation.

Criteria for Acceptance

To be eligible for acceptance into the Twelfth Year Program, a student must meet the following criteria:

- Be currently enrolled in high school
- Have completed high school English courses with grades of "B" or better
- Have an overall "B" average
- Demonstrate satisfactory disciplinary history in his/her student profile
- Place into College-level English (ENG 101) and Beginning Algebra (MAT 095) on the QCC Computerized Placement Test
- Complete the QCC Twelfth Year application process within the established timelines

For more information, contact the Admissions Office at 508.854.4262.

Readmission to the College

Students who have previously attended Quinsigamond Community College and have not attended the College for four consecutive semesters, either due to withdrawal or academic failure, must apply to be readmitted. Students must submit a new application.

Upon academic failure, or withdrawing from a health or high demand program, students are required to meet with their Program Coordinator to establish guidelines for readmission. Students will be considered only once for readmission to all health programs. Specific steps for readmission can be obtained in the Admissions Office or from the appropriate academic department.

Admission Requirements

The chart to the right lists the academic Admissions Requirements for the QCC programs other than Healthcare. In order to be eligible for admission, the student must meet the course and grade requirements in the Math Requirement and/or the English Requirement and/or the Other Requirements columns, or have completed courses at an accredited college.

QCC Program	Math Requirements	English Requirements	Other Requirements
Automotive Technology	One year of High School Algebra with a grade of "C" or higher; or MAT 095 with a "C" or higher on the MAT 095 departmental final exam; or appropriate placement score	Three years of High School English with grades of "C" or higher; or ENG 091 with a grade of "C" or higher; or appropriate placement score	Must have valid learner's permit from the MA Registry of Motor Vehicles (or like agency in state of residence); valid driver's license will be required for employment in this field
Ford Maintenance and Light Repair Certificate			Must have valid learner's permit from the MA Registry of Motor Vehicles (or like agency in state of residence); valid driver's license will be required for employment in this field
Biotechnology Technician Certificate	One year of High School Algebra with a grade of "C" or higher; or MAT 095 with a "C" or higher on the MAT 095 departmental final exam; or appropriate placement score		
Business Administration Transfer	One year of High School Algebra with a grade of "C" or higher; or MAT 095 with a "C" or higher on the MAT 095 departmental final exam; or appropriate placement score	Three years of High School English with grades of "C" or higher; or ENG 091 with a grade of "C" or higher and ENG 096 with a grade of "C" or higher; or appropriate placement score	Students not meeting admissions requirements should be accepted to Business Administration Career program
Computer Information Systems (All Degree Options)	One year of High School Algebra with a grade of "C" or higher; or MAT 095 with a "C" or higher on the MAT 095 departmental final exam; or appropriate placement score	Three years of High School English with grades of "C" or higher; or ENG 091 with a grade of "C" or higher and ENG 096 with a grade of "C" or higher; or appropriate placement score	
Energy Utility Technology Certificate	One year of High School Algebra with a grade of "C" or higher; or MAT 095 with a "C" or higher on the MAT 095 departmental final exam; or appropriate placement score	Three years of High School English with grades of "C" or higher; or ENG 091 with a grade of "C" or higher and ENG 096 with a grade of "C" or higher; or appropriate placement score	

QCC Program	Math Requirements	English Requirements	Other Requirements
General Studies - Energy Utility Technology Option			Completion of the Energy Utility Technology Certificate
General Studies - Pre-Pharmacy Option	MAT 123 with a "B" or higher; or appropriate placement score	ENG 096 with a grade of "B" or higher; or appropriate placement score	One year of High School Chemistry with a grade of "B" or higher; or CHM 090 with a grade of "B" or higher; or appropriate placement score
Hospitality and Recreation Management - Hospitality Management Option	One year of High School Algebra with a grade of "C" or higher; or MAT 095 with a "C" or higher on the MAT 095 departmental final exam; or appropriate placement score	Three years of High School English with grades of "C" or higher; or ENG 091 with a grade of "C" or higher; or appropriate placement score	Students not meeting admissions requirements are encouraged to enroll in the Hospitality Management Certificate program
Human Services		ENG 091 with a grade of "C" or higher and ENG 096 with a grade of "C" or higher; or appropriate placement score	
Interactive Media - Game Design Option	MAT 100 with a "C" or higher; or appropriate placement score	Three years of High School English with grades of "C" or higher; or ENG 091 with a grade of "C" or higher and ENG 096 with a grade of "C" or higher; or appropriate placement score	
Liberal Arts	One year of High School Algebra with a grade of "C" or higher; or MAT 095 with a "C" or higher on the MAT 095 departmental final exam; or appropriate placement score	Three years of High School English with grades of "C" or higher; or ENG 091 with a grade of "C" or higher and ENG 096 with a grade of "C" or higher; or appropriate placement score	

Minimum Admission Requirements/Course Equivalents:

Any applicant who does not meet the minimum requirements, or their course equivalents listed above, should contact the Admissions Office at 508.854.4262, to set up an interview with an Admissions Counselor. Upon review of one's academic background and a consultation with the appropriate academic department, we will inform the student if his or her background is equivalent to the requirements listed above. If one has any questions, please contact the Admissions Office at 508.854.4262.

PLEASE NOTE: A High School Diploma or GED/High School Equivalency is required for admission to all programs.

Admission Requirements - Health Programs

The chart below lists the academic Admissions Requirements for the Healthcare programs. In order to be eligible for admission, the student must meet the course and grade requirements in either the High School (H.S.) columns or the QCC Equivalency/Alternative columns, or have completed courses at an accredited college.

Program	QCC Alg. 1 Equivalent	QCC Alg. 2 Equivalent	H.S. Bio.	QCC Bio. Alternative	H.S. Chem.	QCC Chem. Equivalent	QCC Eng.	Standardized Test	GPA	Additional Requirements
Allied Dental Services (Includes the three programs below)										Attendance at a Health Information Session. Applicants must first successfully complete ADA Post-Secondary Certificate program at QCC or another institution accredited by the CODA. Dental Office Management and Sales/Marketing applications must hold current DANB CDA status.
Health Sciences	³ MAT 095 C		C	⁶ BIO C	C	CHM 090 C	ENG 091 C & ENG 096 C			
Dental Office Management	³ MAT 095 C						ENG 091 C & ENG 096 C			
Dental Sales/Marketing	³ MAT 095 C						ENG 091 C & ENG 096 C			
Dental Assisting Certificate ¹	³ MAT 095 C		C	⁷ BIO C	C	CHM 090 C	ENG 091 C & ENG 096 C	TEAS V Composite Score 45%		Attendance at a Health Information Session.
Dental Hygiene		⁴⁵ MAT 099 B	B	⁶ BIO C+	B	CHM 090 B	ENG 091 B & ENG 096 B	TEAS V 53%/English 53%/Reading 54%/Math 40%/Science	⁸ 3.0	Attendance at a Health Information Session. Four-hour dental office observation: DA grads, see catalog for waiving the "B" requirement.
Complementary Health	³ MAT 095 C		C	⁶ BIO C			ENG 091 C & ENG 096 C			Attendance at a Health Information Session. Certification or licensure with a minimum of 650 hours of training in a recognized area of naturalistic, holistic, or conventional healthcare.
Paramedic Technology ²			C	⁶ BIO C			ENG 091 C & ENG 096 C			EMT-Basic certification and one year experience verified by employer.
EMT Paramedic Certificate ²							ENG 091 C & ENG 096 C			EMT-Basic certification and one year experience verified by employer.
Medical Assisting Certificate	³ MAT 095 C						ENG 091 C & ENG 096 C			Attendance at a Health Information Session.

See page 19 for an explanation of the symbols.

Program	QCC Alg. 1 Equivalent	QCC Alg. 2 Equivalent	H.S. Bio.	QCC Bio. Alternative	H.S. Chem.	QCC Chem. Equivalent	QCC Eng.	Standardized Test	GPA	Additional Requirements
Medical Support Specialist	³ MAT 095 C						ENG 091 C & ENG 096 C			Attendance at a Health Information Session.
Nurse Education		⁴⁵ MAT 099 B	B	⁶ BIO B			ENG 091 B & ENG 096 B	TEAS V Composite Score 65%		Attendance at a Health Information Session. Evening Nurse Education additional requirements include BS/BA or MS/MA.
Advanced Placement Nurse Education LPN		⁴⁵ MAT 099 B	B	⁶ BIO B			ENG 091 B & ENG 096 B	TEAS V Composite Score 65%		Attendance at a Health Information Session. Graduate of an accredited LPN Program, current LPN license in the state of MA.
Advanced Placement Nurse Education Paramedic		⁴⁵ MAT 099 B	B	⁶ BIO B			ENG 091 B & ENG 096 B	TEAS V Composite Score 65%		Attendance at a Health Information Session. Current MA Paramedic Certification.
Occupational Therapy Assistant		⁴⁵ MAT 099 B	B	⁶ BIO C+			ENG 091 B & ENG 096 B	TEAS V 53%/English 60%/Reading 54%/Math 40%/Science		Attendance at a Health Information Session.
Practical Nursing Certificate	⁴ MAT 095 B						ENG 091 B & ENG 096 B	TEAS V Composite Score 50%		Attendance at a Health Information Session.
Radiologic Technology		⁴ MAT 099 B	B	⁶ BIO C+			ENG 091 B & ENG 096 B	TEAS V 53%/English 60%/Reading 54%/Math 40%/Science		Attendance at a Health Information Session. Review of program website, Career video, four-hour clinical observation.
Respiratory Care		⁴⁵ MAT 099 B	B	⁶ BIO B	B	CHM 090 B	ENG 091 B & ENG 096 B	TEAS V 60%/Reading Composite Score 65%	⁸ 3.0	Attendance at a Health Information Session. Attendance at one Professional Lecture Course, Career Video Review.
Surgical Technology Certificate	³ MAT 095 C						ENG 091 C & ENG 096 C	TEAS V Composite Score 60%		Attendance at a Health Information Session.
Emergency Medical Technician Certificate										High school graduate or GED/HiSET.
Nursing Assistant Certificate										High school graduate or GED/HiSET.
Perioperative Nursing Certificate										Registered Nurse with 2000 hours of clinical experience. RN license must be in the state of MA.

See page 19 for an explanation of the symbols.

Program	QCC Alg. 1 Equivalent	QCC Alg. 2 Equivalent	H.S. Bio.	QCC Bio. Alternative	H.S. Chem.	QCC Chem. Equivalent	QCC Eng.	Standard-ized Test	GPA	Additional Requirements
Pharmacy Technician Certificate										High school graduate or GED/HiSET.
Phlebotomy/ EKG Technician Certificate										High school graduate or GED/HiSET.

Notes:

¹ Dental Assisting grads, see catalog for waiving of Dental Hygiene admissions requirements of "B" or higher in English, Mathematics, Biology, and Chemistry.

² There is no time limit on the Biology course used to meet the prerequisite for Paramedic Technology degree or certificate. An applicant who holds an EMT-I certificate meets the Biology prerequisite for both Paramedic programs.

³ If the student passes the mathematics final exam or receives a "C" or higher in the course, the mathematics requirement is met.

⁴ If the student passes the mathematics final exam or receives a "B" or higher in the course, the mathematics requirement is met.

⁵ MAT 098 Math Skills for Allied Health Careers will also meet the prerequisite for the Healthcare programs that require MAT 099; however, MAT 098 does not meet the prerequisite for a college level mathematics course. MAT 098 may not be used as an admissions requirement for Radiologic Technology.

⁶ BIO 101 is recommended because BIO 101 is a prerequisite for Anatomy & Physiology I (BIO 111); however, BIO 100 will satisfy the admission requirement.

⁷ BIO 100 is recommended for Dental Assisting.

⁸ High School GPA or College GPA (minimum 10 college credits); or GED Battery Score of 550; or HiSET 45.

Note: One qualifying mathematics and science course must be taken within the past five years of the date of application. Courses used for this purpose, for which a grade was recorded ("A" through "F") may be repeated only once. Students who have completed mathematics and English courses at the high school level must take QCC's Mathematics and/or English

Assessment Test to qualify for the program. An applicant who tests into a mathematics and/or English course at a higher level than that established as a minimum admission requirement shall be deemed to have satisfied the minimum admission requirement for that subject matter. An applicant who completes an English course above ENG 091 and ENG 096, with a transferable grade, shall be deemed to have satisfied the minimum admission requirement for that subject matter. An applicant who completes a college level chemistry or college level mathematics course with a transferable grade shall be deemed to have satisfied the minimum admission requirement for that subject matter. An applicant who completes a biology course above high school biology in Dental Hygiene, Occupational Therapy, and Radiologic Technology with a "C+" shall be deemed to have satisfied the minimum admission requirement for biology.

Note: TEAS required scores must be achieved within two attempts of taking the test and within five years of application. The TEAS test results can be a combination of two times for both tests, taken at any location. Only a combination of two TEAS scores can be combined to meet the requirements. For Nurse Education (all programs) and Respiratory Care, the 65% composite score must be attained in one test only. Students requesting entry into programs requiring a TEAS V composite score must obtain the score using only one TEAS V test. Students cannot use a combination of two tests to meet the composite score.

Note: Students should be aware that if immunizations requirements of the healthcare program cannot be satisfied based on a medical condition, the student may be ineligible for clinical placement and as a result unable to continue in the program.

Admissions Requirements are in effect from January 1, 2016 - August 31, 2017.

Technical Performance Standards

In this section, you can review the working conditions and physical demands for specific occupations related to selected QCC programs of study. This information is provided to assist you in making college and career decisions. **Please note that once you are admitted to the program you select, you will be required to satisfy the technical performance standards in order to successfully complete the program.**

QCC Degree Program	Occupational Information Network (O*NET) Website
Automotive Technology	www.onetonline.org/link/summary/49-3023.01 (Occupation: Automotive Master Mechanics)
	www.onetonline.org/link/summary/49-3023.02 (Occupation: Automotive Specialty Technicians)
Biotechnology	www.onetonline.org/link/summary/19-4021.00 (Occupation: Biological Technicians)
Computer Information Systems - Application Specialist Option	www.onetonline.org/link/summary/15-1151.00 (Occupation: Computer User Support Specialists)
Computer Information Systems - Database Option	www.onetonline.org/link/summary/15-1141.00 (Occupation: Database Administrators)
Computer Information Systems - Health Information Option	www.onetonline.org/link/summary/29-2071.00 (Occupation: Medical Records and Health Information Technicians)
Computer Information Systems - Transfer Option	www.onetonline.org/link/summary/15-1131.00 (Occupation: Computer Programmers)
Computer Information Systems - Web Development & Programming Option	www.onetonline.org/link/summary/15-1131.00 (Occupation: Computer Programmers)
	www.onetonline.org/link/summary/15-1134.00 (Occupation: Web Developers)
Computer Science Transfer	www.onetonline.org/link/summary/15-1121.00 (Occupation: Computer Systems Analysts)
	www.onetonline.org/link/summary/15-1131.00 (Occupation: Computer Programmers)
Computer Systems Engineering Technology	www.onetonline.org/link/summary/15-1142.00 (Occupation: Network and Computer Systems Administrators)
Computer Systems Engineering Technology - Forensics Option	www.onetonline.org/link/summary/15-1122.00 (Occupation: Information Security Analysts)
Dental Assisting	www.onetonline.org/link/summary/31-9091.00 (Occupation: Dental Assistants)
Dental Hygiene	www.onetonline.org/link/summary/29-2021.00 (Occupation: Dental Hygienists)
Early Childhood Education	www.onetonline.org/link/summary/39-9011.00 (Occupation: Childcare Workers)
Electronics Engineering Technology - Mechatronics Option	www.onetonline.org/link/summary/17-3023.01 (Occupation: Electronics Engineering Technicians)
	www.onetonline.org/link/summary/17-3024.01 (Occupation: Robotics Technicians)
	www.onetonline.org/link/summary/17-3029.03 (Occupation: Electromechanical Engineering Technologists)
	www.onetonline.org/link/summary/17-3029.04 (Occupation: Electronics Engineering Technologists)
	www.onetonline.org/link/summary/49-2094.00 (Occupation: Electrical and Electronics Repairers, Commercial and Industrial Equipment)
Electronics Engineering Technology - Biomedical Instrumentation Option	www.onetonline.org/link/summary/49-9062.00 (Occupation: Medical Equipment Repairers)
	www.onetonline.org/link/summary/17-3023.01 (Occupation: Electronics Engineering Technicians)
	www.onetonline.org/link/summary/17-3029.03 (Occupation: Electromechanical Engineering Technologists)

QCC Degree Program	Occupational Information Network (O*NET) Website
Electronics Engineering Technology - Photonics Option	www.onetonline.org/link/summary/17-3023.01 (Occupation: Electronics Engineering Technicians)
	www.onetonline.org/link/summary/17-3029.04 (Occupation: Electronics Engineering Technologists)
	www.onetonline.org/link/summary/17-3029.08 (Occupation: Photonics Technicians)
Elementary Education	www.onetonline.org/link/summary/25-2021.00 (Occupation: Elementary School Teachers, Except Special Education)
Energy Utility Technology	www.onetonline.org/link/summary/49-9051.00 (Occupation: Electrical Power-Line Installers and Repairers)
Fire Science	www.onetonline.org/link/summary/33-2011.01 (Occupation: Municipal Firefighters)
General Studies - Pre-Pharmacy Option	www.onetonline.org/link/summary/31-9095.00 (Occupation: Pharmacy Aides)
Heating Ventilation Air Conditioning	www.onetonline.org/link/summary/49-9021.01 (Occupation: Heating and Air Conditioning Mechanics and Installers)
Hospitality and Recreation Management - Foodservice Management Option	www.onetonline.org/find/career?c=9&g=Go (Occupation: Hospitality and Tourism)
Hospitality and Recreation Management - Hospitality Management Option	www.onetonline.org/find/career?c=9&g=Go (Occupation: Hospitality and Tourism)
Interactive Media	www.onetonline.org/link/summary/27-1024.00 (Occupation: Graphic Designers)
Manufacturing Technology	www.onetonline.org/link/summary/17-3026.00 (Occupation: Industrial Engineering Technicians)
	www.onetonline.org/link/summary/17-3029.05 (Occupation: Industrial Engineering Technologists)
	www.onetonline.org/link/summary/51-4011.00 (Occupation: Computer-Controlled Machine Tool Operators, Metal and Plastic)
	www.onetonline.org/link/summary/51-4012.00 (Occupation: Computer Numerically Controlled Machine Tool Programmers, Metal and Plastic)
Medical Assisting	www.onetonline.org/link/summary/31-9092.00 (Occupation: Medical Assistants)
Nurse Education	www.onetonline.org/link/summary/29-1141.00 (Occupation: Registered Nurses)
Occupational Therapy Assistant	www.onetonline.org/link/summary/31-2011.00 (Occupation: Occupational Therapy Assistants)
EMT-Paramedic	www.onetonline.org/link/summary/29-2041.00 (Occupation: Emergency Medical Technicians and Paramedics)
Practical Nursing	www.onetonline.org/link/summary/29-2061.00 (Occupation: Licensed Practical and Licensed Vocational Nurses)
Polysomnography	Refer to Respiratory Therapist
Physical Therapist Assistant	www.onetonline.org/link/summary/31-2021.00 (Occupation: Physical Therapist Assistants)
Radiologic Technology	www.onetonline.org/link/summary/29-2034.00 (Occupation: Radiologic Technologists)
Respiratory Care	www.onetonline.org/link/summary/29-2054.00 (Occupation: Respiratory Therapy Technicians)
	www.onetonline.org/link/summary/29-1126.00 (Occupation: Respiratory Therapists)
Surgical Technology	www.onetonline.org/link/summary/29-2055.00 (Occupation: Surgical Technologists)

Student Services

Student Services is a network of resources, programs and services designed to provide students at Quinsigamond Community College with the necessary support for the teaching and learning process. The following are descriptions of the services available:

Career and Academic Planning

- Courses in Career Counseling
- Advising
- Career, Academic and Personal Success
- Center for Workforce Development and Continuing Education
- Adult Learning Center
- CAPS Checklist (Career, Academic and Personal Success)

QCC is committed to helping students begin their career and academic planning early on by:

- Identifying career field(s) that are best suited to the student's interests, abilities, and life goals;
- Deciding on a college program of study;
- Choosing the right courses;
- Taking the next steps towards obtaining meaningful employment, transferring to another college or university, or fulfilling a personal or professional outcome; and
- Building an individualized web-based Career, Academic and Personal Success Plan (CAPS Plan).

Student Employment and Transfer Center

- Career Placement Services
- Cooperative Education
- Prior Learning Credit (PLC)
- Service Learning
- Transfer Services

Academic Support and Resources

- Alden Library and Harrington Learning Center
- Learning & Tutoring Centers
- Communication Skills Center
- General Academic Areas Center

- Math Center
- Student Success Center for First-Year Students
- TRIO Support

Academic Support and Student Services

- ADA Compliance Officer
- Assistive Technology
- Counseling Services
- Disabilities Services
- Veterans Affairs

Student Activities and Student Life

- Fuller Student Center
- "The Open Door" Newspaper
- Student Senate
- Spiritual Life
- Athletic Center

Important Places and Services

- Bookstore
- Cafeteria
- The Children's Center
- Financial Aid Office
- Harrington Academic Computer Center
- Public Safety
- Registrar's Office
- Student Payment Center

Specific Courses and Services for Career and Academic Planning

Courses in Career Counseling

Students are strongly encouraged to take one of the two courses offered at QCC to assist with career and academic planning: ORT 110, Strategies for College and Career, PSY 115, Self-Assessment and Career Planning (See Course Description section of catalog). All students enrolled in the General Studies program are required to take ORT 110 or PSY 115 prior to attaining 20 credits.

Advising Services: Faculty Advisor, Advising Center

Advisors assist students in developing and implementing their career and academic planning goals, including registering for courses. Students are provided contact information for their Academic Advisor by email shortly after the start of each semester and again right before the advising period begins. Students are assigned one of the following: a Faculty Advisor or the Advising Center, as their Advisor. Advisor Lists, including faculty office location, phone number, and office hours are located in the Advising Center (Room 61A) and the Registrar's Office (Room 152A) or by going to *The Q* (Student/Faculty Portal).

Faculty Advisors

Students are encouraged to contact their Faculty Advisor during the semester to discuss topics and questions related to career and academic planning. It is recommended that students make appointments with their Advisor before course registration period begins for the next semester. Faculty office hours and the contact information are posted outside the faculty office door. If a student's schedule conflicts with faculty office hours, the student can contact the faculty to arrange another meeting time.

Advising Center

Room 61A | 508.854.4308

Students who have the Advising Center listed as their Advisor are encouraged to contact the Center during the semester to discuss topics and questions related to career and academic planning. It is recommended that students make appointments with the Advising Center before the course registration period for the next semester begins. Students can make appointments by calling the number listed above or visiting www.QCC.edu/advising.

Major Decision Workshops

Throughout the semester Major Decision workshops are offered for current QCC students and individuals who are

considering enrolling at the College. Topics addressed include: understanding career assessment results, developing strategies and resources for career research, and linking assessment results and research to QCC degree and certificate programs. Students may visit the advising website www.QCC.edu/advising for workshop times and locations.

Student Employment & Transfer Center

Career Placement Services

Room 272A | 508.854.4439

Career Placement Services are available for students to conduct their own job search or to be assisted by staff members. Workshops are offered on job search techniques, resume writing, and interviewing. Resource materials available for use include books, videos, and computers for Internet searches, resume writing, and quiet tables for constructing your employment package. One-on-one assistance is available by appointment. Students seeking full-time, part-time, permanent, Cooperative Education or Service Learning employment have access to a variety of open positions posted on QCC's exclusive electronic job board. Career Placement Services for students and Alumni include events such as on-campus recruiting, career fairs, and on-campus company presentations.

Cooperative Education

Room 272A | 508.854.4439

Cooperative Education is the opportunity to earn academic credit while gaining valuable experience in the work place. This study option is for students who are already working in their field of study, or who obtain a position related to their field of study. Co-op students, with assistance from an instructor, develop working/learning goals and outcomes that can be assessed for credit toward their degree. Students seeking credit through this study option pay full registration and tuition fees.

Note: Your Career Placement Representative will make every reasonable effort to help you find a co-op position, but Quinsigamond Community College cannot guarantee that you will obtain a co-op job.

Prior Learning Credit (PLC) **Room 272A | 508.854.4439**

At Quinsigamond, students may be able to earn credit for knowledge attained through non-academic training, life or work experience. The "Academic Information" section of the catalog contains more information or the above office may be contacted.

Service Learning integrates meaningful community volunteer service with classroom instruction and reflection to enrich the learning experience, teach civic responsibility, and strengthen communities. Service Learning is available in a variety of QCC courses.

Transfer Services **Room 272A | 508.854.4404**

Transferring "In" to QCC **Contact QCC Admissions Office: HLC, 2nd Floor** **508.854.4262 or the Registrar's Office - Room 152A** **508.854.4257.**

Applicants who have previously attended college are required to submit an official college transcript to Quinsigamond Community College. Transfer students are still required to submit an official high school transcript - or G.E.D. certificate - even if they currently hold an undergraduate or graduate degree. To satisfy the residency requirement, a minimum of 15 credits must be completed at Quinsigamond Community College to receive a degree or certificate.

Transfer students from regionally accredited post-secondary institutions can expect to receive transfer credit for courses completed with a grade of "C", or better, provided these courses are applicable to a Quinsigamond major. "D" grades may also transfer if the quality point average (QPA) is 2.0 - or higher - at the institution from which the student is transferring. However, "D" grades are only accepted in lower sequence courses and only if the student has completed the upper sequence of the same course with a grade of "C" - or better.

Transfer "Out" of QCC

Contact Transfer Services Room 272A 508.854.4404
Transfer Services website: www.qcc.mass.edu/transfer

Start your bachelor's degree at QCC

Quinsigamond Community College is committed to helping students attain Bachelor's degrees by providing a variety of resources:

- Transfer Services website
- Walk-In Transfer Information Sessions

- Transfer Fairs
- College Campus Visits
- Classroom Presentations
- Monthly items in the student newspaper, *The Open Door*
- Individual advising

Where do QCC students transfer?

QCC students transfer all over the region and all over the country. Local favorites include Assumption College, Clark University, and Worcester State University, but we also send students to such far off destinations as Arizona State University, The University of Hawaii, and Savannah College of Art & Design, among others.

Ways to transfer

Some students come to QCC to complete one course, or one semester, before continuing at a four-year college. Others stay through to graduation and take advantage of the benefit of an associate degree, including transfer agreements with a variety of baccalaureate partner institutions. Regardless of how short or how long a student attends QCC, it is helpful to think of transfer in terms of pathways. Go to "Basic Information" on the QCC Transfer Services website to learn more.

Transfer Agreements

QCC is pleased to offer our graduates a variety of transfer agreements to help them continue their studies at different four-year institutions.

QCC has entered into articulation agreements with private colleges and universities, as well as individual academic departments at state colleges and universities, for various associate degree programs.

The MassTransfer program with Massachusetts state universities and University of Massachusetts campuses guarantees student acceptance, transfer of credit, and discounted tuition in eligible programs.

Articulation Agreements

QCC has developed articulation agreements with four-year colleges to permit our graduates to transfer to a range of academic programs and to advance toward their four-year degrees more easily, quickly, and affordably. These agreements vary from school to school, and department to department. They may guarantee one or more of the following: acceptance (general or program specific), full transfer of QCC courses, Junior-level standing, and access to opportunities for transfer scholarships. Visit

the "Advanced Information" section on the QCC Transfer Services website (www.qcc.mass.edu/transfer) for specific academic program included in agreements.

QCC has articulation agreements with the following private institutions:

- Anna Maria College
- Assumption College
- Becker College
- Benjamin Franklin Institute of Technology
- Champlain College
- Charter Oak State College
- Clark University
- Emmanuel College
- Johnson & Wales University
- Providence College
- Mass College of Pharmacy & Health Sciences
- Quinnipiac University
- Regis College
- Nichols College
- Vermont Technical College
- Worcester Polytechnic Institute

Articulation agreements with individual academic departments of state universities and university campuses:

- Fitchburg State University
- Framingham State University
- UMass Boston
- UMass Lowell
- Westfield State University

MassTransfer

MassTransfer provides QCC students with straightforward options toward the completion of associate and baccalaureate degrees at Massachusetts state universities and University of Massachusetts campuses. MassTransfer has two main components:

Guarantee of admission, transfer of credit, and tuition reduction for students who graduate from approved degree programs* with associate degrees (each benefit based on the student's final grade point average) linked to approved baccalaureate programs;

Guarantee of meeting baccalaureate general education requirements across institutions through the completion of a specified group of courses called the MassTransfer Block (with the receiving institution able to add no more than six additional credits/two courses).

***Approved QCC programs include:** Business Administration-Transfer, Computer Science-Transfer, Early Childhood Education-Pre-K to Grade 2, General Studies,

General Studies-Community Health, General Studies-Deaf Studies, General Studies-Elementary Education, General Studies-Health Care, Liberal Arts, General Studies-Pre-Pharmacy, General Studies-Biotechnology.

MassTransfer involves the following State Universities and University campuses:

- Bridgewater State University
- Fitchburg State University
- Framingham State University
- Mass College of Liberal Arts
- Salem State University
- UMass Amherst
- UMass Boston
- UMass Dartmouth
- UMass Lowell
- Westfield State University
- Worcester State University

For details on the MassTransfer policy, please visit the QCC Transfer Services website (www.qcc.mass.edu/transfer), and look under "Advanced Information."

The MassTransfer policy for any student in the Massachusetts public higher education system who completes the MassTransfer Block will apply beginning Fall 2010, regardless of initial date of enrollment.

The Education Compact for Early Childhood Education and Elementary Education

This statewide plan was developed to increase teacher diversity in the workforce, broaden teaching opportunities for community college students, and prepare students for acceptance into teacher preparation programs at four-year colleges. At QCC, students enrolled in the Early Childhood Education – Pre-K to Grade 2 option (new title) and General Studies- Elementary Education option are eligible to participate in the Education Compact.

To be guaranteed admission and granted transfer credit in teacher preparation programs, students must be enrolled in one of the eligible programs (noted above), follow and complete that prescribed curriculum, graduate from QCC with minimum 2.75 GPA, and successfully pass the Communication & Literacy skills portion of MTEL exam prior to admission at a state university.

Special Scholarships for QCC Graduates

Scholarships are available to QCC graduates who transfer to four-year colleges and universities. Most scholarships require students to have GPAs of 3.0-3.5 or higher. To be eligible, a student must apply and be admitted to the

four-year institution, graduate from QCC, and meet any additional scholarship application requirements as stated.

Massachusetts Public Higher Education System Scholarships include:

- UMass Amherst - Community College Academic Honors Scholarship (Fall & Spring)
- UMass Boston - Foster Furcolo Scholarship Program (Fall only)
- UMass Dartmouth - Chancellor's Transfer Scholarship (Fall only)
- UMass Lowell - Community College Transfer Scholarships, Phi Theta Kappa Scholarships (Fall & Spring)
- Fitchburg State University - Transfer Merit Scholarship
- Mass College of Liberal Arts, Phi Theta Kappa Scholarship, Presidential Transfer Scholarship

Local Private College and University Scholarships include:

- Anna Maria College - QCC Partnership Grant, Merit-Based Scholarships and Grants
- Assumption College - Desautels Scholars, Pesse Scholars
- Boston University/Metropolitan College - Community Scholar Academic Scholarship
- Clark University - Transfer Achievement Scholarship, Phi Theta Kappa/PTK All-USA Scholarships, Transfer Leadership Scholarship, Quinsigamond Community College Scholarship
- Worcester Polytechnic Institute - Phi Theta Kappa Scholarship

Community and Professional Association Scholarships include:

- Greater Worcester Community Foundation (nearly 100 different scholarship categories)
- Jack Kent Cooke Undergraduate Transfer Scholarship
- New England Transfer Association Scholarship
- Phi Theta Kappa Scholarships (limited to PTK student members)

More information about scholarships and financial aid is available at the "Basic Information" section on the QCC Transfer Services website (www.qcc.mass.edu/transfer).

Center for Workforce Development and Continuing Education

508.751.7900

The Center for Workforce Development and Continuing Education offers a variety of instructor-led and online classes, workshops, certificate programs, licensing & professional development classes and seminars, test prep programs and certification testing that reflect the current needs of employers in numerous industries. Additionally, we offer personal enrichment classes that cater to a variety of interests and hobbies. Some of our popular courses include: Veterinary Assistant, Sterile Processing Technician, Medical Transcription, Medical Coding and Billing, Personal Care Assistant, TEAS Review Classes, Microsoft Office, Personal Fitness Trainer, Community and Medical Interpreting, Stand-Up Comedy, Reiki I&II, and Workforce Readiness Skills. **THE CENTER ALSO WORKS WITH AREA EMPLOYERS TO INSURE THEY HAVE THE SKILLED WORKFORCE THEY NEED.** The Center for Workforce Development & Continuing Education is here to serve the community and we look forward to the opportunity to provide the knowledge and skills that students need. Please call 508.751.7900 to request a catalog or visit www.QCC.edu/WD to download the latest course catalog.

Adult Community Learning Center

508.751.7903

QCC's Adult Community Learning Center is dedicated to providing its students with the skills necessary to help them make a positive impact on their lives. The Adult Learning Center offers free classes and instructional materials for those preparing to take the GED test, and those seeking to advance their skills in reading, writing, and math. The Center offers four levels of English as a Second Language classes that are small to further facilitate one-to-one interaction. Through instruction that includes face-to-face and online formats, students gain the basic reading, writing, math, and English communication skills that will allow them to eventually become digitally literate, inventive thinkers, effective communicators, and productive individuals. State-of-the-art computer technology is available for students to use.

ACADEMIC SUPPORT AND RESOURCES

Alden Library

Harrington Learning Center, 3rd Floor | 508.854.4581

The Alden Library is a light-filled open space dedicated for students to study, research and reflect. Our Library has a variety of seating options including study tables, carrels and two large reading rooms. Come to the third floor reference area where librarians are ready to help you with your research questions. Our Library has over 60,000 books, videos, DVDs and over 40,000 e-books available to support QCC's academic programs. There are over 70 databases that provide access to tens of thousands of full-text journal articles. In addition, the Library provides access to streaming videos in a wide range of academic subjects across the curriculum. These electronic resources, which provide thousands of full text articles, can also be accessed off campus via the Library website. The QCC Library is a member of the C/WMARS resource sharing network which provides QCC students access to over six million items. Alden Library has a computerized library classroom for hands on information and literacy instruction. On the second floor at the Circulation/Information Desk you can find course reserves, check out laptops and other materials, and reserve group study rooms.

Group study rooms of all sizes are available in the Harrington Learning Center for two or more students who would like to study or work on group projects. There are many computers available for library research. A professional librarian is available every hour that the library is open. Librarians are happy to show students the fastest and most efficient way to find information for course related research projects or for personal and career development.

Students may also utilize our new Downtown Library in Room 121 of the Healthcare and Workforce Development Center and Continuing Education building. It has computers for students to access the same range of electronic resources noted above and a circulating and reference collection tailored to the health sciences. It also has study rooms, course reserves and laptops that students can borrow. Reference librarians are on duty to help students with their research needs.

For information about QCC library hours, services and policies visit www.qcc.mass.edu/library.

Tutoring Centers

The QCC Tutoring Centers, located on the second floor of the Harrington Learning Center, provide a welcoming and supportive environment with free tutoring for currently enrolled QCC students. Tutoring is also provided at QCC Southbridge and Downtown campuses, and online

tutoring is available through Smarthinking. The goal of tutoring at QCC is to support and supplement students' learning experience in both the on-ground and online classrooms to enable them to be successful in their chosen academic discipline and career. Each semester the Tutoring Centers sponsor the Steps to Success Workshops, a series of workshops on a variety of topics important to successful college math, writing, reading, and study skills. Students can find tutoring and workshop schedules and information on our services by logging onto *The Q* and clicking on "Academic Tutoring" under the "Student Services" tab. The Tutoring Centers are open 66 hours per week, when classes are in session, and accommodate a variety of schedules with both evening and Saturday hours.

The Blackboard Tutoring Center Room 222HLC | 508.854.4273

The Blackboard Tutoring Center offers support and workshops for navigating Blackboard Learn, The Q and online resources necessary for success with course work. Support is available for students in online, blended and web-enhanced courses. The center also provides handouts and access to web video tutorials aimed at helping students increase their knowledge of and skills in using these tools.

General Academic Areas Center (GAA) - Tutoring Center Room 205 HLC | 508.854.4279

The General Academic Areas Tutoring Center is a tutoring and resource center for a variety of subject areas. Resources include access to one-on-one tutoring, study skills material, course textbooks for a variety of subject areas, and open areas for group work. The GAA also has 24 computers available for academic/course-related assignments, and a wide variety of software to support classroom instruction. Appointments are advised, but students are also encouraged to drop in for tutoring. GAA tutors are available for the following subjects:

- Accounting
- Anatomy & Physiology
- Biology
- Chemistry
- Computer Science
- Criminal Justice
- Dental Hygiene
- Economics
- Engineering
- General Studies
- Micro-Biology
- Microsoft Office
- Nursing
- Organic Chemistry
- Physics
- Psychology
- Sociology
- Spanish

The Math Center**Room 206 HLC | 508.854.7487**www.QCC.edu/services/math-center

The Math Center provides drop-in tutoring on a one-to-one and small group basis for currently enrolled QCC students taking math and related courses. The Math Center is a welcoming and supportive environment. It is where students taking a range of math courses can get assistance with their homework and develop their understanding of math with math tutors, and participate in group study with their peers. Resources include Math Department course textbooks, student and instructor solutions manuals for in-center use, desktop and laptop computers, index cards, a math lending library of books, as well as placement test review material for self-study.

The Writing Center**Room 208HLC | 508.854.7488**

The Writing Center is a tutoring and resource center for writing, as well as skills important to the writing process, including reading comprehension, critical thinking, and planning and organization. The Center offers a variety of services, including individual and group tutoring, writing workshops, English conversation groups, and writing reference guides and handouts. Students can work with a tutor on their writing, reading, and study skills for any course. Tutors can also assist students with any ESL course, as well as HUM 101 and SPH 101. Tutors work collaboratively with students to improve their skills and help them become more accomplished and confident writers, readers, and college students. Students who need assistance with accessing Qmail, *The Q*, or navigating Blackboard or MyWriting/Reading Lab are also welcome to work with a tutor.

TRIO Student Support Services**Room 170A | 508.854.4458**

The TRIO Student Support Services (SSS) FAST FORWARD PROGRAM is a federally funded program providing support and services to help students achieve academic and personal success in completing their studies at Quinsigamond Community College. TRIO SSS students receive the following services: academic advising and planning; tutoring services; career exploration and guidance; personal counseling; and transfer advising. These support services are offered to 140 students who are economically disadvantaged, first-generation or disabled. Applications are accepted throughout the year; however, acceptance into the program is each Fall Semester only. All applicants will be placed on a waiting

list and notified when a slot becomes available. To find out if you meet federal eligibility requirements and apply for program services, please stop by the office or email trioss@qcc.mass.edu.

Academic Support and Student Services**ADA Compliance Officer****Room 133A | 508.854.4375**

The ADA Compliance Officer serves as the central intake coordinator for all matters relating to ADA compliance, which protects all students and staff with all disabilities. The Compliance Officer will intake issues of concern via calls, emails and visits while managing the flow of information among the various College offices.

Assistive Technology**Room 255A, HLC | 508.854.7551**

The Assistive Technology office provides students with access to a variety of assistive technology. This includes text-to-speech software, scanners, Read&Write Gold 11, Inspiration and magnification software. Assistive Technology also loans registered students Livescribe pens and other devices on a semester-by-semester basis. Electronic format materials are requested and processed through this office as well. Registered students are welcome to use the Assistive Technology in 219 or 222 HLC anytime while the office is open.

Please contact us at the number above or email assistivetech@qcc.mass.edu for more information about Assistive Technology.

Counseling Services assists students with support and resources when confronted with personal, family or social problems. Referrals to college and community resources are made, based on need and request. Specific workshops and annual screenings for depression, anxiety and eating disorders are provided. This office provides liaison services for students who are Department of Transitional Assistance recipients. All services are free, voluntary and confidential.

Disability Services

Room 246A

Worcester | Voice 508.854.4471 | Fax 508.854.4549
 Southbridge | Voice 774.318.2113 | Fax 508.765.5625

QCC is committed to provide access to classes, programs, and services for students with disabilities. Disability Services assists students who have documented learning, medical, vision, hearing impairments, ADD/ADHA, physical, and/or emotional/psychiatric disabilities. Reasonable accommodations for students are determined on an individual basis. The following are examples of frequently requested accommodations based on the documentation provided to Disability Services:

- Assistive Technology
- Extended time on tests or quizzes
- Interpreters of American Sign Language
- Note takers

Students with disabilities who would like to receive assistance must schedule an intake/planning appointment with a Disability Services Coordinator and provide appropriate documentation of the disability. For more information please contact Disability Services at disabilityservices@qcc.mass.edu or stop by 246A on the main campus or the office area in Southbridge.

Veterans Affairs Office

Room 125A | 508.854.2721

The Veteran Affairs Office will assist students with the preparation, certification and submission of all necessary paperwork required for veteran benefits. Students are encouraged to visit the Office for various College support services.

Our mission is to provide support to assist student veterans and members of the Armed Forces in the adjustment to becoming successful in civilian and college life. We are committed to promoting college spirit as well as establishing and maintaining fellowship amongst veterans and students on campus. You may contact Veteran Affairs at 508.854.2721 or email veteranaffairs@qcc.mass.edu.

Student Life

Fuller Student Center/Campus Activities

508.854.4225

The Fuller Student Center provides a warm and welcoming atmosphere for all students. Space to study, relax, or play a game of pool, checkers, chess, and cards with

friends is available here. The patio and lawn provide the perfect place for lunch, a game of frisbee, or a relaxing break from class. Campus clubs and organizations have office space and mailboxes in The Fuller Student Center. Through participation in campus activities, students have the opportunity to develop leadership and interpersonal skills. Each semester, educational, social, cultural, and recreational events are held for the entire College community and their families to enjoy.

The Open Door

508.854.4285

Students staff *The Open Door*, our student newspaper. We are always looking for journalists, cartoonist, artists, graphic designers, and poets to add their work to the paper.

Student Senate

508.854.7413

The Student Senate, elected by the student body each year, involves students in College affairs and assists the staff in the Office of Student Life in planning and carrying out campus events.

Numerous opportunities exist for students to get involved in both the campus and the community. In addition to course work, students can look forward to a comprehensive Student Life Program at Quinsigamond Community College.

Athletic Center

508.854.4317

The QCC Athletic Center includes a basketball court, two newly updated fitness areas, and locker room facilities with saunas. QCC offers an extensive intramural program that includes Yoga, Circuit Training Classes, Indoor Cycling, Zumba, Boot Camp, Basketball, Indoor Soccer, Volleyball, Flag Football, and Table Tennis. Intercollegiate sports offered at QCC include Men's and Women's basketball, baseball and softball. QCC has a strong tradition of recruiting talented student-athletes.

The baseball team has won the New England Junior College Championship and the Northeast Association World Series and has appeared in several National Junior College Athletic Association (NJCAA) World Series. Our basketball teams have also achieved much success: Women's Basketball earned 2nd place in both the State and Regional Tournaments in the 2006-2007 season and the Men's Basketball won both the State and Regional Championship as well as finishing 5th place in the Nation at the NJCAA Tournament for the 2006-2007 season.

Important Places and Services

Bookstore

"A" Building, Lower Level | 508.854.4237

Textbooks, trade books, laptops, software, supplies, greeting cards, gifts, QCC insignia items and more are available at the Bookstore. The Bookstore accepts cash, major credit cards, personal checks and financial aid. Please check us out online at <http://bookstore.qcc.mass.edu>. "Like us" on Facebook. Hours of operation: M-R 8:00 a.m. to 4:00 p.m. and F 8:00 a.m. to 3:00 p.m., with extended hours at the beginning of each new semester.

Cafeteria

"A" Building Lower Level | 508.854.4219

The main cafeteria is located in the "A" building, lower level and serves a great selection of menu items, from full meals to snacks. Hours of full operation: M-F 7:00 a.m. to 2:30 p.m., with extended hours M-R till 3:30 p.m. for Coffee, Soup and Grab & Go salads and sandwiches. Limited hours during the Summer and Intersession Semesters. The Café, located in The Harrington Learning Center, serves light fare and is open M-R 7:30 a.m. to 8:00 p.m. and Friday 7:30 a.m. to 4:00 p.m. Closed during the Summer and Intersession Semesters. Both locations accept cash and major credit cards.

The Children's School/Child Study Center 508.854.4220

Our on-campus child development facility provides early education and care for preschool children ages 2.9 to 5 years old. We are licensed by the Department of Early Education and Care and accredited by the National Association for the Education of Young Children.

The school provides a rich learning environment for young children and is also a model training site for college students. We are open for the full year to meet the many needs of students, staff, and families. Applications are accepted on an ongoing basis. State vouchers are accepted and some students may qualify for a financial scholarship. Please call 508.854.4220 or email janel@qcc.mass.edu for more information.

Financial Aid Office

Room 165A | 508.854.4261

For students who are in need of financial assistance to help offset the cost of their education, several types of financial

aid are available at Quinsigamond Community College. Financial aid may be given in the form of grants, loans, tuition waivers, scholarships, or work-study employment.

Harrington Academic Computer Center Room 379A | 508.854.4370

Computers are available to students for academic projects, papers, research and other assignments.

Public Safety – Police 136 Athletic Center

**EMERGENCIES 508.854.4444 | Non-emergencies
508.854.4221**

Campus safety at QCC involves the entire community working together in an effort to provide a safe and secure campus environment. The department provides educational and safety programs for the campus community and is proactive in prevention and security. To fulfill this goal, the department seeks community involvement, encourages interactive relations and a combined police and community approach to problem solving. Sworn campus police officers provide 24-hour service to the campus.

Crime Awareness and Campus Security

Quinsigamond Community College's Annual Security Quinsigamond Community College's Annual Security Report is available to the College community. This report includes statistics for the previous three years concerning reported crimes that occurred on campus; in certain off-campus buildings or property owned or controlled by Quinsigamond Community College; and on public property within, or immediately adjacent to and accessible from, the campus. The report also includes institutional policies concerning campus security, such as policies concerning sexual assault, and other matters. You can obtain a copy of this report by contacting the Campus Police or by accessing the following website:

www.QCC.edu/clery.

Registrar's Office**Room 152A | 508.854.4257**

Students can register for courses, file for graduation, update name and contact information, review their academic record in the Registrar's Office. These services are also available on *The Q*, at www.QCC.edu.

Student Payment Center**Room 65A | 508.854.4560**

Students can come into the Payment Center to pay their bills and other school related fees. Our staff can answer any billing questions a student may have. Students are notified by Qmail when their bill is ready to view. The student can check their course and fee statement on *The Q* for accuracy and view their financial aid award. Students are notified by Qmail when their financial aid award has been disbursed to their account and when they can expect a refund. The student can request and pay for a transcript or pay a parking ticket in the SPC. Services available on *The Q* are the ability to pay online or sign up for a payment plan as well as waivers for the health insurance fee and parking fee.

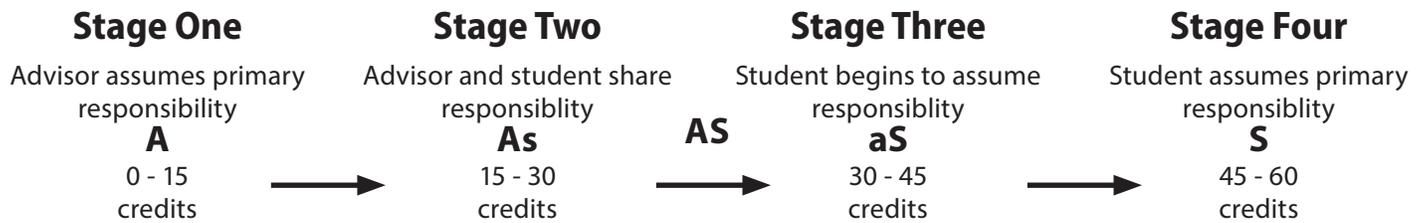


CAPS Checklist Career, Academic and Personal Success

QCC CAPS is a Road Map designed to help students navigate through and succeed in college. QCC CAPS allows students to develop a Plan that charts out their academic and career goals and tells them how to get there. We expect that students may need extra assistance and direction when they first start college and their Advisor plays a major role at this stage. As students move along, they will be prepared to take more responsibility for their own college planning and success

A detailed view of the CAPS Checklist appears in the Student Handbook. Progress on his/her CAPS Checklist can be discussed with the student's Academic Advisor.

QCC CAPS is divided into four Stages, according to the number of credits that students complete. Each Stage has a CAPS Checklist- a guide that tells the student and his/her advisor what needs to happen before he or she moves on to the next stage.



Tuition and Fees

Application Fee for New Students

Massachusetts Residents	Non-refundable	\$20.00
All Other Applicants	Non-refundable	\$50.00

All Credit Courses (Except as Noted)*

Massachusetts Residents	(\$24.00 tuition/\$164.00 Educational Services fee)	\$188.00/credit*
All other Students	(\$230.00 tuition/\$164.00 Educational Services fee)	\$394.00/credit*

Required Fees

Registration Fee	\$55.00 per semester
Student ID Fee	\$30.00 once per academic year
Student Support Fee	\$25.00 Fall and Spring Semesters only
Lab Fee	\$65.00 per lab course

Technology/Energy Fee

Students registered 1-8 credits/Fall & Spring Semester	\$95
Students registered 9+ credits/Fall & Spring Semester	\$150
Students registered 1-8 credits/Summer Semester	\$45
Students registered 9+ credits/Summer Semester	\$75
Students registered 1-8 credits/Intersession Semester	\$25
Students registered 9 + credits/Intersession Semester	\$40

Facilities Fee

Students registered 1-8 credits/Fall & Spring Semester	\$80
Students registered 9+ credits/Fall & Spring Semester	\$135
Students registered 1-8 credits/Summer Semester	\$40
Students registered 9+ credits/Summer Semester	\$70
Students registered 1-8 credits/Intersession Semester	\$25
Students registered 9 + credits/Intersession Semester	\$40

Required Fees (continued)

Compulsory Health Insurance	\$1,800.00/Academic Year**
Allied Health Insurance:	
Health Programs	\$20.00/per Academic year
EMT Paramedic Programs	\$80.00/per Academic year
Parking Fee	\$70.00/Fall and Spring \$40.00/Summer I or II

Special Fees

Credentialing Fee	\$50.00 per credit
Military	\$10.00 per credit
CCE	\$10.00 per credit
Challenge Examination Fee	\$50.00 per credit
Portfolio Assessment Fee	\$65.00 per credit

All Rates are Subject to Change Without Notice

* All tuition and fees are subject to change without notice.

** Health Insurance fees are estimated. Students entering in the Spring semester will be charged an estimated \$1200.

Massachusetts law requires that each student registered for 9 or more credits must purchase this insurance unless the student can show evidence of comparable coverage under another health insurance policy.

Program Fees

Program	Maximum Charge Per Semester	Program	Maximum Charge Per Semester
Health		Electronics	
Dental Hygiene AS (DH)	\$2,000.00	Electronics Technology and Related Areas	\$60.00/credit or \$600.00 max
Allied Dental Services AS (AD)	\$900.00		
Dental Assisting Certificate (DA)	\$900.00	Computer	
Nurse Education AS (NUR) (NUE)	\$900.00	Computer Systems and Related Areas	\$60.00/credit or \$600.00 max
AP Nurse Education AS (NUL) (NUP)	\$900.00		
Occupational Therapy Assistant AS (OT)	\$900.00	Automotive	
Practical Nursing Certificate (LP)	\$900.00	Ford Maintenance and Light Repair Program (AMF)	\$500.00
Respiratory Care AS (RS)	\$900.00	Automotive Technology (AT)	\$500.00
Radiologic Technology AS (RT)	\$900.00		
Surgical Technology Certificate (ST)	\$600.00	Energy Utility Technology Certificate	\$60.00/credit or \$600.00 max
Paramedic Technology AS (EM)	\$650.00		
EMT Basic Offering Certificate	\$300.00	General Studies	\$60.00/credit or \$600.00 max
EMT Certificate (EMT)	\$300.00		
EMT Paramedic Certificate (PC)	\$650.00	Heating Ventilation Air Conditioning	\$60.00/credit or \$600.00 max
Medical Assisting Certificate (ME)	\$500.00		
Medical Support Specialist AS (MSMA)	\$500.00	Manufacturing Technology	\$60.00/credit or \$600.00 max
Nursing Assistant Certificate (NA)	\$400.00		
Perioperative Nursing Certificate (PNC)	\$400.00		
Pharmacy Technician Certificate (PT)	\$400.00		
Phlebotomy/EKG Technician Cert (PEKG)	\$400.00		

All Fees are Subject to Change Without Notice

Payment of Tuition and Fees

Students are notified by Qmail when their bill is ready to view on *The Q*. Payment arrangements must be made prior to the bill due date or upon registration after the bill due date. The bill will reflect an estimated Financial Aid award as of the billing date. For aid awarded after the billing date the student should log in to *The Q* to view their current bill. If the student is a recipient of any third party funding (i.e. tuition waiver, military benefits, Uplan, scholarship or private company) please notify the Business Office and submit required paperwork prior to the start of the semester. To help students meet their educational expenses online payment plans are available. Payment can be made online, over the phone or in the Student Payment Center, room 65A. QCC accepts cash, checks, money orders and credit cards (Master Card, Visa, or Discover). There is a \$20 charge for any returned payment. Please note: All tuition and fee charges are subject to change without notice.

Other Expenses

Students should anticipate expenses each semester for required textbooks (which are available in the Bookstore) and/or materials for each course. For textbook availability and prices, please visit the QCC bookstore link on *The Q*, the College's student and faculty portal.

Refunds of Tuition and Fees

Students are responsible for the semester charges whether or not they attend. To remove or reduce these charges, students must officially withdraw in the Registrar's Office, room 152A. All refunds will be pro-rated based on the withdrawal date. When withdrawing from classes please refer to the semester Tuition and Fee Refund Policy for financial penalty available on *The Q* and in the schedule booklets. Financial Aid recipients are advised to check with the Financial Aid Office, room 165A prior to withdrawing to determine the impact on their financial aid award.

Refund Limitations

*Official withdrawal must be made in the Registrar's Office, Room 152A.

*Any tuition waivers must be submitted to the Business Office prior to the end of the semester to be considered for a refund or adjustment.

*Mandatory health insurance premiums are not refundable.

*Students will be refunded only that portion of the tuition and fees paid by them; third-party payments will be refunded directly to the paying party.

*Financial Aid recipients are advised to check with the Financial Aid Office, Rm. 165 in the Administration Building prior to withdrawing to determine the impact on their financial aid award.

Return of Federal and State Funds for Students Who Withdraw

If the student withdraws from the College or stops attending classes prior to the 60% point of the semester, financial aid will be pro-rated based on the number of days attended. If financial aid was disbursed before the student withdraws, the student may be required to pay back some of the money, based on a federal determination of his/her eligibility as of the date withdrawn. Additional information is available in the Financial Aid Office.

Tuition Waivers

Various tuition waivers are available to those people who meet the requirements outlined below. Tuition waivers apply only to the cost of tuition; they do not include the cost of the ed. service fee, additional fees, textbooks, or supplies. Tuition waivers are not applicable to tutorials, challenge examinations, or any other individualized learning experience.

Veteran Tuition Waivers

Veterans, as defined by MGL Chapter 4, Section 7, may qualify to take credit courses tuition-free, provided the veteran is eligible and has submitted a copy of his/her DD214 separation papers. There may be other eligibility requirements for this tuition exemption, so veterans should contact the Veteran Affairs Office, Room 125A for further information.

Members of the Armed Forces Tuition Waivers

An active member of the Armed Forces (Army, Navy, Marine Corps, Air Force, or Coast Guard) stationed and residing in the Commonwealth of Massachusetts may qualify to take credit courses tuition-free. For eligibility requirements, contact the Veteran Affairs Office, Room 125A for further information.

National Guard Tuition Waivers

Members of the Massachusetts National Guard may qualify for tuition-free courses, provided they meet the eligibility requirements. For further information, contact the Business Office, Room B07A.

Senior Citizens Tuition Waivers

Senior citizens, age sixty years or older, may qualify for tuition-free courses. For further information about these tuition waivers, contact the Financial Aid Office, Room 165A.

Massachusetts Rehabilitation Commission and Commission for the Blind Tuition Waivers

MRC and MCB clients may be eligible for tuition-free courses consistent with the policies of the Massachusetts Board of Higher Education. Please contact the agencies offices for details.

Native American Tuition Waivers

Native Americans, as certified by the Bureau of Indian Affairs, may qualify to take credit courses tuition-free. For eligibility requirements, contact the Financial Aid Office, Room 165A.

Student Billing: Frequently Asked Questions

Will there be a fee increase for the Fall semester?

For Massachusetts' residents, the combined tuition and ed. service fee cost is currently \$188.00 per credit hour. For Non-Massachusetts' residents and international students, the combined tuition and ed. service fee cost is \$394.00 per credit hour; all costs are subject to change without notice. Additional fees apply each semester; some vary based on enrollment.

What are the additional fees?

Registration Fee: Students pay a registration fee each semester. This fee supports the administrative effort of the College associated with the entire enrollment process to include: Registration, Assessment Testing, Advising, Financial Aid, and Student Payment functions.

Student ID Fee: Students pay a Student ID Fee once per academic year. If a student already has an ID, they will need to have the card validated each academic year. This fee is used to support expenses associated with the learning center, library services, and the athletic center. Students need to have a Student ID in order to pick up financial aid refund checks, sell books back to the bookstore, or to receive a sales tax waiver for cafeteria purchases.

Student Support Fee: Students pay a Student Support Fee for the Fall and Spring semesters only. This fee is used to support various activities on campus.

Technology/Energy Fee: The technology portion of this fee is used to support expenses associated with computer labs, electronic equipment, classroom equipment, computer software, audio-visual hardware, database management systems, laptop computers, and telecommunications systems. The energy portion of this fee is used to help supplement the increasing energy costs and usage throughout the College.

Facilities Fee: This fee is used to support expenses associated with all building and ground areas at all instructional locations.

Lab Fee: This fee is used to support and supply the scientific laboratories and equipment on campus. This fee is assessed for each lab class.

Program Fees: Certain high demand and equipment intense programs have additional fees associated with the specific program/major to help support the needs of the program known as a Program Fee. Current Program Fees are detailed on page 34 of this catalog and are subject to change without notice.

Can I waive any of these fees?

The Registration, Student ID, Student Support, Technology/Energy, Facilities, Lab and Program fees are mandatory and cannot be waived.

Health Insurance Fee: If you register for 9 or more credits in Fall or Spring a state-mandated health insurance fee will be added to your bill. If you have comparable coverage you may waive this fee. Additional information is available in the Student Payment Center.

Parking Fee: This fee supports the costs related to the maintenance of the campus parking lots and roadways. This fee is charged in the Fall and Spring semesters and in one Summer semester.

Once I pay my Parking Fee and receive a parking decal will I be able to park at all locations?

The parking decal covers designated student parking at our main campus in Worcester on West Boylston Street and in Southbridge at 5 Optical Drive. Additional parking fees may be charged for off-site instruction.

I do not park on any campus - can I waive the Parking Fee?

Students who do not park on campus may waive the Parking Fee. Additional information is available in the Student Payment Center.

If I withdraw from a course can I get all my money back?

There is a specific Refund Policy for each semester. For the first eight calendar days of class (or equivalent if in Summer or Intersession Semesters), a 100% refund of tuition and fees is granted. The next eight calendar days of classes, a 50% refund of tuition and fees is granted. After the first 16 days of classes (or equivalent if in Summer or Intersession), no refunds of tuition or fees will be granted. Please see semester brochures for exact dates. Students must officially withdraw from the College. Students who are receiving financial aid should consult with the Financial Aid Office before withdrawing. Financial Aid eligibility may be affected.

Fast Track Refund Policy

- Withdrawal through the first class meeting and PRIOR to the second class meeting 100%
- Withdrawal through the second class meeting and PRIOR to the third class meeting 50%
- Withdrawal as of the third class meeting 0%

How can I pay my bill?

Payment can be made in the Student Payment Center, room 65A in the Administration building, over the phone at 508.854.4560, or online by logging into *The Q* (the student and faculty portal). Payment options are detailed in your Qmail billing notification which is sent 2-3 business days after enrollment. All payment arrangements must be made by the bill due date or upon registration after the bill due date.

Does the College offer a payment plan option?

To help students meet their educational expenses, the college offers online payment plan options through a third party for each semester except Intersession. Students who select a payment plan option may select an installment plan that is spread over several months, depending on the length of the semester. Payments are then automatically deducted by our payment plan company from the student's credit card account. Participation in the payment plan costs \$40 per semester. Please contact the Payment Center at 508.854.4560 for additional information.

When will my financial aid refund check be ready?

Students will receive a check for their excess financial aid award after all charges have been paid to QCC. The financial aid is processed on their student account in the middle of the semester. Once the funds are available, refund checks will be processed weekly and made available for student pick up at the Payment Center in Room 65A. An email will be sent to the student's Q mail account notifying them that their check is available. Students need their Student ID or a picture ID to pick up their refund check.

Is any student eligible for Institutional Aid?

The College has set aside a certain amount in operating funds to support our students. To qualify for these funds students must meet the conditions for need-based Federal and State Financial Aid and complete a FAFSA. This aid helps fill the gap between available Federal and State aid and the cost of attendance. In addition, the institutional advancement group has set aside a certain amount to fund scholarships for students. To qualify for these scholarships students must meet the specific criteria of each individual scholarship. In most cases the Financial Aid Office will notify a student if he or she appears eligible for any of these scholarships. For further information please inquire at the Financial Aid Office in room 165 in the Administration Building.

Financial Aid

The goal of the Financial Aid Office is to assure that students do not have financial barriers if they want to earn a college degree or certificate. Our office is committed to helping students receive the financial assistance they need to attend QCC. We offer a wide variety of federal, state and institutional assistance programs.

Who is Eligible for Financial Aid?

Students must meet the following criteria in order to be eligible for financial aid:

- Be admitted to an eligible program. Please note that undeclared majors are not eligible for financial aid.
- For most programs, you should enroll in at least six credits each semester. However, students with very low income may qualify for as little as one class per semester.
- Demonstrate financial need as determined by filing the Free Application for Federal Student Aid (FAFSA)
- Have a complete financial aid file as outlined in How to Apply and by responding to all requests for additional information.
- Be a U.S. citizen or eligible non-citizen (permanent resident alien). Verification may be required.
- Be in compliance with the Selective Service registration requirements. Verification may be required. To check your status or to register go the Selective Service System website.
- Not be in default on any educational loan or in repayment of any educational grant.
- Not have been convicted for possession of the sale of illegal drugs while receiving any financial aid.
- For the grant programs, you must not have a previous Bachelor's Degree.
- Be making progress toward a certificate or degree program according to the Standards of Satisfactory Academic Progress.

Applying for Financial Aid

To begin the financial aid application process, you must complete the Free Application for Federal Student Aid (FAFSA) electronically. It is necessary for you and your parent (if required to provide their information) to sign

your FAFSA using your FSA ID. Be sure to designate Quinsigamond Community College (Federal School Code 002175) in the College release section. Make sure you select the application for the correct academic year. If you have already filed your tax return, we strongly recommend that you utilize the IRS Data Retrieval tool. Using the tool allows you to complete the process faster and may minimize the amount of follow-up required by schools. If you have not filed your taxes yet and completed the FAFSA using estimated tax information, you may make a FAFSA correct and utilize Data Retrieval after you have filed. Information on the tool and who is eligible to use it is available within the online FAFSA application.

Allow 3-5 business days for your FAFSA to be processed. You will receive a Student Aid Report (SAR), which you should review for accuracy.

If additional documentation is required you will receive a letter or email from the Financial Aid Office. It is important to respond to these requests as quickly as possible

When Should One Apply?

The priority filing date for the Fall semester is April 1 and Spring semester is October 1. The deadline to apply for MASSGrant is May 1. These priority filing dates assure that you receive the maximum financial aid possible and that your funding will be available to pay your bill by the billing due date, assuming you complete all requirements. If you missed the priority filing date, you may still apply for financial aid. Funding is still available.

Students must reapply for financial aid each academic year.

Determining Financial Need

Financial aid from most sources is awarded on the basis of financial need. Once the student meets the other eligibility criteria, the information he/she reports on their aid application will be used in federal formulas to calculate their need and eligibility.

Financial need is determined by taking the cost of education (educational expenses, such as tuition, fees, books, supplies, and other related expenses), and subtracting the amount the student and his/her family are expected to pay toward that cost. Detailed information on how the "cost" of education at Quinsigamond Community College is calculated may be obtained at the Financial Aid Office.

Certain federal loan programs not based on financial need are also available. In order to be considered for these programs, students may be required to complete the entire financial aid application process to first determine if they are ineligible for need-based assistance.

Repeated Courses

Students will be allowed to repeat (and be counted in their enrollment status for financial aid purposes) any coursework previously taken in their program as long as it is not a result of: (1) more than one repetition of a previously passed course or (2) any repetition of a previously passed course due to the student failing other coursework.

Billing Information for Financial Aid Applicants

Financial aid awards are applied toward a student's bill when an official award letter is issued from the College. If the student has applied for financial aid, but has not been notified of their eligibility for assistance by the College, he or she must make payment arrangements for the amount due directly with the Payment Center.

Students will need to visit *The Q*, QCC's online student portal, to see their financial aid award and/or any missing financial aid documents.

Should Quinsigamond Community College become aware of any misrepresented or omitted information in a financial aid application, any funds awarded to the student will become due immediately and payable to either the College or the Department of Education.

Return of Federal and State Funds for Students Who Withdraw

If a student withdraws from the College, or stops attending classes, prior to the 60% point of their semester, his or her financial aid will be prorated based on the number of days he or she attended. If financial aid was disbursed to the student prior to withdrawal, he or she may be required to pay back a portion of the money, based on a federal determination of the eligibility as of the date he or she withdraws. Additional information is available in the Financial Aid Office.

Types of Financial Aid Available

The College will inform the student in writing by means of a financial aid award letter of the amount of their award. The amount of their award may be adjusted based upon changes in the student's enrollment or other eligibility criteria. Their award may consist of any combination of the

federal, state, and institutional programs listed below.

Grant Programs

- **Federal Pell Grant:** This is gift aid awarded by the federal government to students demonstrating substantial financial need. Changes in enrollment status through the add/drop period will result in an adjustment to this award.
- **Federal Supplemental Educational Opportunity Grant:** This is a federally funded grant program. Recipients are selected by Quinsigamond Community College according to federal regulations that require SEOG be awarded to students with the lowest family contributions and greatest financial need, usually Federal Pell Grant recipients. Priority is also given to students enrolled in at least six credits.
- **MA Cash Grant:** This is a state-funded grant program designed to assist needy Massachusetts residents attending public colleges and registered for at least three credits. Eligibility is determined by the college according to state regulations. The Cash Grant cannot exceed the cost of tuition and fees.
- **MASSGrant:** This is a state grant awarded by the Commonwealth of Massachusetts to its residents with exceptionally high financial need. The state Office of Student Financial Assistance notifies residents of their eligibility and the college certifies this eligibility. Funds are not available until this certification is completed. You must be enrolled for a minimum of 12 credits to receive this grant.
- **Massachusetts Part-time Grant:** This is a state-funded grant available to residents of Massachusetts who attend college on a part time basis. Quinsigamond Community College, in accordance with state regulations, selects recipients. You must be enrolled for at least six and not more than eleven credits each semester.
- **Performance Bonus Grant:** This grant was created to reward the success of the Commonwealth's neediest students. The grant provides a financial incentive for students to perform well in college and persist toward the achievement of a postsecondary education degree. Students must be full time, have earned 24 credits with a 3.0 GPA, have a 0 EFC, and are eligible for the MASSGrant. Recipients are selected by the state and eligibility is certified by the college.
- **MA Public Service Grant:** Established to provide educational opportunity to family members in recognition of the hardship that a family experiences upon the loss of a parent and or spouse who is killed or missing in the line of public service duty in the

Commonwealth of Massachusetts. The award value is equal to the college's full time tuition charge.

- **Paraprofessional Teacher Preparation Grant:** Provides financial assistance to paraprofessionals in a Massachusetts public school who wish to pursue teacher education and become certified to teach full-time in Massachusetts' public schools.
- **Completion Incentive Grant:** State funded program providing incentive grants to students who demonstrate substantial need for persisting and completing their degree or certificate program of study.

Federal Work-Study Program

The Federal Work-Study Program offers students an opportunity to earn money through on or off-campus employment. Students are placed in a position that will provide them with valuable work experience. The Work-Study Program offers off-campus placements in community service positions at non-profit agencies. It also offers students an opportunity to tutor in area elementary schools with the America Reads and America Counts Programs.

A student's work schedule and hours may vary according to the amount of the Work-Study award. Students are paid hourly, and rates of pay may vary.

Loans

Federal Direct Loan Program - The Direct Loan Program provides low-interest loans to students enrolled for six or more credits per semester. Payments for interest or principal do not begin until six months after graduation, periods of enrollment that are less than half-time (six credits), or termination from the College. Borrowers are charged a fixed interest rate. A variety of repayment options are offered.

If the student demonstrates financial need, a portion of the loan may be subsidized which means the Department of Education will pay the interest on the loan during eligible periods. For first-time borrowers on or after July 1, 2013, there is a limit on the maximum amount of time a student can receive Direct Subsidized Loans. Students who do not demonstrate financial need or who have reached their subsidized loan limit may qualify for a Direct Unsubsidized Loan. The interest on this loan begins to accrue from the date of disbursement.

The College receives funding for these loans directly from the United States Department of Education, and repayment is made to a loan servicer assigned by the US Department of Education once your loan has been disbursed. There is no separate application. Before receiving any loan funds, first-time borrowers must complete an Entrance interview

as well as sign a Master Promissory Note electronically at www.studentloans.gov.

Federal Direct PLUS Loans - A Federal Direct PLUS Loan is available to parents of dependent students and is not based upon financial need. The amount of a Federal Direct PLUS Loan may not exceed the cost of education minus any other financial aid. The parents' credit history will be reviewed to establish eligibility. A fixed interest rate will be charged. Ordinarily, repayment begins 60 days after the final loan disbursement; however, a deferment may be available while the student is enrolled in school. Students need to complete a FAFSA even if they are only applying for a PLUS loan.

Tax Credits

The tax code provides a variety of tax incentives for families who are saving for, or already paying, higher education costs or are repaying student loans.

You may be able to claim a Hope and Lifetime Learning Credit for the qualified tuition and related expenses of the students in your family (i.e., you, your spouse, or an eligible dependent) who are enrolled in eligible educational institutions. Different rules apply to each credit. If you claim a Hope Scholarship Credit for a particular student, none of that student's expenses for that year may be applied toward the Lifetime Learning Credit.

You may be able to claim a tuition deduction of up to \$4,000 of qualified education expenses paid during the year for yourself, your spouse, or your dependent. You cannot claim this deduction if your filing status is married filing separately or if another person can claim an exemption for you as a dependent on his or her tax return. The qualified expenses must be for higher education.

You may be able to deduct interest you pay on a qualified student loan.

Please refer to the www.irs.gov for further information.

Tuition Waivers

Categorical Tuition Waivers: The Commonwealth of Massachusetts provides tuition waivers to (1) Veterans (2) Native Americans (3) Senior Citizens (4) members of the Armed Forces (5) Clients of the Massachusetts Rehabilitation Commission or Commission for the Blind.

City of Worcester Tuition Waiver: The city of Worcester issues up to five 100% tuition waivers per semester, for the fall and spring semesters, to employees of the city of Worcester.

DSS Adopted Children Tuition Waiver is designed to lessen the financial burden on adopting parents in the Commonwealth. This Waiver extends eligibility to all children and young adults, age twenty-four or under, adopted through the Department of Social Services by state employees or eligible Massachusetts residents, regardless of the date of adoption.

DSS Tuition Waiver for Foster Care Children is designed to provide financial support for higher education to foster children in state custody who were neither adopted nor returned home. Students must maintain full-time enrollment.

Higher Education Employee Tuition Waiver: Employees of institutions of higher education in the state of Massachusetts are eligible for a tuition waiver for themselves, their spouses and their dependent children. Full time employees may receive a 100% waiver, part time employees receive 50%.

Human Service Provider Tuition Waiver is a program of the Massachusetts Council of Human Service Providers Inc., eligible employees of certain Human Service Providers may receive a 100% tuition waiver by submitting a Certificate of Employee Eligibility for Tuition Remission approved by their Human Resources representative. Qualification of an organization as an Eligible Human Services Provider will be determined on the basis of lists of providers under contract with the Commonwealth that are maintained by the Comptroller of the Commonwealth.

Massachusetts National Guard Tuition Waiver: Certain eligible members of the Massachusetts National Guard may receive a 100% tuition waiver for up to 30 credit hours per school year. A certificate for this waiver must be issued by the member's unit Administration or Education office.

Need Based Tuition Waiver is a state-funded program available to needy Massachusetts residents attending public colleges and registered for at least three credits. Eligibility is determined by the college according to state regulations. If you receive any other type of tuition waiver you may not receive this need-based tuition waiver as well. The amount of the waiver cannot exceed the cost of tuition.

Quinsigamond Community College Full-Time Employee Tuition and Fee Waiver: QCC employees, their spouses and their dependents are eligible for a 100% waiver of tuition charges. In addition, employees may receive a 100% waiver of educational fee charges. Spouses and dependents of employees may receive a 50% waiver of educational fee charges.

Stanley Z. Koplik Certificate of Mastery Tuition Waiver: Honors students who are awarded Stanley Z. Koplik Certificate of Mastery Awards by the Department of Education.

September 11, 2001 Tragedy Tuition Waiver provides a 100 percent tuition waiver to children and widowed spouses of Massachusetts residents for any state supported course or program offered by a Massachusetts public college or university.

State Employee Tuition Waiver: Employees of state agencies are eligible for a 100% tuition waiver for themselves and their spouses.

Valedictorian Program Tuition Waiver: Honors students who were designated as valedictorians by a Massachusetts High School.

Scholarships

Please note: All scholarships are subject to available funding.

Carmen Tobin Nursing Scholarship: In memory of Carmen Tobin who graduated from the Quinsigamond Community College Nursing Program this scholarship is administered by the Greater Worcester Community Foundation and is awarded each year to assist students in achieving their Nursing degree. A separate application must be submitted to the Greater Worcester Community Foundation.

Carol Lawson Memorial Scholarship: Established in memory of Carol Lawson who served as the Director of the QCC Children's School from 1991 to 2000. The award is given each spring to a student in the Early Childhood Education program.

Deceased Public Servant Memorial Scholarship: In recognition of the hardship families experience upon the loss of a parent or spouse who is killed in the line of public service duty in the Commonwealth, the Deceased Public Service Memorial Scholarship has been established. Dependent children and spouses of deceased public servants, eligible for the Commonwealth of Massachusetts Public Service Grant Program, may also receive this scholarship. The two programs completely cover the cost of tuition, fees and books.

Fairlawn Foundation Scholarship: Scholarships from the Fairlawn Foundation (offered through the Worcester Nursing Pipeline Consortium — WNPC) support nursing students who have demonstrated a commitment to improving the health of residents in the Worcester area through employment, clinical practice, and/or community service in Worcester, Massachusetts with plans to sustain that commitment upon the completion of their current nursing studies.

Family Member of Deceased Former Employee of Quinsigamond Community College: Recipient must be an immediate family member of a deceased former employee of Quinsigamond Community College who died while employed by the College.

Firefighter Memorial Scholarship: This restricted scholarship, in conjunction with the Commonwealth of Massachusetts' Public Service Grant Program, provides full coverage for tuition, fees and books to the dependent children and spouses of the six firefighters who perished in the December 3, 1999, fire at the Worcester Cold Storage building.

J. Allan Chupka Memorial Scholarship: Established in the memory of J. Allan Chupka, who served as Registrar and later as Chairperson of the Business Department at Quinsigamond Community College. This scholarship is open to all full-time students at Quinsigamond Community College. The award is based on academic achievement and financial need.

Massachusetts Public Service Grant Program: Established to provide educational opportunity to family members in recognition of the hardship that a family experiences upon the loss of a parent and or spouse who is killed or missing in the line of public service duty in the Commonwealth of Massachusetts. The award value is equal to the college's full time tuition charge.

Nancy Ohan Memorial Award: This award is given to a student who has demonstrated significant personal as well as academic growth during their time in the Occupational Therapy Assistant program. Nancy Ohan was one of the first graduates of the OTA program at Quinsigamond Community College. After graduation she worked as secretary to the department and then assumed the job of Academic Fieldwork Coordinator. She returned to QCC in the early 1980's as an instructor in the OTA program and remained until her death in 1996.

National Grid Energy Utility Technology Scholarship: This \$1000 award is available to assist students who are enrolled in the Energy Utility Technology program. Special consideration will be given to women and other underrepresented populations. Applications are available in the summer prior to the start of the academic year. Multiple scholarships will be awarded.

New England College Council Scholarship: The Board of Directors of the New England College Council awards these scholarships to qualifying students attending one of their member institutions. Members are most of the two-year regionally accredited institutions in New England.

Patricia Lamusta Memorial Scholarship: Established in memory of Patricia Lamusta, who served as a secretary in the Registrar's Office at Quinsigamond Community College. Open to students in the Business Administration Career degree or Business Support Specialist certificate programs.

Quinsigamond Community College Alumni Association Scholarship: Two scholarships will be awarded to students whose parents or spouse is an alumna of Quinsigamond Community College.

Quinsigamond Community College Division Scholarships: Quinsigamond Community College Division Scholarships are awarded annually on a competitive basis to one student from each division: Business Management and Human Services, Humanities and Social Sciences, Technology, and Health Care.

Rev. Dr. Martin Luther King, Jr. Scholarship: The Rev. Dr. Martin Luther King, Jr. Scholarship is awarded each fall to a student who represents the ideals of the Reverend Dr. Martin Luther King, Jr. nominated by members of the QCC community.

Rose Caprioli Award: This award is given to the Occupational Therapy Assistant student who consistently demonstrates excellence both in the classroom and in the clinical setting. Honoring Rose Caprioli who taught in the OTA program at QCC for many years and was Academic Field Coordinator for much of that time. She encouraged excellence in clinical practice and supported the students in their clinical experiences on fieldwork.

Ruth C. Pelkey Memorial Nursing Scholarship: Awarded in the fall and the spring of each academic year to a prospective QCC Nursing IV student.

September 11, 2001 Tragedy Fund: The fund, in conjunction with the state's September 11, 2001 Tragedy Tuition Waiver, is available to any spouse or child of a resident of Massachusetts who was the victim of the tragic events that occurred on September 11, 2001. The fund provides full coverage for tuition, fees and books.

TJX Foundation Scholarship: The TJX Foundation has donated funds to support scholarships to non-traditional students with financial need. A non-traditional student is typically defined as a student who did not enter college right after high school and is at least 24 years old. This scholarship is subject to continued funding from the TJX Foundation.

Scholarship Search Web Site: This is a very comprehensive web site that will give you information on many external scholarship programs for which you may be eligible.

QCC Foundation Scholarships: The QCC Foundation Scholarship program awards students for academic achievement and considerable financial need. Visit the website to read more and apply.

Satisfactory Academic Progress

Federal regulations require students to maintain satisfactory academic progress toward the completion of their degree or certificate program in order to qualify for financial aid. Financial aid applicants will be reviewed at least annually at the end of the Spring semester to determine if the standards are met. Students enrolled in certificate programs only, as well as those on Financial Aid Warning or Probation will be reviewed at the end of each semester

Important Definitions

Academic Progress is based on all terms of enrollment. The review will be performed on your entire QCC academic transcript, regardless of whether or not financial aid was received or whether the Fresh Start Option was granted.

Attempted Credits:

- All credits in which you were registered at the end of the add/drop period, including those with grades of F, W, X, I, IR, and WA, including repeated courses
- All earned credits (e.g. transfer credits and credits earned through prior learning)

Earned Credits:

- Courses that you have completed and have earned credit for, including repeated courses
- Transfer credits
- Credits earned through prior learning (e.g. challenge exams, portfolio assessment, or CLEP/Advanced Placement)

Audited (AU) classes are not considered attempted or earned and are not eligible for financial aid.

Criteria

Student progress will be measured based on the total number of attempted credits on the transcript at each review. Student records will be reviewed against all three of the following criteria:

I. Minimum Cumulative Grade Point Average (GPA)

Total Attempted Credits	Cumulative GPA
1 - 15	1.5
16 or more	2.0

II. Minimum Earned Credits (Completion Rate)

Calculate by taking "Total Earned Credits" divided by "Total Attempted Credits".

Total Attempted Credits	Completion Rate
1-15	50%
16 or more	66.67% (two-thirds)

III. Maximum Time Frame

You must complete your certificate or degree program by attempting no more than 150% of the total credits required for that program. All attempted coursework that has been or could be applied to your current major according to the degree audit will be counted toward the maximum timeframe calculation. Up to 30 credits of developmental courses (courses numbered below 100) and all English as a Second Language (ESL) coursework will be excluded from this calculation.

Example: You are in an associate degree program that requires a total of 62 credits. You have a total of 85 applicable credits attempted at the end of the academic year. You need 15 more credits to complete your program. You cannot complete your program within the maximum time frame (62 credits X 150% = 93 credits and you need 85 + 15 = 100 credits). You are no longer eligible for financial aid funding.

Satisfactory Academic Progress Statuses

Good: You have met all three of the Satisfactory Academic Progress criteria.

Warning: If you are in a certificate program only, your academic progress will be reviewed each semester. If you do not meet the GPA or completion rate standards, you will be placed on Warning for one semester. You are still eligible for financial aid, but if you do not meet the standards during your Warning semester, you will be placed on Suspension. If you meet the Satisfactory Academic Progress standards during your Warning semester, you will return to Good standing.

Suspension: If you do not meet all of the Satisfactory Academic progress criteria, you will be placed on Suspension. (Exception: Certificate only students may qualify for a Warning semester.) While on Suspension,

you are not eligible for any form of financial aid, including student loans. If you are academically dismissed from the College, you will be placed on Suspension.

Probation: If you appeal a Suspension and it is approved, you will be placed on Probation for at least one semester during which time you will be considered for financial aid. Your progress will be reviewed at the end of each Probationary semester. If you meet the standards, you will return to Good standing. If you meet the terms of your academic plan but fail to meet the overall Satisfactory Academic Progress policy criteria, you may remain on Probation for a limited number of semesters as stated in your academic plan. If the standards are not met, you will be placed on Suspension.

Appeal Process

You may appeal your Suspension, in writing, if you have an extenuating circumstance that prevented you from meeting the Satisfactory Academic Progress criteria. To do this, complete the following steps:

1. Submit the Suspension Appeal Form, or write a letter, to the Financial Aid Office explaining your circumstances. Your appeal must state why you were unable to meet the standards and what has changed to assure your success in the future.
2. Provide supporting documentation with your appeal such as a doctor's note explaining medical issues, letter from your employer regarding required changes to your work schedule, etc.
3. You may also be required to develop an Academic Plan with an academic advisor. Review the procedures on the Appeal Form as well as on the QCC Financial Aid & Scholarships website, or contact Financial Aid for more information.

Regaining Eligibility for Financial Aid Without an Appeal

You may be reconsidered for funding after you have successfully completed at least one semester without the benefit of financial aid. To return to Good standing, you must again meet all of the criteria described above and notify the Financial Aid Office that you would like to have your eligibility for funds re-evaluated. If you successfully complete at least one semester without the benefit of financial aid but do not meet the criteria, you may submit a complete appeal for consideration.

You are responsible for notifying the Financial Aid Office if you receive a grade change that results in you meeting the standards for Satisfactory Academic Progress

Academic Information

Quinsigamond Community College offers over seventy-eight Associate Degree and Certificate study options in the areas of Business, Engineering and Technology, Health Care and Human Services, Liberal Arts, and General Studies. The College can prepare students for transfer to a bachelor's level program at a four-year college or university, or for immediate entry into a career field after graduation. If one enrolls as a full-time student in the day, he or she can expect to complete your Associate Degree in two years. Most Certificate programs can be completed in two semesters or less of full-time study. Opportunities for part-time study exist in both the day and evening, on weekends, and during the summer. If one enrolls as a part-time student, the length of time it takes to complete the degree or certificate will depend upon his or her course load each term.

At Quinsigamond, the academic year consists of a Fall and a Spring Semester, each of which is approximately fifteen weeks long. Fall classes begin in September and continue through mid-December. Spring classes begin in late January and end in early May. Our Summer Sessions begin in late May and continue through August.

To be considered a full-time student, one must be enrolled for a minimum of 12 credits each semester. If one enrolls for fewer than 12 credits, he/she is considered a part-time student. Quinsigamond has a maximum credit registration policy. If a student wishes to register for more than 19 credits in any semester, he or she must obtain the prior approval of the Academic Vice President.

Any student who has completed fewer than 30 credits of course work is considered a Freshman. A student who has completed at least 30 credits is considered a Sophomore.

Degree Requirements

The Board of Higher Education has statutory authority to confer the Associate Degree through the individual community colleges. Upon the recommendation of the faculty, qualified candidates are awarded the degree of Associate in Arts (A.A.), Associate in Science (A.S.), or Associate in Applied Science (A.A.S.) at Quinsigamond Community College. The College also awards certificates in various fields. To qualify for a degree or certificate, the student must satisfy the following requirements:

- Apply for, and be admitted, to a degree or certificate program offered by the college;

- Complete the required courses and the specified number of credit hours for the program in which he or she is enrolled;
- Earn a minimum of 15 credits in residence at Quinsigamond Community College;
- Maintain a quality point average of at least 2.0; and
- Satisfy all financial obligations to the College. Recipients of Stafford Loans must also complete an exit interview with the Financial Aid Officer prior to graduation.

Students completing all requirements for a Certificate Program while enrolled in a Degree Program may apply for that Certificate and also continue in the Degree Program.

Degrees and Certificates are conferred three times a year—after the Fall and Spring Semesters, and after the Summer Session. Commencement Exercises are held once a year, at the end of the Spring Term. All students who complete Degree or Certificate requirements in the summer, fall, or spring will have their names included in the Commencement Program and will be eligible to participate in the Commencement ceremony.

Residence Requirement

A minimum of 15 credit hours is required to fulfill the College residency requirement. The balance of credits may be drawn from regionally accredited postsecondary institutions and/or credit by examination in applicable situations.

Earning a Degree in Two Programs

If the student receives an Associate Degree from Quinsigamond and wishes to qualify for a degree in another program, he or she must complete all major course requirements in the second program, as well as meet the residence requirement of the College.

Criminal Offender Record Information and Sex Offender Registry Information Checks (CORI/SORI)

In order for a student to be eligible to participate in an academic, community or clinical program that involves potential unsupervised contact with children, the disabled, or the elderly, the student may be required to undergo a Criminal Offender Record Information (CORI) check and/or a Sex Offender Registry Information (SORI) check. Students found to have certain criminal convictions or pending criminal actions will be presumed ineligible to

participate in such activities. The College is authorized by the Commonwealth's Criminal History Systems Board, pursuant to Massachusetts General Laws, Chapter 6, Sections 167-178B, to access CORI records. The College shall refer to regulations issued by the Commonwealth's Executive Office of Health and Human Services, 101 Code of Massachusetts Regulations 15.00-15.16, as guidance when assessing student CORI records. Sex Offender checks shall be performed pursuant to Massachusetts General Laws, Chapter 6, Sections 178C-178P.

Health Program Policy

Policies of QCC health programs are comprehensive, provide for the welfare of faculty and staff, and are consistent with those of the governing organization; however, differences in policies may occur as justified by the goals and outcomes of the specific health program.

High School Equivalency Test

The GED test has been replaced in Massachusetts by the High School Equivalency Test (HiSET) from ETS. Information regarding registration, scheduling, and cost will be provided within the first few months of 2014. Please contact the testing office at 508.854.4407 for up-to-date information.

Prior Learning Credit (PLC)

Prior Learning Credit - At Quinsigamond, students may be able to earn academic credit through testing, or by developing a portfolio, which documents your prior learning.

Challenge Examinations enable students to earn credit for courses listed in the Quinsigamond Catalog by taking a test developed and administered by a Quinsigamond faculty member. Generally, a student may not request a Challenge Examination when other proficiency examinations (CLEP, DANTEs, etc.) are available to replace a failed course or to raise a low grade. Students applying for academic credit through Challenge Examination pay current fees. Program restrictions apply. Application for Challenge Examination can be made in Room 272A.

Credentialing is the process of earning credit for structured learning experiences conducted by qualified instructors in non-collegiate institutions. Accreditation occurs through establishing an equivalency between the non-collegiate course and a Quinsigamond course. Some examples include the Massachusetts Firefighting Academy, and branches of the Military. Students applying for academic credit through credentialing pay current

fees. Program restrictions apply. Information about credentialing can be found in Room 272A.

Portfolio Assessment is available to students who can document their skills and competencies attained through non-collegiate training and/or life experience. This documentation is reviewed and evaluated by a Quinsigamond faculty member who measures demonstrated learning outcomes against established academic standards. Students applying for academic credit through Portfolio Assessment pay current fees. Program restrictions apply. Application for Portfolio Assessment can be made in Room 272A.

Credit hour definition

The College follows the Carnegie Unit for credit. Students are expected to spend a minimum of 45 hours of work for each credit. The most common breakdown for one credit is one hour of class instruction and two hours of homework for 15 weeks each semester. A three credit course demands nine hours each week.

QCC Sponsored Learning

At Quinsigamond, students may also earn academic credit through Directed Study, or Tutorial Study. These experiences require approval by the appropriate Academic Dean. Each involves individualized study under the supervision of a member of the faculty.

Directed Study is an opportunity for individualized learning about topics not offered as established Quinsigamond courses. The nature and scope of the learning experience are determined by the student, in collaboration with an instructor. Directed Study students are required to pay full tuition and fees. Application for Directed Study can be made in the PLC office, Room 272A.

Tutorial Study enables students nearing graduation to study the subject matter of courses listed in the Quinsigamond Catalog on an individualized basis. This option is not available if the course is scheduled during the requested semester. To be eligible for Tutorial Study, students must be enrolled in the academic program requiring the tutorial course, and they are required to meet strict eligibility guidelines. Those enrolling in Tutorial Study pay full tuition and registration fees. Application for Tutorial Study can be made in 272A.

Proficiency Examinations

Advanced Placement: QCC awards credit to students who score 3 or higher on the AP examinations, administered by the College Board. Official Grade Report must be provided by the College Board and submitted to room 272A. Student grade reports will not be accepted.

College Level Examination Program (CLEP): Credit will be awarded to students who achieve scores at or about the fiftieth percentile on the CLEP exam. The general battery includes examinations in English, humanities, mathematics, natural science and social science/history. A maximum of 32 credits may be awarded for all of the general exams, if the appropriate score is achieved. Students must provide the official CLEP transcript to the Registrar's Office, Room 152A. Please note: certain program restriction apply.

Defense Activities for Nontraditional Education Support program (DANTES): Credit will be awarded to students who achieve scores at or about the fiftieth percentile on the DANTES exam, administered through Educational Testing Service (ETS), which covers a wide range of technical, business and academic subjects. Students must provide the official DANTES transcript to the college. Please note: certain program restrictions apply.

Enrolling in Courses Offered By Worcester Consortium Colleges

Full-time day students at Quinsigamond, may register for one day school course offered by any member of the Higher Consortium of Central Massachusetts (HECCMA). Registration is on a "space available" basis and is subject to course prerequisites and any other course restrictions. If a similar course is being offered at Quinsigamond, the student's request for permission to cross-register may be denied. Cross-registered students are subject to all of the regulations of the institution providing the course. Although students are limited to one cross-registration each semester, exceptions to this requirement may be made by the Academic Vice President, but only in unusual circumstances. Contact the Registrar's Office (Rm. 152A) for more information about enrolling in a course at a Consortium College.

College Credit for Military Coursework, Training and Experience Policy

Quinsigamond Community College awards academic credit towards degrees and certificates for students' previous military occupation, military training, coursework and experiences, based upon the institution's admission standards, the student's program of study and is consistent with the mission of the Commonwealth's system of higher education.

At Quinsigamond Community College, academic credit may be awarded where appropriate through multiple methods of evaluation including, academic accredited institution courses, (to include the Community College of the Air Force), the American Council on Education (ACE) Joint Transcript Service (JST), DANTES and CLEP Subject Standardized Tests, Challenge Exams, Credentialing and Portfolio Development.

Assessment of Student Learning

Quinsigamond Community College employs the traditional practice for assessment of student learning wherein the quantity of learning is measured by the number of credits (semester hours) earned, and its quality is recognized by an award of a grade for the learning experience. The design of this college practice shall be, so far as practicable, responsive to the needs of students enrolled in a course or program. The status of the student in a program shall be determined by accumulated course grades earned.

Grading policy

1. The grading policy shall be in conformity with the College mission of access and quality.
2. Grades shall be awarded only for demonstrated student learning.
3. Program goals shall be achieved through successful completion of established learning outcomes of educational experiences in the program.
4. Learning outcomes of educational experiences shall constitute the basis for assessing student learning.
5. The criteria for assessing learning outcomes shall be as objective as possible.

Grading System

The individual faculty member may determine what numerical equivalent, if any, to assign to the various grade designations. Faculty may use an absolute numerical value or they may grade on the class average. The following table indicates recommended but non-mandatory

numerical/letter equivalents for awarding grades. Note: The quality point for each letter grade is college-wide policy, not merely recommended as a guideline:

Academic	Grades	Quality	Points
A	95-100	Outstanding	4.0
A-	90-94		3.7
B+	87-89		3.3
B	83-86	High Quality	3.0
B-	80-82		2.7
C+	77-79		2.3
C	73-76	Average	2.0
C-	70-72		1.7
D+	67-69		1.3
D	63-66		1.0
D-	60-62		0.7
F	Failed		0.0

The status of the student may also be indicated by the following designations which will not be computed in the QPA.

- **I** - The student has satisfied the major requirements of the learning experience, as judged by the instructor, and can complete the assigned work by the end of the twelfth week of the following full semester.
- **I/R** - The student has agreed to repeat the course within the following year. Not computed in the QPA until converted to an academic grade.
- **AU** - The student is registered in the learning experience as an audit student. Not computed in the QPA.
- **W** - The student has officially withdrawn on his/her own from the learning experience. Not computed in the QPA.
- **WA** - The student has been withdrawn administratively for failure to fulfill financial or immunization obligations or for medical or disciplinary circumstances. Not computed in the QPA.
- **X** - The student has not officially withdrawn from the learning experience, and the instructor has judged there is insufficient basis for evaluation. The X grade is considered an indication of unsatisfactory academic progress for financial aid purposes.
- **P** - The student has satisfactorily completed the learning experience with a C grade or better. Not computed in the QPA but computed in credits attempted.
- **Q** - The student has registered for a course with a laboratory or clinical component and the grade is reflected in the overall course grade.

Grading Regulations

1. The letter grades A,B,C,D,F shall be awarded for learning outcomes for an educational experience achieved through alternate delivery systems only if a QCC faculty member is responsible for the entire experience. The letter grade of P shall be awarded for acceptable learning outcomes for a prior learning experience.
2. The grade of I will be converted to an academic grade by the end of the twelfth week of the following full semester. Students who have not completed the course requirements by the end of the twelfth week will have the course grade changed to F.
3. When a grade of I is issued, the instructor will indicate on a specified form assignments which will remedy the deficiency, or that the course is to be repeated. This form will be filed in the Registrar's Office. The Registrar will forward a copy of the form to the student.
4. When a grade of I/R is issued and the course is not repeated within the following year, the grade of I/R will be converted to an academic grade of F.
5. If an instructor wishes to use P instead of A, B, or C, as a final grade he/she must receive written permission from the Vice President of Academic Affairs before the beginning of the semester.
6. Instructors' course requirements, expected learning outcomes, methods of evaluation, and attendance policy will be published in writing and will be submitted to students by the end of the first week, or equivalent, of class.
7. Evaluation of the student learning will be made according to the instructor's stated learning outcomes.
8. Auditors do not receive official grades on examinations or other class assignments although they may be asked to fulfill all course requirements. No change to or from audit status will be permitted after the first ten weeks of class (or equivalent class hours).
9. If a course is repeated, only one grade will be used in computation of the QPA. However, both the original and the second grade earned will remain on the student's permanent record.
10. Students may add or drop courses during the Add/Drop Period in accordance with the established procedure. The Add/Drop Period is posted in the term schedule booklet.
11. A student may withdraw without penalty through the tenth week (or equivalent) of class. Thereafter, if a student withdraws from a course, the instructor may award a W if work is passing or an F if work is not of passing quality. Students withdrawing from the College are included under this regulation.

12. A student intending to withdraw from a course after the drop/add period must do so prior to the last day of the term as follows.

- Obtain a withdrawal form from the Registrar's Office or the Advising Office.
- If a student wishes to withdraw prior to the tenth week of class (or the equivalent), he/she may complete the form, obtain the signature of the instructor or academic advisor and return the form to the Registrar's Office.
- After the tenth week (or equivalent), the student must obtain the instructor's signature.
- The instructor will designate if the student withdrew while passing or withdrew while failing. Return the completed withdrawal form to the Registrar's Office.

13. Any student in an educational or vocational training institution who is unable because of his/her religious beliefs to attend class or to participate in any examination, study or work requirement on a particular day shall be excused from any such examination or study or work requirement, and shall be provided with an opportunity to make up such examination, study or work requirement that he/she may have missed because of such absence on any particular day; provided, however, that such a makeup examination or work shall not create an unreasonable burden on such school. The institution for making available to the said student such opportunity shall charge no fees of any kind. No adverse or prejudicial effects shall result to the student because of his/her availing himself/herself of the provisions of this section. (Section 2bn, Chapter 151C, Massachusetts General Law)

Academic Dismissal and Probation

All students matriculating in a degree or certificate program, other than first semester freshmen (cumulatively enrolled for under 17 credits), must meet the following requirements:

Attempted

Credit Hours	Dismissal	Probation
17 to 32	QPA under 1.50	QPA 1.50-1.69
over 32	QPA under 1.70	QPA 1.70-1.89

First semester freshmen (cumulatively enrolled for under 17 credits) who do not meet a minimum QPA of 1.00 will be put on academic probation. Academic probation and dismissal will occur on the basis of the cumulative grade point average. Only courses in which W grades or audits are received will not count in determining full-time and part-time enrolled status. Students who are on probation for two successive semesters are subject to academic dismissal. Academic probation/

dismissal will not apply to intersession and summer sessions. All dismissals are subject to review by the Vice President of Academic Affairs.

Students who are academically dismissed from the College may qualify for reinstatement by the following methods:

- Attending courses as a non-matriculating student, improving their QPA to the minimal acceptable level, and earning a minimum of six credit hours;
- Remaining away for one year;
- Petitioning the Vice President of Academic Affairs for reinstatement.

Academic Standing

"Satisfactory Academic Standing" and "Satisfactory Academic Progress" are synonymous with meeting the standards outlined in Item 2 of Academic Dismissal and Probation. Students on academic probation for one semester meet minimum requirements for good academic standing and satisfactory progress, but if they are on a dismissal status, they will be deemed as not meeting the minimum requirements.

A quality point average of 2.00 is the minimal level for graduating in any degree or certificate program.

Appeal of Academic Dismissal

- Any student who is academically dismissed may appeal his/her case to the Vice President of Academic Affairs.
- The student is mailed directions along with the dismissal notice instructing him/her to make an appointment to meet with the High Risk Advisor to discuss strategies to raise his/her cumulative average. The student is required to complete an Appeal Form that states the circumstances involved in the dismissal and the recommendations of the High Risk Advisor. The appeal is then forwarded to the Vice President of Academic Affairs for her decision.
- The student is then contacted by the High Risk Advisor who informs him/her of the Vice President's decision. If the appeal is approved, he/she is then asked to come in to register for courses in accordance with the appeal form recommendations.
- Students reinstated through appeal continue on Academic Probation and are subject to the Dismissal/ Probation Policy again at the end of the next semester.

Fresh Start Option

Quinsigamond Community College has a “fresh start” option for students who are seeking readmission. Once in a lifetime, if a student returns to Quinsigamond, after being away for at least two consecutive years, he or she can elect the “fresh start” option. The Quality Point Average (QPA) will be calculated only from the point the student is readmitted for the purposes of the College’s academic standing policy. However, the student’s previous academic work will remain on his or her transcript as a matter of record. The student’s previous course work can be applied toward another degree under this policy, but will not be calculated in the QPA. The student must complete a minimum of fifteen (15) credits in the new program. The student’s official transcript will include a statement explaining this “fresh start” option. Contact the Registrar’s Office at 508.854.4257 for further information.

Petition Process

If the student believes there are unusual or extenuating circumstances which justify his or her exemption from an academic regulation (i.e., graduation course requirement), he or she can obtain a Student Petition form from the Registrar’s Office (Room 152A). After completing the form, it must be returned directly to the Registrar’s Office. It will be forwarded to the Academic Vice President for a final decision on the appeal.

Request to Change Study Option

The student can request to change from one degree or certificate program to another by completing a Study Option Change Request. This form is available in the Admissions Office (2nd Floor, Harrington Learning Center) or in the Advising Center (Room 61, Administration Building.) In order to be approved to change from one academic program to another, the student must meet the minimum academic admissions requirements for the program he or she is requesting to enter.

Course Changes

Students should have their semester course schedule in final form by the end of the registration period. If the student wishes to make a change in his or her schedule, he or she must contact the Registrar’s Office (Room 152A) or Advising Office (Room 61A) during the Add/Drop Period. However, it may not be possible to accommodate every request for a course or section change.

Repeating a Course

If the student repeats a course, only one grade will be used in the computation of the QPA. However, both the original and the second grade earned will remain on the student’s permanent record. If the student wishes to repeat a course for any reason, he or she must complete a special form, which is available at the registrar’s office (Room 152A). It is important to note, however, that the college’s standards of satisfactory academic progress for federal financial aid requires that the student complete his/her program within 150% of the credits required for that program. Too many repeat courses will have an impact on this requirement. All courses attempted, including withdrawals are counted toward the 150% calculation.

Progress Reports

During the eighth week of classes each semester, the student’s mid-semester progress grades are available on *The Q*, the college’s student portal. Progress grades are intended only as indicators of your progress in specific courses.

Restricted Courses

To insure the availability of required courses for students enrolled in specific programs, certain courses may be designated as “restricted.”

- Restricted courses will be identified by the Academic Vice President or his/her designee.
- Admission will be prioritized according to criteria set by Academic Vice President/designee as follows:
 - a. Students enrolled in the program;
 - b. Students on the related QCC program waiting list; and other students (with the approval of the Academic Vice President or designee).

Sequential Courses

In curricula where sequential courses must be arranged in the order of difficulty, the beginning courses will present a basic knowledge of the discipline, including the philosophy, techniques, and terminology as appropriate; and the contents of the succeeding courses will be based upon that knowledge. A course prerequisite will be established when a body of knowledge or skills level is necessary for a sequential course.

- Any student registered for a course for which he/she does not have the listed prerequisite will be withdrawn from that course.
- The Academic Dean or a designee will place the incoming student at the appropriate academic level according to his/her demonstrated performance or

achievement.

- In sequential courses, where the first semester course is a prerequisite for the second semester course, a student receiving a 12 week "1" must petition the appropriate Academic Dean for admittance to the sequential course.
- If a student has achieved advanced placement and wishes credit for previously acquired skills in that subject, he/she must apply to the Office for Academic Services (Room 272A) for credit prior to completion of the course.
- A matriculating student who has earned credit in a course with a prerequisite may not subsequently enroll in or receive a grade in the prerequisite course.
- The Academic Dean or designee will annually review course sequencing and prerequisites to assure their continuing validity

Withdrawal From the College

To officially withdraw from the College, the student must meet with an Academic Advisor in the Advising Center, Room 61A at 508.854.4308. The Advisor will assist the student in completing a withdrawal form and discuss possible resources and referrals if appropriate. If the student withdraws after the tenth week and before the final evaluation period, he or she will receive grades from their instructors in accordance with the College's grading policy.

If the student has to withdraw because of medical reasons, he/she should make a request to the Vice President of Enrollment and Student Services (Room 149A), for information. The Vice President will consult with appropriate personnel at the College, as well as the medical services provider of the student. After consultation, he/she will inform the student of the decision. If circumstances warrant, a process for future readmission will also be communicated.

If the student is receiving financial aid, he or she is advised to check with the Financial Aid Office prior to withdrawal. The financial aid may be reduced as a result of withdrawal from the College.

Student Honors

Quinsigamond Community College recognizes the academic achievement of its students each semester. Students who meet the following criteria are eligible for recognition.

- All grades must be C, or higher. (No grades of I or X are permitted.)
- Semester QPA must be 3.5, or higher, and cumulative QPA must be 2.0, or higher.
- All courses must be college-level.

Dean's List: Students who meet the stated criteria and have earned 12 or more credits in a given semester are named to the Dean's List.

Merit List: Students who meet the stated criteria and have earned 6 or more credits in a given semester, but fewer than 12 credits, are named to the Merit List. Individual honors are noted on the student's transcript each semester.

Phi Theta Kappa: is the international honorary scholastic society for American Community and Junior Colleges. Its purpose is to recognize and encourage fellowship and scholarship, leadership, and service among two-year college students. Each fall, a limited number of students who have particularly distinguished themselves at Quinsigamond are inducted into membership.

Who's Who Among Students in American Community and Junior Colleges is one of the most highly regarded honors programs in the nation, earning the respect of college faculties and administrators. Recognition as one of the outstanding campus leaders in America is a major achievement. Each year, several Quinsigamond students are named to Who's Who.

Graduation Honors: Each May at graduation, Quinsigamond honors students for their outstanding academic achievement. Students with a Quality Point Average of at least 3.6 prior to graduation qualify for Highest Honors. Students with a Quality Point Average of 3.3 or 3.0 prior to graduation qualify for High Honors, or Honors, respectively.

Commonwealth Honors Program

Quinsigamond Community College's Commonwealth Honors Program offers highly-motivated, achievement-oriented students an opportunity for enhanced success. The program strives to challenge students to develop their fullest potential. Honors courses offer students alternative learning opportunities to enhance critical thinking skills and to better prepare students to continue their studies at Colleges and Universities throughout the country.

Honors Program Curriculum of Study

- ENG 102—English Composition and Literature II, honors section
- ONE course—honors section or honors by contract—from the following list:
 - Social Science Elective
 - Business or College Level Mathematics Elective
 - ENG 101 or SPH 101
- ONE course—honors section or honors by contract—from the student's program of study
- IDS 200—Honors Colloquium

Students must obtain a grade of “B” or better in each honors course taken to satisfy the Honors Program requirements.

Students who complete the Honors Program requirements and graduate with an overall QPA of 3.3 or higher will have their participation in the Commonwealth Honors Program noted on their transcript.

Admission to the Commonwealth Honors Program

To be admitted to Quinsigamond Community College’s Commonwealth Honors Program, a student must meet at least one of the following criteria:

- Current QCC Students: 3.5 cumulative GPA (progress or final grades) with at least 12 college level credits.
- New QCC Students: CPT Placement Test: a placement of 8 on the writing exam, placement into ENG 101, and a recommended placement of MAT 099.
- Transfer Students: in good standing from another Commonwealth Honors Program.
- A student who does not meet one of the above automatic admissions criteria may apply to the Honors Coordinator, providing other evidence of academic success including recommendations from high school or college faculty.

To remain in good standing, and for QCC’s Honors Program to be recognized as a Commonwealth Honors Program, all students, once accepted into the Honors Program, must maintain a cumulative grade point average of no less than 3.3.

The Honors Program at Quinsigamond Community College is recognized as a Commonwealth Honors Program by the Massachusetts Department of Higher Education.

All potential Honors Program students must meet with the Honors Program Coordinator. For further details, contact Associate professor Susan McPherson at 508.854.2759 or e-mail smcpherson@qcc.mass.edu.

Areas of Study

Quinsigamond Community College has eight areas of study. Selecting an area of study helps students choose a major and a degree based on their interests, knowledge, skills and abilities.

Computer and Information Technology

Computer Information Systems - Applications Specialist Option - Associate in Science	90
Computer Information Systems - Database Option - Associate in Science	92
Computer Information Systems - Health Information Option - Associate in Science	94
Computer Information Systems - Transfer Option - Associate in Science	96
Computer Information Systems - Web Development & Programming Option - Associate in Science	98
Applications Specialist Certificate.....	101
Database Certificate	103
Web Applications Certificate.....	105
Computer Science Transfer - Associate in Science	107
Computer Systems Engineering Technology - Associate in Science	110
Computer Systems Engineering Technology - Forensics Option - Associate in Science	113
Computer Forensics Certificate	116
Cyber Security Certificate	119
Help Desk Technician Certificate.....	122
Network Associate Certificate.....	125
Network Professional Certificate.....	128
Network Technician Certificate	131
Personal Computer Specialist Certificate.....	134
UNIX Systems Administrator Certificate.....	137
Windows Systems Administrator Certificate	140
Interactive Media - Digital Design Option - Associate in Science	245
Interactive Media - Game Design Option - Associate in Science	247

Education

General Studies - Elementary Education Transfer Option - Associate in Arts	208
Early Childhood Education - Associate in Arts.....	159
Preschool Assistant Teacher Certificate	162
Infant Toddler Training Certificate	164
Leadership in Early Education and Care Certificate.....	166
School Age Certificate	168
Technician in Applied Behavior Analysis Certificate	170

Engineering and Engineering Technology

Electronics Engineering Technology - Biomedical Instrumentation Option - Associate in Science.....	172
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Electronics Engineering Technology - Mechatronics Option - Associate in Science	174
Electronics Engineering Technology - Photonics Option - Associate in Science	176
Electronics Technology Certificate.....	178
Engineering - Associate in Science	190
Engineering - Biomedical Engineering Option - Associate in Science	192
Manufacturing Technology - Associate in Science.....	265
Manufacturing Technology - Applied Manufacturing Option - Associate in Science	268
CNC Technologies Certificate	271
Computer Aided Design Certificate.....	274
Manufacturing Technology Certificate.....	276

Liberal Arts/Science/General Studies

General Studies - Associate in Arts	202
General Studies - Biotechnology Option - Associate in Arts..	204
Biotechnology Technician Certificate	65
General Studies - Deaf Studies Option - Associate in Arts...	206
General Studies - Healthcare Option - Associate in Arts	212
General Studies - Pre-Pharmacy Option - Associate in Arts ..	214
Liberal Arts - Associate in Arts.....	250
Liberal Arts - Biology Option - Associate in Arts	252
Liberal Arts - Chemistry Option - Associate in Arts	254
Liberal Arts - Environmental Science Option - Associate in Arts.....	256
Liberal Arts - Music Option - Associate in Arts.....	258
Liberal Arts - Psychology Option - Association in Arts.....	260
Liberal Arts - Theater Option - Associate in Arts	262

Public and Social Services

Criminal Justice - Associate in Science.....	143
Law Enforcement Certificate.....	145
Fire Science - Associate in Science.....	198
Fire Science Certificate.....	200
Human Services - Associate in Science	239
Human Services Certificate	241
Direct Support Certificate.....	243

Healthcare

Complementary Health - Associate in Science	87
Allied Dental Services - Health Sciences Option - Associate in Science	153
Allied Dental Services - Dental Office Management Option - Associate in Science	150

Allied Dental Services - Dental Sales/Marketing Option - Associate in Science	152	Hospitality and Recreation Management - Foodservice Management Option - Associate in Science.....	229
Dental Assisting Certificate	147	Hospitality and Recreation Management - Hospitality Management Option - Associate in Science.....	233
Dental Hygiene - Associate in Science.....	156	Dietary Management Certificate.....	237
Paramedic Technology - Associate in Science.....	180	Foodservice Management Certificate.....	231
EMT Paramedic Certificate	183	Hospitality Management Certificate	235
Emergency Medical Technician Certificate.....	186		
General Studies - Public Health Option - Associate in Arts.....	216		
Public Health Certificate	306	*Mount Wachusett Community College Program	
Medical Support Specialist - Medical Assisting Option - Associate in Science	282	**Northern Essex Community College Program	
Medical Assisting Certificate	279		
Nurse Education - Associate in Science.....	284		
Nurse Education - Evening - Associate in Science	287		
Advanced Placement Nurse Education LPN - Associate in Science	290		
Advanced Placement Nurse Education Paramedic - Associate in Science	293		
Practical Nursing Certificate.....	296		
Practical Nursing Certificate – Evening.....	299		
Nursing Assistant Certificate	218		
Perioperative Nursing Certificate	221		
Pharmacy Technician Certificate	223		
Phlebotomy/EKG Technician Certificate.....	225		
Occupational Therapy Assistant - Associate in Science	302		
Physical Therapist Assistant - Associate in Science*	305		
Radiologic Technology - Associate in Science	308		
Respiratory Care - Associate in Science.....	311		
Sleep Technology Certificate**	314		
Surgical Technology Certificate	315		

Installation, Maintenance, and Repair Technology

Automotive Technology - Associate in Applied Science	60
Ford Maintenance and Light Repair Certificate	63
Heating Ventilation Air Conditioning Certificate	227
General Studies - Energy Utility Technology Option - Associate in Arts	210
Energy Utility Technology Certificate	194

Business, Financial, and Hospitality Management

Business Administration Transfer - Associate in Science	67
Business Administration Career - Associate in Science.....	69
Business Administration Career - Administrative Professional Option - Associate in Science	71
Accounting Assistant Finance Assistant Certificate.....	73
Accounts Payable/Accounts Receivable Certificate	75
Business Administration Certificate	77
Clerical Office Certificate.....	79
Entrepreneurship and Small Business Management Certificate.....	81
Full Charge Bookkeeper Certificate	83
Medical Office Certificate	85

Programs of Study

Degree and Certificate Programs Offered by Quinsigamond Community College

Note: QCC offers an expansive array of non-credit courses through our Center for Workforce Development and Continuing Education. Contact the Center at 508.751.7900 for more information.

Automotive

Automotive Technology - Associate in Applied Science	60
Ford Maintenance and Light Repair Certificate	63

Biotechnology Technician Certificate	65
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Business Administration

Business Administration Transfer - Associate in Science	67
Business Administration Career - Associate in Science	69
Business Administration Career - Administrative Professional Option - Associate in Science	71
Accounting Assistant Finance Assistant Certificate	73
Accounts Payable/Accounts Receivable Certificate	75
Business Administration Certificate	77
Clerical Office Certificate	79
Entrepreneurship and Small Business Management Certificate	81
Full Charge Bookkeeper Certificate	83
Medical Office Certificate	85

Complementary Health — Associate in Science	107
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Computer Information Systems

Computer Information Systems - Applications Specialist Option - Associate in Science	90
Computer Information Systems - Database Option - Associate in Science	92
Computer Information Systems - Health Information Option - Associate in Science	94
Computer Information Systems - Transfer Option - Associate in Science	96
Computer Information Systems - Web Development & Programming Option - Associate in Science	98
Applications Specialist Certificate	101
Database Certificate	103
Web Applications Certificate	105

Computer Science Transfer — Associate in Science	117
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Computer Systems Engineering Technology

Computer Systems Engineering Technology - Associate in Science	110
Computer Systems Engineering Technology - Forensics Option - Associate in Science	113
Computer Forensics Certificate	116

Cyber Security Certificate	119
Help Desk Technician Certificate	122
Network Associate Certificate	125
Network Professional Certificate	128
Network Technician Certificate	131
Personal Computer Specialist Certificate	134
UNIX Systems Administrator Certificate	137
Windows Systems Administrator Certificate	140

Criminal Justice

Criminal Justice - Associate in Science	143
Law Enforcement Certificate	145

Dental Assisting Certificate	147
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Allied Dental Services

Allied Dental Services - Health Sciences Option - Associate in Science	155
Allied Dental Services - Dental Office Management Option - Associate in Science	150
Allied Dental Services - Dental Sales/Marketing Option - Associate in Science	152

Dental Hygiene - Associate in Science	157
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Early Childhood Education

Early Childhood Education - Associate in Arts	160
Preschool Assistant Teacher Certificate	163
Infant Toddler Training Certificate	165
Leadership in Early Education and Care Certificate	167
School Age Certificate	169
Technician in Applied Behavior Analysis Certificate	171

Electronics Engineering Technology

Electronics Engineering Technology - Biomedical Instrumentation Option - Associate in Science	172
Electronics Engineering Technology - Mechatronics Option - Associate in Science	174
Electronics Engineering Technology - Photonics Option - Associate in Science	176
Electronics Technology Certificate	178

Emergency Medical Services

Paramedic Technology - Associate in Science	180
EMT Paramedic Certificate	183

Emergency Medical Technician Certificate	186	Liberal Arts	
Emergency Medical Services - Emergency Medical Technician - Basic Course Offerings	189	Liberal Arts - Associate in Arts.....	250
Engineering		Liberal Arts - Biology Option - Associate in Arts	252
Engineering - Associate in Science	190	Liberal Arts - Chemistry Option - Associate in Arts	254
Engineering - Biomedical Engineering Option - Associate in Science	192	Liberal Arts - Environmental Science Option - Associate in Arts.....	256
Energy Utility Technology Certificate.....	194	Liberal Arts - Music Option - Associate in Arts.....	258
English as a Second Language - Course Offerings	197	Liberal Arts - Psychology Option - Association in Arts.....	260
Fire Science		Liberal Arts - Theater Option - Associate in Arts	264
Fire Science - Associate in Science.....	198	Manufacturing Technology	
Fire Science Certificate.....	200	Manufacturing Technology - Associate in Science.....	265
General Studies		Manufacturing Technology - Applied Manufacturing Option - Associate in Science	268
General Studies - Associate in Arts	202	CNC Technologies Certificate	271
General Studies - Biotechnology Option - Associate in Arts..	204	Computer Aided Design Certificate.....	274
Biotechnology Technician Certificate	65	Manufacturing Technology Certificate.....	276
General Studies - Deaf Studies Option - Associate in Arts...	206	Medical Support Specialist	
General Studies - Healthcare Option - Associate in Arts	212	Medical Assisting Certificate.....	279
General Studies - Pre-Pharmacy Option - Associate in Arts..	214	Medical Support Specialist - Medical Assisting Option - Associate in Science	282
Health Certificates		Nurse Education	
Nursing Assistant Certificate.....	218	Nurse Education - Associate in Science.....	284
Perioperative Nursing Certificate	221	Nurse Education - Evening - Associate in Science	287
Pharmacy Technician Certificate	223	Advanced Placement Nurse Education LPN - Associate in Science	290
Phlebotomy/EKG Technician Certificate.....	225	Advanced Placement Nurse Education Paramedic - Associate in Science	293
Heating Ventilation Air Conditioning Certificate	227	Practical Nursing Certificate.....	296
Hospitality and Recreation Management		Practical Nursing Certificate – Evening.....	299
Dietary Management Certificate.....	237	Occupational Therapy Assistant - Associate in Science	302
Hospitality and Recreation Management - Foodservice Management Option - Associate in Science.....	229	Physical Therapist Assistant - Associate in Science*	305
Foodservice Management Certificate.....	231	Public Health Certificate	306
Hospitality and Recreation Management - Hospitality Management Option - Associate in Science.....	233	Radiologic Technology - Associate in Science	308
Hospitality Management Certificate	235	Respiratory Care - Associate in Science	311
Human Services		Sleep Technology Certificate**.....	314
Human Services - Associate in Science	239	Surgical Technology Certificate	315
Human Services Certificate	241		
Direct Support Certificate.....	243		
Interactive Media			
Interactive Media - Digital Design Option - Associate in Science	245		
Interactive Media - Game Design Option - Associate in Science	247		

*Mount Wachusett Community College Program

**Northern Essex Community College Program

Degree and Certificate Programs Offered by Quinsigamond Community College (Alphabetical)

Note: QCC offers an expansive array of non-credit courses through our Center for Workforce Development and Continuing Education. Contact the Center at 508.751.7900 for more information.

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The following information provides students with an overview of how programs of study are displayed:

“1” Semesters are groupings of courses that generally need to be completed before proceeding to the courses listed in the next Semester. For example, ACC 101 in Semester 1 needs to be completed before enrolling in ACC 102 in Semester 2.

“2” Course Title refers to the official “Title” or the “Name” of each course.

“3” Course Number refers to the actual course number. The three-letter prefix and the course number reflect how courses are listed in the course schedule booklet as well as in the College’s catalog. Course listings are first arranged in alphabetical order using the three-letter prefix; within the same alpha listing, courses are listed in ascending numerical order.

“4” Semester Offered refers to the semester in which the course is typically offered. “F” refers to the Fall Semester, “S” refers to the Spring Semester, and “SU” refers to the Summer Session.

“5” Credits refer to the actual number of credits associated with each course.

“6” Refers to **Total Number of Credits** required for graduation.

“7” Prerequisite refers to any course or courses that must be completed before enrolling in the course in question. The abbreviation **“Coreq”** or **“Corequisite”** indicates that a specific course or courses must be taken at the same time as the course in question. Sometimes it is permissible to take a corequisite course in advance of enrolling in the course in question.

“8” Program Notes summarizes any unique information needed for the program. Certain programs have longer introductory pages that provide additional program information.

“9” The Program Code

In addition to the general admissions requirements, some programs have program-specific admissions requirements; for detailed information on program-specific requirements, see the *Admissions Requirements* section or the informational introduction to the specific program.

For specific admissions requirements to the Healthcare programs, see the *Admissions Requirements - Healthcare Programs* section or the informational introduction to the specific Healthcare program.

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Accounting Assistant Finance Assistant - AF

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Financial Accounting I	ACC 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, MAT 090 with a "C" or higher on the MAT 090 departmental final exam or approp place score
Federal Taxation	ACC 211	F	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Personal Financial Planning	FIN 111	F/S/SU	3	MAT 090 with a "C" or higher on the MAT 090 departmental final exam or approp place score
Introduction to Microcomputer Applications	CIS 111	F/S/SU	3	
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 2				
Financial Accounting II	ACC 102	F/S/SU	3	ACC 101
Computerized Accounting	ACC 231	S	3	ACC 101, CIS 111
Business Elective*	---	F/S/SU	3	
Humanities Elective	---	F/S/SU	3	
Total Credits Required:			27	

Program Notes:

*For Transfer into the Business Career Program, choose BSL 101, BSL 103, BUS 201, or MGT 101.

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Automotive Technology — AT

Associate in Applied Science

Program Goals:

The Automotive Technology program is designed to prepare the student to become a professional Automotive Technician and fill the need of area dealerships and independent repair facilities. The program trains students in all eight areas of automotive repair to prepare a student to become an ASE Master Technician. The program builds a foundation of knowledge allowing graduates to adapt to new technology and grow as an employee. The program also provides the opportunity to transfer to a bachelor's degree program in a related field of study.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Diagnose and repair components of the electrical and electronic systems.
- Diagnose and repair automotive engine and power transmission systems.
- Diagnose and repair components of the steering and suspension systems.
- Diagnose and repair components of hydraulic and anti-lock brake systems.
- Diagnose and repair components of the climate control system.
- Diagnose and repair electronic power-train control systems.
- Sit for the ASE Master Technician certification examinations.
- Adapt to new technology and service procedures as they are developed, and thus, build a professional foundation in all aspects of automotive systems and service techniques.
- Grow as an automotive technician, moving up the career ladder.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.
- Must have valid learner's permit from the MA Registry of Motor Vehicles (or like agency in state of residence). Applicants should note that a valid driver's license will be required for employment in this field.
- Three years of high school English and one year of high school algebra or the QCC equivalent with grades of "C" or higher.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

- Applicants should be aware that some employers may require CORI/SORI checks, finger printing, and drug testing as part of the hiring process.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Students enrolled in AUT 299 may incur an additional expense for professional liability insurance.
- Students are responsible for the purchase of tools prior to enrollment in AUT 299 and/or employment.

Location:

- This program may be completed at the QCC Worcester campus and the QCC Automotive Technology Laboratory located at Burncoat High School in Worcester.
- This program may be completed face-to-face. Some required courses may be completed online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 47.0604.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

autotech@qcc.mass.edu

Additional Information:

Applicants to this program must have a valid learner's permit and a driving record that is suitable for prospective employing dealership's insurance requirements. A Request for Driving Record will be forwarded to the MA Department of Transportation on behalf of each student accepted to the program each fall.

Automotive Technology — Associate in Applied Science — AT

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Fundamentals of Automotive Service	AUT 102	F	3	
Automotive Electrical Systems	AUT 111	F	4	
Brake Systems	AUT 131	F	3	
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 2				
Basic Gasoline Engines	AUT 121	S	4	AUT 102
Engine Testing/Performance Analysis	AUT 125	S	4	AUT 102
Composition II or Technical Writing	ENG 102 ENG 105	F/S/SU	3	ENG 101
Mathematics Elective or Science Elective*	---	F/S/SU	3-4	
Semester 3				
Suspension, Steering & Alignment	AUT 133	S/SU	3	AUT 102
Climate Control System	AUT 141	SU	3	AUT 121
Self-Assessment and Career Planning or Human Relations in Organizations	PSY 115 PSY 158	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 4				
Automotive Drive Train	AUT 251	F	3	AUT 121
Automotive Transmission & Transaxle	AUT 253	F	4	Coreq: AUT 251
Liberal Arts Elective	---	F/S/SU	3	
Elective	---	F/S/SU	3	
Semester 5				
Basic Automotive Electronics	AUT 113	S	3	AUT 111
Electronic Powertrain Control Systems	AUT 211	S	5	AUT 125
Field Experience and Cooperative Education in Automotive Technology or Business Elective	AUT 299 ---	F/S/SU	3	Approval of Program Coordinator
Speech Communication Skills	SPH 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Total Credits Required:			63-64	

Program Notes:

- Applicants to this program must have a valid learner's permit and a driving record that is suitable for prospective employing dealership's insurance requirements. A Request for Driving Record will be forwarded to the MA Department of Transportation on behalf of each student accepted to the program each fall.

*See Science course descriptions for course prerequisite information. Most Science Electives require a minimum of MAT 095 or higher or the appropriate placement score.

*For the purpose of the articulation agreement with Benjamin Franklin Institute of Technology, students must complete one college level mathematics course. Students may select from among the following choices: MAT 100, MAT 121, MAT 122 or higher.

Ford Maintenance and Light Repair — AMF Certificate

Program Goals:

The Ford Maintenance and Light Repair Program Certificate curriculum is designed by Ford Motor Company to prepare certified light line technicians for Ford/Lincoln dealerships. The program features hands-on training on late model vehicles as well as classroom instruction.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Perform tasks to diagnose and repair components of the electrical systems.
- Diagnose and repair automotive engine systems.
- Diagnose and repair components of the steering and suspension systems.
- Diagnose and repair components of hydraulic and anti-lock brake systems.
- Diagnose and repair components of the climate control system.
- Sit for the ASE Technician certification examinations.
- Adapt to new technology and service procedures as they are developed, and thus, build a professional foundation in all aspects of automotive systems and service techniques.
- Grow as an automotive technician, moving up the career ladder.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.
- Must have valid learner's permit from the MA Registry of Motor Vehicles (or like agency in state of residence). Applicants should note that a valid driver's license will be required for employment in this field.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

- Applicants should be aware that some employers may require CORI/SORI checks, finger printing, and drug testing as part of the hiring process.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Students enrolled in AUT 299 may incur an additional expense for professional liability insurance.
- Students are responsible for the purchase of tools prior to employment.

Location:

- This program may be completed at the QCC Automotive Technology Laboratory located at Burncoat High School in Worcester.
- This program may be completed face-to-face.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 47.0604.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

autotech@qcc.mass.edu

Additional Information:

Applicants should be aware that some employers may require Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks, finger printing, and drug testing as part of the hiring process.

Applicants to this program must have a valid learner's permit and a driving record that is suitable for prospective employing dealership's insurance requirements. A Request for Driving Record will be forwarded to the MA Department of Transportation on behalf of each student accepted to the program each fall.

Gainful Employment:

Visit www.QCC.edu/gainful-employment for more information.

Ford Maintenance and Light Repair — Certificate — AMF

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Fundamentals of Automotive Service	AUT 102	F	3	
Automotive Electrical Systems	AUT 111	F	4	
Brake Systems	AUT 131	F	3	
Semester 2				
Basic Gasoline Engines	AUT 121	S	4	AUT 102
Engine Testing/Performance Analysis	AUT 125	S	4	AUT 102
Semester 3				
Suspension, Steering & Alignment	AUT 133	S/SU	3	AUT 102
Climate Control System	AUT 141	SU	3	AUT 121
Total Credits Required:			24	

Program Notes:

- Applicants to this program must have a valid learner's permit and a driving record that is suitable for prospective employing dealership's insurance requirements. A Request for Driving Record will be forwarded to the MA Department of Transportation on behalf of each student accepted to the program each fall.

Biotechnology Technician — BI Certificate

Program Goals:

This certificate program provides students with an overview of the science of biotechnology as well as the technical skills necessary for employment in the industry.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Understand the fundamental scientific principles of biotechnology.
- Demonstrate the ability to manipulate and analyze data.
- Demonstrate the ability to work effectively in a laboratory setting.
- Utilize critical thinking and scientific methodology.
- Demonstrate the application of scientific knowledge to common biotechnological techniques.
- Demonstrate effective written and verbal communication.
- Demonstrate math competency.
- Demonstrate the ability to be an effective team leader.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.
- MAT 095 with a "C" or higher on the MAT 095 departmental final exam or appropriate placement score.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

Location:

- This program may be completed at the QCC Worcester campus, except for BTT 201 which is offered only at Abbvie Bioresearch Center. Some laboratory classes may be completed at local laboratory facilities.
- This program may be completed face-to-face.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 15.0401.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

biotechnology@qcc.mass.edu

Gainful Employment:

Visit www.QCC.edu/gainful-employment for more information.

Biotechnology Technician — Certificate — BI

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Introduction to Biotechnology	BTT 101	F/S	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, MAT 095 with a "C" or higher on the MAT 095 departmental final exam or approp place score
Cell Biology	BIO 259	F/S	4	BIO 107
Introduction to Microcomputer Applications	CIS 111	F/S/SU	3	
Semester 2				
General Chemistry I	CHM 105	F/S/SU	4	CHM 090 or one year of High School Chemistry, MAT 099 with a "C" or higher on the MAT 099 departmental final exam or approp place score
Molecular Biology	BIO 260	F/S	4	BIO 107
General Microbiology	BIO 231	F/S	4	BIO 107
Semester 3				
Techniques in Biotechnology	BTT 201	SU	6	BIO 259, BIO 260, BIO 231
Total Credits Required:			28	

Business Administration Transfer — BT *Associate in Science*

Program Goals:

The Business Administration Transfer Program prepares students for transfer to four-year colleges and universities upon completion of the associate degree. Graduates from the Business Transfer Program with a GPA of 2.5 or higher are guaranteed admission to all Massachusetts state universities and to the University of Massachusetts, including the Isenberg School of Management (requires a 3.00 GPA), under the *MassTransfer* program. There are several transfer agreements with private four-year colleges.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Demonstrate an understanding of the practice of business, including management, marketing and accounting, and the application of this knowledge in a business setting.
- Transfer to a business administration bachelor's degree program.
- Communicate effectively using written, oral and nonverbal techniques, including the use of technology in gathering and presenting information.
- Use critical thinking skills to appraise and evaluate business practices, including the use of quantitative and qualitative techniques.
- Recognize the presence of various cultures in the business world and comprehend the need to have a global perspective when analyzing and planning in a business environment.
- Demonstrate their knowledge of the concept of ethics and how businesses integrate social responsibility into their ongoing operations.
- Comprehend the rapid change taking place in the business environment and demonstrate an ability to engage in ongoing professional development.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

- One year of high school algebra or equivalent with a grade of "C" or higher, or achievement of a score on the QCC Math Assessment Test that qualifies the student for MAT 099 or higher; and three years of high school English or equivalent with grades of "C" or higher, or achievement of a score on the QCC English Assessment Test that qualifies the student for ENG 101.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

Location:

- This program may be completed at the QCC Worcester campus and the Southbridge location.
- This program may be completed face-to-face.
- This program may be completed 100% online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 52.0201.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

BusinessAdmin@qcc.mass.edu

Business Administration Transfer — Associate in Science — BT

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Financial Accounting I	ACC 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, MAT 090 with a "C" or higher on the MAT 090 departmental final exam or approp place score
Introduction to Microcomputer Applications or	CIS 111	F/S/SU	3	
Advanced Microcomputer Applications	CIS 112			CIS 111
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Principles of Macroeconomics	ECO 215	F/S/SU	3	Coreq: ENG 101
College Mathematics I: Pre-Calculus or	MAT 123	F/S/SU	3	MAT 100 or approp place score
Applied Calculus	MAT 231	F/S		MAT 123 or approp place score
Semester 2				
Financial Accounting II	ACC 102	F/S/SU	3	ACC 101
Composition II	ENG 102	F/S/SU	3	ENG 101
Principles of Microeconomics	ECO 216	F/S/SU	3	Coreq: ENG 101
Statistics	MAT 122	F/S/SU	3	MAT 099 with a "C" or higher on the MAT 099 departmental final exam or approp place score
Humanities Elective	---	F/S/SU	3	
Semester 3				
Managerial Accounting	ACC 222	F/S/SU	3	ACC 102
Business Elective*	---	F/S/SU	3	
Business Elective*	---	F/S/SU	3	
Humanities Elective	---	F/S/SU	3	
Lab Science Elective	---	F/S/SU	4	
Semester 4				
Business Elective*	---	F/S/SU	3	
Elective	---	F/S/SU	3	
Humanities Elective	---	F/S/SU	3	
Science Elective or Lab Science Elective	---	F/S/SU	3-4	
Social Science Elective	---	F/S/SU	3	
Total Credits Required:			61-62	

Program Notes:

*Business Administration Transfer students should discuss their choice of Electives with their Academic Advisors and should also consult with the college to which they are planning to transfer in order to be sure they are making the most appropriate Elective selections. Recommended Electives for transfer include courses with the designations ACC, BUS, BSL, FIN, MGT, and MRK.

Additional Information:

Graduates can also take advantage of a special agreement that QCC has with Nichols College called the "A to B and Beyond" (associate to bachelor degree) program. This partnership combines the benefits of a QCC associate degree with the advantages of a Nichols College bachelor degree. After being accepted, students begin their third year of study at QCC. Third-year courses are taught by QCC faculty at QCC's per credit cost; the final year of study is charged at the rate of Nichols College's per credit cost. The program's flexibility is a significant advantage to students as fourth-year coursework, taught by Nichols faculty, can be taken on the Nichols campuses or through the Nichols online program.

Business Administration Career — BB

Associate in Science

Program Goals:

The Business Administration Career Program prepares students to successfully enter the workforce upon graduation. The program provides a skills-based curriculum that equips graduates with the knowledge and background needed for a rewarding career in business and industry.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Demonstrate an understanding of the practice of business, including management, marketing and accounting, and the application of this knowledge in a business setting.
- Think, speak and write critically; articulate and explain a variety of business concepts and apply these concepts to solve common business problems.
- Communicate clearly and effectively; create a portfolio of business communications using a variety of software applications.
- Demonstrate computer literacy and conduct research using a variety of sources.
- Understand the key actions taken to effectively and efficiently utilize company resources to achieve goals.
- Develop a global/multicultural perspective when analyzing and planning in business.
- Demonstrate knowledge of business ethics and how businesses integrate social responsibility into their ongoing operations.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some required courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

Location:

- This program may be completed at the QCC Worcester campus and the Southbridge location.
- This program may be completed face-to-face.
- This program may be completed 100% online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 52.0101.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

BusinessAdmin@qcc.mass.edu

Business Administration Career — Associate in Science — BB

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Introduction to Microcomputer Applications or	CIS 111	F/S/SU	3	
Advanced Microcomputer Applications	CIS 112			CIS 111
Principles of Macroeconomics	ECO 215	F/S/SU	3	Coreq: ENG 101
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Introduction to Business	MGT 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Mathematics Elective*	---	F/S/SU	3	
Semester 2				
Financial Accounting I	ACC 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, MAT 090 with a "C" or higher on the MAT 090 departmental final exam or approp place score
Business Law I or	BSL 101	F/S/SU	3	
E-Business Law & Ethics	BSL 103	F/S		Coreq: CIS 111
Composition II	ENG 102	F/S/SU	3	ENG 101
Speech Communication Skills	SPH 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Elective	---	F/S/SU	3	
Semester 3				
Financial Accounting II	ACC 102	F/S/SU	3	ACC 101
Integrated Communications for Business	BUS 201	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, CIS 111
Business Elective	---	F/S/SU	3	
Humanities Elective	---	F/S/SU	3	
Social Science Elective	---	F/S/SU	3	
Semester 4				
Business Administration Capstone	BUS 250	F/S/SU	3	Over 42 credits completed in the Business Administration degree program
Business Elective	---	F/S/SU	3	
Elective	---	F/S/SU	3	
Humanities Elective	---	F/S/SU	3	
Science Elective or Lab Science Elective	---	F/S/SU	3-4	
Total Credits Required:			60-61	

Program Notes:

- Students should discuss their choice of Electives with their Academic Advisors to ensure that they are taking the most suitable courses to meet their goals.

*Students pursuing Business Administration Career (A.S.) are encouraged to take either MAT 103 or MAT 122.

Business Administration Career - Administrative Professional Option — BBAP Associate in Science

Program Goals:

The Business Administration Career, Administrative Professional Option prepares graduates for immediate entry into the workforce as administrative professionals in a business or medical setting. Prospective students may choose to specialize by completing either the Clerical Office or Medical Office certificate program first; all courses in the certificates apply to the degree program. Graduates of the Administrative Professional Option are highly trained and workforce ready.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Demonstrate keyboarding speed and accuracy with a minimum touch keyboarding rate of 30-35 words per minute on a three-minute timed writing with at least 90% accuracy.
- Demonstrate computer literacy and conduct research from a variety of sources.
- Communicate clearly and effectively; create a portfolio of business communications using a variety of software applications.
- Meet the challenging role of the administrative professional by adapting to the technological changes in the global economy and the diverse workplace.
- Demonstrate the skills needed to develop ideas and make decisions based on ethics, appropriate research, analysis, and critical thinking.
- Understand records management, appointment scheduling, business etiquette and develop excellent customer service skills.
- Complete a 150 hour structured learning experience in which students apply skills and knowledge from the classroom to a work experience.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some required courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

- Prospective students should note that CORI/SORI checks, finger printing, and drug testing may be required by a cooperative education host employer in order to complete BUS 299.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Students enrolled in BUS 299 may incur an additional expense for professional liability insurance.

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face.
- This program may be completed 80% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 52.0402.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

BusinessAdmin@qcc.mass.edu

Business Administration Career - Administrative Professional Option — Associate in Science — BBAP

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Medical Law and Ethics or	ALH 106	F/S	3	ENG 096 with a grade of "C" or higher; or approp place score
E-Business Law & Ethics or	BSL 103			Coreq: CIS 111
Introduction to Law & Paralegal Practice	BSL 112	F		
Keyboarding Applications	BSS 101	F/S/SU	3	ENG 091 with a grade of "C" or higher; or approp place score
Introduction to Microcomputer Applications	CIS 111	F/S/SU	3	
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Mathematics Elective*	---	F/S/SU	3	
Semester 2				
Financial Accounting I	ACC 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, MAT 090 with a "C" or higher on the MAT 090 departmental final exam or approp place score
Medical Office Administration I or	ALH 151	F	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, Coreq: ALH 102, BSS 101
Business Office Procedures	BSS 104	F/S/SU		BSS 101, CIS 111, ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Advanced Microcomputer Applications	CIS 112	F/S/SU	3	CIS 111
Elective	---	F/S/SU	3	
Composition II	ENG 102	F/S/SU	3	ENG 101
Semester 3				
Medical/Dental Billing and Insurance or	BSS 112	F/S	3	ALH 102
Business Elective	---	F/S/SU		
Liberal Arts Elective	---	F/S/SU	3	
Internet Communications	HUM 142	S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, Computer Literacy
Elective	---	F/S/SU	3	
Science Elective	---	F/S/SU	3-4	
Semester 4				
Career Strategies and Co-op Experience	BUS 299	F/S/SU	3	ALH 151 or BKK 102 or BSS 104 or permission of the Program Coordinator
Database Management Application Development	CIS 243	F/S	3	CIS 105 or CIS 111
Social Science Elective	---	F/S/SU	3	
Integrated Communications for Business	BUS 201	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, CIS 111
Human Relations in Organizations	PSY 158	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Total Credits Required:			60-61	

Program Notes:

*Students pursuing Business Administration Career (A.S.) are encouraged to take either MAT 103 or MAT 122.

Accounting Assistant Finance Assistant — AF Certificate

Program Goals:

The Accounting Assistant Finance Assistant Certificate focuses on the accounting skills and knowledge needed in business. Upon graduation, students will be prepared for entry-level accounting jobs in a variety of business settings or may move seamlessly into the Business Career associate degree program.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Analyze, calculate, interpret, and report financial information accurately and in a timely manner.
- Demonstrate proficiency in both manual and automated accounting systems.
- Apply accounting principles which relate to accounting support functions.
- Demonstrate a grasp of the complexities of ethical issues in business and in particular the practice of accounting.
- Use the Microsoft Office Suite® and QuickBooks® software effectively.
- Communicate effectively using written, oral and nonverbal techniques, including the use of appropriate technology in the gathering and presentation of information.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some required courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

Location:

- This program may be completed at the QCC Worcester campus and the Southbridge location.
- This program may be completed face-to-face.
- This program may be completed 80% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 52.0302.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

BusinessAdmin@qcc.mass.edu

Gainful Employment:

See the Gainful Employment section for more information.

Accounting Assistant Finance Assistant — Certificate — AF

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Financial Accounting I	ACC 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, MAT 090 with a "C" or higher on the MAT 090 departmental final exam or approp place score
Federal Taxation	ACC 211	F	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Personal Financial Planning	FIN 111	F/S/SU	3	MAT 090 with a "C" or higher on the MAT 090 departmental final exam or approp place score
Introduction to Microcomputer Applications	CIS 111	F/S/SU	3	
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 2				
Financial Accounting II	ACC 102	F/S/SU	3	ACC 101
Computerized Accounting	ACC 231	S	3	ACC 101, CIS 111
Business Elective*	---	F/S/SU	3	
Humanities Elective	---	F/S/SU	3	
Total Credits Required:			27	

Program Notes:

*For Transfer into the Business Career Program, choose BSL 101, BSL 103, BUS 201, or MGT 101.

Accounts Payable/Accounts Receivable — APAR Certificate

Program Goals:

The Accounts Payable/Accounts Receivable Certificate focuses on the accounting skills, manual and computerized, needed in business for Accounts Payable and Accounts Receivable clerks. Upon successful completion of this certificate, students will be prepared for entry-level Accounts Payable and Accounts Receivable positions in all varieties of businesses and may continue their education to become certified bookkeepers and/or pursue an Associate Degree in Business Administration.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Analyze, calculate, and report financial information accurately and in a timely manner.
- Demonstrate proficiency in both manual and automated accounts payable and accounts receivable accounting systems.
- Use the Microsoft Office Suite and QuickBooks Software effectively.
- Demonstrate knowledge of a broad overview of business ownership.
- Develop skills necessary to make career related decisions to enhance workplace readiness.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some required courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Estimated cost of \$99.00 to take the QuickBooks Users Certification Exam.

Location:

- This program may be completed at the QCC Worcester campus and the Southbridge location.
- This program may be completed face-to-face.
- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 52.0302.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

BusinessAdmin@qcc.mass.edu

Gainful Employment:

Visit www.QCC.edu/gainful-employment for more information.

Accounts Payable/Accounts Receivable — Certificate — APAR

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Strategies for College and Career or Self-Assessment and Career Planning	ORT 110 PSY 115	F/S/SU	3	Coreq: ENG 090 and ENG 095 or approp place score ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Bookkeeping I	BKK 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, MAT 090 with a "C" or higher on the MAT 090 departmental final exam or approp place score
Introduction to Microcomputer Applications	CIS 111	F/S/SU	3	
Accounting Software for Small Business	ACC 110	F/S/SU	4	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, MAT 090 with a "C" or higher on the MAT 090 departmental final exam or approp place score
Introduction to Business	MGT 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Total Credits Required:			16	

Program Notes:

- Students complete this certificate with 16 college credits; 13 credits are transferable to the A.S. in Business Administration/Career Program (Program Code: BB).
- Students in ACC 110 will prepare for the QuickBooks certification exam.

Business Administration — BAC

Certificate

Program Goals:

The Business Administration Certificate focuses on general business and prepares students for entry-level positions within various types of organizations. Upon graduation, students will be prepared for entry-level jobs in a variety of business settings or may move seamlessly into the Business Career associate degree program.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Identify basic principles used in the business world today.
- Apply basic business concepts to a variety of business situations.
- Understand the mathematical functions and basic accounting practices necessary to conduct business operations.
- Communicate clearly and effectively; create a portfolio of business communications using a variety of software applications.
- Demonstrate knowledge of business ethics and how businesses integrate social responsibility into their ongoing operations.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some required courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

Location:

- This program may be completed at the QCC Worcester campus and the Southbridge location.
- This program may be completed face-to-face.
- This program may be completed 100% online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 52.0101.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

BusinessAdmin@qcc.mass.edu

Gainful Employment:

Visit www.QCC.edu/gainful-employment for more information.

Business Administration — Certificate — BAC

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Introduction to Microcomputer Applications or	CIS 111	F/S/SU	3	
Advanced Microcomputer Applications	CIS 112			CIS 111
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Mathematics Elective*	---	F/S/SU	3	
Introduction to Business	MGT 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Human Relations in Organizations	PSY 158	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 2				
Financial Accounting I	ACC 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, MAT 090 with a "C" or higher on the MAT 090 departmental final exam or approp place score
Integrated Communications for Business	BUS 201	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, CIS 111
Business Law I or	BSL 101	F/S/SU	3	
E-Business Law & Ethics	BSL 103	F/S		Coreq: CIS 111
Business Elective	---	F/S/SU	3	
Total Credits Required:			27	

Program Notes:

*Students pursuing Business Administration Career (A.S.) are encouraged to take either MAT 103 or MAT 122.

Clerical Office — COBB

Certificate

Program Goals:

The Clerical Office Certificate focuses on developing the clerical skills, knowledge and abilities necessary to work in a business office setting. Upon graduation, students will be prepared for entry-level positions as administrative assistants or may move seamlessly into the Business Career Administrative Professional Option associate degree program.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Demonstrate keyboarding speed and accuracy with a minimum touch keyboarding rate of 30-35 words per minute on a three-minute timed writing with at least 90% accuracy.
- Demonstrate computer literacy and conduct research from a variety of sources.
- Communicate clearly and effectively; create a portfolio of business communications using a variety of software applications.
- Meet the challenging role of the administrative professional by adapting to the technological changes in the global economy and the diverse workplace.
- Understand records management, appointment scheduling, business etiquette and develop excellent customer service skills.
- Complete a 150 hour structured learning experience in which students apply skills and knowledge learned in the classroom to a work experience.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some required courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

- Prospective students should note that CORI/SORI checks, finger printing, and drug testing may be required by a cooperative education host employer in order to complete BUS 299.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Students enrolled in BUS 299 may incur an additional expense for professional liability insurance.

Location:

- This program may be completed at the QCC Worcester campus and the Southbridge location.
- This program may be completed face-to-face.
- This program may be completed 80% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 52.0408.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

BusinessAdmin@qcc.mass.edu

Gainful Employment:

Visit www.QCC.edu/gainful-employment for more information.

Clerical Office — Certificate — COBB

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Keyboarding Applications	BSS 101	F/S/SU	3	ENG 091 with a grade of "C" or higher; or approp place score
Introduction to Microcomputer Applications	CIS 111	F/S/SU	3	
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Human Relations in Organizations	PSY 158	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 2				
Financial Accounting I	ACC 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, MAT 090 with a "C" or higher on the MAT 090 departmental final exam or approp place score
Business Office Procedures	BSS 104	F/S/SU	3	BSS 101, CIS 111, ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Integrated Communications for Business	BUS 201	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, CIS 111
Career Strategies and Co-op Experience	BUS 299	F/S/SU	3	ALH 151 or BKK 102 or BSS 104 or permission of the Program Coordinator
Internet Communications	HUM 142	S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, Computer Literacy
Total Credits Required:			27	

Entrepreneurship and Small Business Management — ENS

Certificate

Program Goals:

The Entrepreneurship and Small Business Management Certificate focuses on the skills and knowledge needed to create or manage a small business.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Understand the actions taken to acquire and retain customers; produce goods and services; and measure/track financial performance.
- Understand the leadership skills and personal characteristics needed to succeed in starting and managing a small business.
- Research, develop and implement a business plan.
- Analyze financial statements to determine strengths or weaknesses of an existing business.
- Understand the basic principles of small business marketing.
- Demonstrate proficiency in computer applications.
- Communicate effectively using written, oral and nonverbal techniques, including the use of appropriate technology in the gathering and presentation of information.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some required courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face.
- This program may be completed 100% online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 52.0703.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

BusinessAdmin@qcc.mass.edu

Gainful Employment:

Visit www.QCC.edu/gainful-employment for more information.

Entrepreneurship and Small Business Management — Certificate — ENS

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Entrepreneurship and Small Business Management	MGT 216	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Introduction to Microcomputer Applications	CIS 111	F/S/SU	3	
Financial Accounting I	ACC 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, MAT 090 with a "C" or higher on the MAT 090 departmental final exam or approp place score
Personal Financial Planning	FIN 111	F/S/SU	3	MAT 090 with a "C" or higher on the MAT 090 departmental final exam or approp place score
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 2				
Humanities Elective	---	F/S/SU	3	
Computerized Accounting	ACC 231	S	3	ACC 101, CIS 111
Principles of Microeconomics	ECO 216	F/S/SU	3	Coreq: ENG 101
Principles of Marketing	MRK 201	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Total Credits Required:			27	

Full Charge Bookkeeper — FCBK Certificate

Program Goals:

The Full Charge Bookkeeper Certificate focuses on the accounting skills, knowledge, certification and practical experience needed in business. Upon graduation, students will be prepared for entry-level full charge bookkeeper positions in a variety of business settings.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Adjust entries.
- Correct errors, including the bank reconciliation.
- Calculate depreciation, book and tax, including passenger autos.
- Manage payroll.
- Manage inventory under the perpetual and periodic systems, including moving and weighted average, LIFO, FIFO and LCM costing.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some required courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.
- Completion of the Accounts Payable/Accounts Receivable Certificate.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

- Prospective students should note that CORI/SORI checks, finger printing, and drug testing may be required by a cooperative education host employer in order to complete BUS 299.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Estimated cost of \$210.00 to take the American Institute of Professional Bookkeepers (AIPB) Certified Bookkeeper examination.

Location:

- This program may be completed at the QCC Worcester campus and the Southbridge location.
- This program may be completed face-to-face.
- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 52.0302.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

BusinessAdmin@qcc.mass.edu

Gainful Employment:

Visit www.QCC.edu/gainful-employment for more information.

Full Charge Bookkeeper — Certificate — FCBK

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Strategies for College and Career: Career & Academic Planning	ORT 109	F	1	
Bookkeeping II	BKK 102	F/S/SU	3	BKK 101
Personal Financial Planning	FIN 111	F/S/SU	3	MAT 090 with a "C" or higher on the MAT 090 departmental final exam or approp place score
Advanced Microcomputer Applications	CIS 112	F/S/SU	3	CIS 111
Career Strategies and Co-op Experience	BUS 299	F/S/SU	3	ALH 151 or BKK 102 or BSS 104 or permission of the Program Coordinator
Business Law I	BSL 101	F/S/SU	3	
Total Credits Required:			16	

Program Notes:

- Students complete this certificate with 16 college credits; 12 credits are transferable to the A.S. in Business Administration/Career Program (Program Code: BB).
- BKK 102 is designed to prepare students for the American Institute of Professional Bookkeepers (AIPB) certification exam within the Full Charge Bookkeeper certificate. It may not be considered equivalent to college level accounting for the purpose of transfer of credit to some baccalaureate institutions.

Medical Office — MSBB

Certificate

Program Goals:

The Medical Office Certificate focuses on the clerical skills and specialized knowledge needed in a medical or dental office setting. Upon graduation, students will be prepared for entry-level positions as medical administrative assistants/receptionists or may move seamlessly into the Business Career Administrative Professional Option associate degree program.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Demonstrate keyboarding speed and accuracy with a minimum touch keyboarding rate of 30-35 words per minute on a three-minute timed writing with at least 90% accuracy.
- Communicate clearly and effectively.
- Understand the coding systems and recordkeeping programs used in medical facilities.
- Learn how the various components of the patient billing system relate to the accounting system in a medical office.
- Recognize the legal, ethical and bioethical issues encountered in a medical office and deal with those issues in an informed, legal and sensitive manner.
- Produce accurate medical transcriptions in a timely manner, using appropriate medical terminology.
- Understand records management, appointment scheduling, business etiquette and develop excellent customer service skills.
- Complete a 150-225 hour structured learning experience in which students apply skills and knowledge learned in the classroom to a work experience.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some required courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

- Prospective students should note that CORI/SORI checks, finger printing, and drug testing may be required by a cooperative education host employer in order to complete BUS 299.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Students enrolled in BUS 299 may incur an additional expense for professional liability insurance.

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face.
- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 51.0716.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

BusinessAdmin@qcc.mass.edu

Gainful Employment:

Visit www.QCC.edu/gainful-employment for more information.

Medical Office — Certificate — MSBB

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Introduction to Medical Terminology	ALH 102	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Medical Law and Ethics	ALH 106	F/S	3	ENG 096 with a grade of "C" or higher; or approp place score
Introduction to Microcomputer Applications	CIS 111	F/S/SU	3	
Keyboarding Applications	BSS 101	F/S/SU	3	ENG 091 with a grade of "C" or higher; or approp place score
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 2				
Business Office Procedures	BSS 104	F/S/SU	3	BSS 101, CIS 111, ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Medical/Dental Billing and Insurance	BSS 112	F/S	3	ALH 102
Electronic Health Records*	CIS 212	F/S	3	CIS 111, ALH 102
Career Strategies and Co-op Experience	BUS 299	F/S/SU	3	ALH 151 or BKK 102 or BSS 104 or permission of the Program Coordinator
Total Credits Required:			27	

Program Notes:

*BSS 212 will be accepted in place of CIS 212 until Spring 2017.

Complementary Health — CHM

Associate in Science

Program Goals:

The Complementary Health program is designed to educate students in the philosophies, principles and practices of Complementary Health and the integrative approach to health and healing. Students study the knowledge, scientific foundations, cultural beliefs, and the wide range of therapeutic practices within Complementary Health. Emphasis is placed on patient-provider relationship, whole person-centered care, and complementary and energetic perspectives of wellness and self-care. Complementary Health is a diverse collective of health and healing practices from the Alternative, Complementary and Integrative Medicine perspectives. The aim of the program is to develop providers who can incorporate a complementary-integrative perspective into their work with patient-clients. The program is designed for students who hold current Certification or Licensure in holistic or conventional healthcare fields/disciplines. The Program prepares healthcare providers who are knowledgeable in Complementary-Integrative Medicine and ready for employment in Private Practices, Clinics and Hospitals, Health and Fitness facilities, and Wellness Centers. The Program is designed to serve as an Associate Degree completion program.

Student Learning Outcomes:

Upon completion of the program graduates will be able to have:

- Knowledge and understanding of holistic, mind-body-spirit, Complementary - Integrative Medicine: its philosophies, theories, therapeutic practices and approaches and its applications in healthcare, wellness promotion, and healthy living.
- Knowledge and understanding of the therapeutic practices of Complementary Health including mind-body interventions, massage therapy, yoga, meditation, guided imagery, acupuncture, homeopathy, chiropractic, expressive therapies, healing-therapeutic touch, among others, and their applications in health and healing.
- Knowledge and understanding of patient-centered and whole person-centered healthcare and the use of health promotion, wellness coaching, energetic approaches, integrative nutrition, healthy lifestyle change and mind-body-spirit transformation to support an empowered, pro-active role in individual self-care and patient-client health and well-being.

- Ability to participate in an integrative patient assessment/intake, create effective wellness care plans for self and patient-client, and communicate to others via oral, written, and electronically.
- Ability to assist patient clients and health professionals in incorporating complementary health practices and approaches into their healthcare, prevention and disease management strategies and healthy living choices.
- Knowledge and understanding of the impact of chronic stress and human emotions on human physiology and states of health and well-being and the tools of Complementary/Integrative Health that can be applied to healing stress management.
- Knowledge and understanding of the indigenous world medicines and their influence on today's healthcare and healing practices.
- Knowledge and understanding of current happiness research and the ability to choose to apply practices and tools, such as forgiveness, gratitude or mind-body health, that enhances states of happiness and well-being.
- Ability to identify Complementary and Integrative Health needs of specialized populations such as Elders, Children, Women's and Men's Health, Substance Abuse and Addiction, Cancer, Cardiovascular and Nutritional wellness, among others.
- Ability to integrate professional literature into their course work, professional communications, and to demonstrate professional standards, integrity, and collaborative approach in their work with patient-clients, other health and healing professionals, and the community.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.
- License or certification in either a conventional, naturalistic, or holistic healthcare recognized by the College.
- Must take the college placement test to determine Math and English levels if no college level courses were previously completed.

- English: Place into ENG 101 on the college placement test.
- Math: minimum grade of "C" in MAT 095 or place into MAT 099 level or above.
- Biology: minimum grade of "C" in high school biology or "C" in BIO 101 (recommended) or other college biology class.
- Qualifying mathematics and one biology course must be taken within five years of application. Required grade must be earned within two attempts of taking and completing the course.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Complementary health students should anticipate additional expenses for certification/license credentialing. This may range from \$50.00-\$75.00 per credit for a total of \$1,400.00 to \$2,100.00.

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face.
- This program may be completed 80% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 51.3399.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

complementaryhealth@qcc.mass.edu

Additional Information:

Individuals with an interest, or past experience in complementary approach to health and healing, who are not yet certified or licensed in health and healing, may also elect to study within individual courses that can offer personal and professional growth and development and serve as vehicles of career inquiry and exploration or curriculum elective. To be awarded the degree, one would need to hold Certification or Licensure in a recognized field of holistic or conventional health.

Complementary Health — Associate in Science — CHM

Course Title	Course #	Semester Offered	Credits	Prerequisites
Certification or Licensure Credentialing			28	
Semester 1				
Anatomy & Physiology I	BIO 111	F/S/SU	4	BIO 101 or High School Advanced Placement Biology, Coreq: ENG 101
Health and Healing	CHC 150	F	3	BIO 101, ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Fundamentals of Complementary Health	CHC 151	F	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Introduction to Psychology	PSY 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 2				
Anatomy & Physiology II	BIO 112	F/S/SU	4	BIO 111
Nutrition	BIO 241	F/S/SU	3	BIO 101 or BIO 111
World Medicines: Harmony and Health	CHC 250	S	3	ENG 101
Applications in Integrative Health	CHC 255	S	3	CHC 150, CHC 151
Composition II	ENG 102	F/S/SU	3	ENG 101
Total Credits Required:			60	

Program Notes:

- Students must complete a minimum of 15 credits at QCC to meet the residency requirement; nine of these 15 credits must be earned in CHC courses.

Computer Information Systems - Applications Specialist Option — CIAS

Associate in Science

Program Goals:

The Application Specialist Option provides students with a thorough introduction to today's most widely-used computer software applications. The program curriculum provides hands-on computer experience in spreadsheets, advanced database applications, basic programming, web page development, network management, data communication, and systems analysis and design. Additional courses introduce students to the fields of accounting, business law and ethics, and technical writing. The Cooperative Work Experience is a requirement in this program and provides an opportunity for students to apply classroom knowledge to practical work experience. Career opportunities for the Application Specialist Option may include positions in the areas of computer operations, business applications, systems analysis, software support, database development, customer support, technical and microcomputer support.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Demonstrate knowledge of fundamental business methods including communications, math, and writing.
- Apply Personal Productivity using IS Technology.
- Code basic Programming, Data, Database, File and Object Structure techniques.
- Describe the Fundamentals of Information Theory Systems, Practice, Hardware and Systems Software.
- Explain intermediate Networks and Telecommunications concepts.
- Apply the (SDLC) System Development Life Cycle (including project management) concepts to typical business applications.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

- Three years of high school English and one year of high school algebra or the QCC equivalent with grades of "C" or higher.

CORI, SORI, Finger Printing & Drug Testing:

Prospective students should note that, as a condition of cooperative education employment, Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks, finger printing, and drug testing may be required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Students enrolled in CIS 299 may incur an additional expense for professional liability insurance.
- Students enrolled in CIS 229, CIS 232, CIS 245, CIS 246, and CIS 247 will be required to bring their own laptop to class.

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face.
- This program may be completed 80% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 11.0501.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

cis@qcc.mass.edu

Computer Information Systems - Applications Specialist Option — Associate in Science — CIAS

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Financial Accounting I	ACC 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, MAT 090 with a "C" or higher on the MAT 090 departmental final exam or approp place score
E-Business Law & Ethics	BSL 103	F/S	3	Coreq: CIS 111
Introduction to Information Technology	CIS 105	F/S/SU	3	
Introduction to Microcomputer Applications	CIS 111	F/S/SU	3	
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 2				
Advanced Microcomputer Applications	CIS 112	F/S/SU	3	CIS 111
Introduction to Programming with C++	CIS 121	F/S	3	Coreq: CIS 111 or CIS 115
Introduction to Data Communication & Networks	CIS 141	F/S	3	CIS 111
Composition II	ENG 102	F/S/SU	3	ENG 101
College Mathematics I: Pre-Calculus	MAT 123	F/S/SU	3	MAT 100 or approp place score
Semester 3				
Web Page Development I	CIS 134	F/S	3	Coreq: CIS 111 or CIS 115
Database Management Application Development	CIS 243	F/S	3	CIS 105 or CIS 111
Career Elective*	---	F/S/SU	3	
Technical and Workplace Writing	ENG 205	F/S/SU	3	ENG 102, Computer Literacy
Psychology of Interpersonal Relations or	PSY 118	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Human Relations in Organizations	PSY 158			
Semester 4				
Network Management	CIS 237	S	3	CIS 141
Systems Analysis & Design	CIS 241	F/S	3	CIS 121 or CIS 223 or CIS 226 or CIS 240
Computer Information Systems Cooperative Education	CIS 299	S	3-6	Approval of Program Coordinator, Coreq: CIS 241
Statistics	MAT 122	F/S/SU	3	MAT 099 with a "C" or higher on the MAT 099 departmental final exam or approp place score
Speech Communication Skills	SPH 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Total Credits Required:			60-63	

Program Notes:

*Any CIS 200-level course and not already required as part of the degree program.

Computer Information Systems - Database Option — CIDB

Associate in Science

Program Goals:

The Database Option provides students with a basic foundation of database technologies. For many organizations, database systems are the most business-critical component of their information technology infrastructure. Databases drive accounting, human resources, inventory, sales and other key operations. Qualified database professionals are in great demand to utilize, design, maintain and secure these systems for maximum efficiency and competitiveness. This curriculum will focus on database programming and administration concepts and tasks, using RDBMS technology. In addition, students will acquire skills in software development, data communications, as well as foundational knowledge in the field of computer science career opportunities for the database option may include positions as entry-level database support specialists.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Demonstrate knowledge of fundamental business methods including communications, math, and writing.
- Demonstrate Personal Productivity with IS Technology.
- Develop Advances Programming, Data, Database, and File techniques.
- Apply the (SDLC) System Development Life Cycle (including project management) concepts to typical business applications.
- Apply Database Management Application Development techniques to advanced business applications.
- Code intermediate and advanced SQL and PL/SQL Programs for the solution of business applications.
- Design, organize and maintain a (RDBMS) Relational Database Management System per industry (DSL) Database System Life Cycle standards.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

- Three years of high school English and one year of high school algebra or the QCC equivalent with grades of "C" or higher.

CORI, SORI, Finger Printing & Drug Testing:

Prospective students should note that, as a condition of cooperative education employment, Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks, finger printing, and drug testing may be required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Students enrolled in CIS 299 may incur an additional expense for professional liability insurance.
- Students enrolled in CIS 229, CIS 232, CIS 245, CIS 246 and CIS 247 will be required to bring their own laptop to class.

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face.
- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 11.0802.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

cis@qcc.mass.edu

Computer Information Systems - Database Option — Associate in Science— CIDB

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Introduction to Information Technology	CIS 105	F/S/SU	3	
Introduction to Microcomputer Applications	CIS 111	F/S/SU	3	
Introduction to Programming with C++	CIS 121	F/S	3	Coreq: CIS 111 or CIS 115
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
College Mathematics I: Pre-Calculus	MAT 123	F/S/SU	3	MAT 100 or approp place score
Semester 2				
.NET Programming I	CIS 223	S	3	CIS 111 or CIS 115, CIS 121
Database Management Concepts	CIS 244	S	3	CIS 105 or CIS 111 or CIS 115
Database Management Application Development	CIS 243	F/S	3	CIS 105 or CIS 111
Composition II	ENG 102	F/S/SU	3	ENG 101
Semester 3				
Internet Communications	HUM 142	S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, Computer Literacy
Introduction to Data Communication & Networks	CIS 141	F/S	3	CIS 111
Semester 4				
.NET Programming II	CIS 232	F/S	3	CIS 223
SQL Programming	CIS 228	F/S	3	CIS 105 or CIS 111 or CIS 115
Technical and Workplace Writing	ENG 205	F/S/SU	3	ENG 102, Computer Literacy
Statistics	MAT 122	F/S/SU	3	MAT 099 with a "C" or higher on the MAT 099 departmental final exam or approp place score
Speech Communication Skills	SPH 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 5				
PL/SQL Programming	CIS 229	F/S	3	CIS 228
Systems Analysis & Design	CIS 241	F/S	3	CIS 121 or CIS 223 or CIS 226 or CIS 240
Database Administration	CIS 247	S	3	CIS 228, CIS 244
Computer Information Systems Cooperative Education	CIS 299	S	3-6	Approval of Program Coordinator, Coreq: CIS 241
Program Specific Elective*	---	F/S/SU	3	
Total Credits Required:			63-66	

Program Notes:

*Program Specific Elective: Students may choose ACC 101, CSC 210, or BUS 205.

Computer Information Systems - Health Information Option — CIHI

Associate in Science

Program Goals:

The Computer Information Systems Health Information Option will prepare students to work in various health-related industries, such as hospitals, clinics, insurance, etc. The program curriculum provides hands-on computer experience in spreadsheet, web development, data communication, database development and management, basic programming, and systems analysis and design. Additional courses include medical law and ethics, medical coding, medical billing and insurance, and electronic health records. The Cooperative Work Experience is a requirement in this program and provides an opportunity for students to apply classroom knowledge to practical work experience. Career opportunities for the Health Information Option may include positions as Medical Records and Health Information Technicians and entry-level database support specialists.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Explain the basic components and emerging principles and concepts that impact the Health industry.
- Explain different types of health information and rules and regulations surrounding their use.
- Evaluate and apply the merits, risks, and social concerns of activities in the field of healthcare.
- Explain relevant local, state, and federal laws and regulations that impact the Health industry.
- Demonstrate the existing and emerging principles and concepts of health records.
- Use technology to control and safeguard the collection, organization, structure, processing and delivery of health information.
- Use standard documentation procedures to collect and communicate appropriate health information within legal and regulatory requirements.
- Apply confidentiality and electronic security measures to store and protect health information.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.
- Three years of high school English and one year of high school algebra or the QCC equivalent with grades of "C" or higher.

CORI, SORI, Finger Printing & Drug Testing:

Prospective students should note that, as a condition of cooperative education employment, Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks, finger printing, and drug testing may be required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Students enrolled in CIS 299 may incur an additional expense for professional liability insurance.

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face.
- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 51.0707.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

cis@qcc.mass.edu

Computer Information Systems - Health Information Option — Associate in Science— CIHI

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Introduction to Medical Terminology	ALH 102	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Liberal Arts Elective	---	F/S/SU	3	
Introduction to Microcomputer Applications	CIS 111	F/S/SU	3	
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
College Algebra	MAT 100	F/S/SU	3	MAT 099 with a "C" or higher on the MAT 099 departmental final exam or approp place score
Semester 2				
Medical Law and Ethics	ALH 106	F/S	3	ENG 096 with a grade of "C" or higher; or approp place score
Introduction to Programming with C++	CIS 121	F/S	3	Coreq: CIS 111 or CIS 115
Web Page Development I	CIS 134	F/S	3	Coreq: CIS 111 or CIS 115
Introduction to Data Communication & Networks	CIS 141	F/S	3	CIS 111
Composition II	ENG 102	F/S/SU	3	ENG 101
Semester 3				
Principles of Human Biology	BIO 100	F/S/SU	4	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Liberal Arts Elective	---	F/S/SU	3	
Semester 4				
Medical/Dental Billing and Insurance	BSS 112	F/S	3	ALH 102
Advanced Microcomputer Applications	CIS 112	F/S/SU	3	CIS 111
Database Management Application Development	CIS 243	F/S	3	CIS 105 or CIS 111
Electronic Health Records	CIS 212	F/S	3	CIS 111, ALH 102
Statistics	MAT 122	F/S/SU	3	MAT 099 with a "C" or higher on the MAT 099 departmental final exam or approp place score
Semester 5				
Systems Analysis & Design	CIS 241	F/S	3	CIS 121 or CIS 223 or CIS 226 or CIS 240
SQL Programming	CIS 228	F/S	3	CIS 105 or CIS 111 or CIS 115
Database Management Concepts	CIS 244	S	3	CIS 105 or CIS 111 or CIS 115
Computer Information Systems Cooperative Education	CIS 299	S	3-6	Approval of Program Coordinator, Coreq: CIS 241
Technical and Workplace Writing	ENG 205	F/S/SU	3	ENG 102, Computer Literacy
Total Credits Required:			67-70	

Additional Information:

Some courses may utilize a virtual laboratory. Please contact the Program Coordinator for minimum hardware and software requirements.

Computer Information Systems - Transfer Option — CITR

Associate in Science

Program Goals:

The Associate in Science in Computer Information Systems Transfer program is designed to prepare students for transfer to four-year institutions where they can complete the baccalaureate degree, preparing the students for professional careers in the rapidly-changing field of Computer Information Systems. Students develop good communication skills and the ability for teamwork and leadership roles in their professional careers. Graduates from the CIS Transfer Option with a GPA of 2.5 or higher are guaranteed admission to all Massachusetts state universities and to the University of Massachusetts under the *MassTransfer* Program.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Analyze and design information systems and database applications solutions to achieve business/organizational goals.
- Implement a designed solution to solve business Information Technology (IT) problems using state-of-the-art programming techniques and application software.
- Apply knowledge of computing and mathematics appropriate to the discipline.
- Think critically and apply the scientific method.
- Present technical solutions effectively.
- Exhibit professional, legal and ethical behavior.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.
- Three years of high school English and one year of high school algebra or the QCC equivalent with grades of "C" or higher.

CORI, SORI, Finger Printing & Drug Testing:

Prospective students should note that, as a condition of cooperative education employment, Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks, finger printing, and drug testing may be required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Students enrolled in CIS 229, CIS 232, CIS 245, CIS 246, and CIS 247 will be required to bring their own laptop to class.

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face.
- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 11.0101.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

cis@qcc.mass.edu

Additional Information:

Some courses in the Computer Information Systems program may utilize a virtual laboratory. Please contact the Program Coordinator for minimum hardware and software requirements.

Computer Information Systems - Transfer Option — Associate in Science — CITR

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Introduction to Information Technology	CIS 105	F/S/SU	3	
Introduction to Microcomputer Applications	CIS 111	F/S/SU	3	
Introduction to Programming with C++	CIS 121	F/S	3	Coreq: CIS 111 or CIS 115
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
College Algebra	MAT 100	F/S/SU	3	MAT 099 with a "C" or higher on the MAT 099 departmental final exam or approp place score
Semester 2				
Financial Accounting I	ACC 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, MAT 090 with a "C" or higher on the MAT 090 departmental final exam or approp place score
.NET Programming I	CIS 223	S	3	CIS 111 or CIS 115, CIS 121
Principles of Macroeconomics	ECO 215	F/S/SU	3	Coreq: ENG 101
Composition II	ENG 102	F/S/SU	3	ENG 101
College Mathematics I: Pre-Calculus	MAT 123	F/S/SU	3	MAT 100 or approp place score
Semester 3 (Summer)				
College Mathematics II: Trigonometry	MAT 124	F/S/SU	3	MAT 123 or approp place score
Humanities Elective	---	F/S/SU	3	
Semester 4				
Web Page Development I	CIS 134	F/S	3	Coreq: CIS 111 or CIS 115
.NET Programming II	CIS 232	F/S	3	CIS 223
Introduction to Java	CIS 226	F	3	CIS 121
Discrete Mathematics	MAT 125	F/S	3	MAT 123 or approp place score
Physics I	PHY 101	F	4	Coreq: MAT 124
Semester 5				
Principles of Microeconomics	ECO 216	F/S/SU	3	Coreq: ENG 101
Humanities Elective	---	F/S/SU	3	
Physics II	PHY 102	S	4	PHY 101
Speech Communication Skills	SPH 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Social Science Elective	---	F/S/SU	3	
Total Credits Required:			68	

Program Notes:

- CIS transfer students should discuss their choice of Electives with their Academic Advisors and should also consult with the college to which they are planning to transfer in order to be sure they are making the most appropriate Elective selection.

Computer Information Systems - Web Development & Programming Option — CIWP Associate in Science

Program Goals:

The Web Development & Programming Option is a career-based program which will prepare the student to work in a business information systems environment. The curriculum provides hands-on experience in application software, Web development platforms, program development languages, and systems analysis and design. The primary focus of this program is application software development in a business environment. It will prepare the students to perform in an entry-level role as a Web developer and programmer in a business information environment. The Cooperative Work Experience is a requirement in this program and provides an opportunity for students to apply classroom knowledge to practical work experience. This work experience will help students develop career skills, such as:

- Analyze existing information systems (either computer or non-computer systems).
- Write detailed computer programs using several different languages.
- Debug and implement computer software applications.
- Write detailed documentation for new or existing computer information systems.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Analyze and design information systems and database applications solutions to achieve business/organizational goals.
- Implement a designed solution to solve business Information Technology (IT) problems using state-of-the-art programming techniques and application software.
- Code intermediate SQL programs to solve business Information Systems (IS) problems.
- Develop advanced Client-Server Side Web Applications.
- Present technical solutions effectively.
- Exhibit professional, legal and ethical behavior.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

- Three years of high school English and one year of high school algebra or the QCC equivalent with grades of "C" or higher.

CORI, SORI, Finger Printing & Drug Testing:

Prospective students should note that, as a condition of cooperative education employment, Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks, finger printing, and drug testing may be required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Students enrolled in CIS 299 may incur an additional expense for professional liability insurance.
- Students enrolled in CIS 229, CIS 232, CIS 245, CIS 246, and CIS 247 will be required to bring their own laptop to class.

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face.
- This program may be completed 80% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 11.0201.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email: cis@qcc.mass.edu

Additional Information:

Some courses in the Computer Information Systems program may utilize a virtual laboratory. Please contact the Program Coordinator for minimum hardware and software requirements.

Computer Information Systems - Web Development & Programming Option — Associate in Science — CIWP

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Introduction to Information Technology	CIS 105	F/S/SU	3	
Introduction to Microcomputer Applications	CIS 111	F/S/SU	3	
Introduction to Programming with C++	CIS 121	F/S	3	Coreq: CIS 111 or CIS 115
Web Page Development I	CIS 134	F/S	3	Coreq: CIS 111 or CIS 115
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 2				
.NET Programming I	CIS 223	S	3	CIS 111 or CIS 115, CIS 121
SQL Programming	CIS 228	F/S	3	CIS 105 or CIS 111 or CIS 115
Composition II	ENG 102	F/S/SU	3	ENG 101
Statistics	MAT 122	F/S/SU	3	MAT 099 with a "C" or higher on the MAT 099 departmental final exam or approp place score
CIS Elective*	---	F/S/SU	3	
Semester 3 (Summer)				
Introduction to Data Communication & Networks	CIS 141	F/S	3	CIS 111
Liberal Arts Elective	---	F/S/SU	3	
Semester 4				
.NET Programming II	CIS 232	F/S	3	CIS 223
Introduction to Java	CIS 226	F	3	CIS 121
Speech Communication Skills	SPH 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
CIS Elective*	---	F/S/SU	3	
Liberal Arts Elective	---	F/S/SU	3	
Semester 5				
Integrated Communications for Business	BUS 201	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, CIS 111
Systems Analysis & Design	CIS 241	F/S	3	CIS 121 or CIS 223 or CIS 226 or CIS 240
Computer Information Systems Cooperative Education	CIS 299	S	3-6	Approval of Program Coordinator, Coreq: CIS 241
CIS Elective*	---	F/S/SU	3	
Liberal Arts Elective*	---	F/S/SU	3	
Total Credits Required:			66-69	

Program Notes:

- The Computer Information Systems Application Development program utilizes a virtual laboratory. Students enrolled in CIS 229, CIS 232, CIS 245, CIS 246, and CIS 247 will be required to bring their own laptop to class. Please contact the Program Coordinator for minimum hardware and software requirements.

*Any CIS 200-level course and not already required as part of the degree program. Below is a sample of possible Elective sequences based on career focus. The Elective sequence is not limited to this list. Please note prerequisites and semester offerings.

Suggested CIS Electives Course Sequence	Semester 2	Semester 4	Semester 5
Web Development	CIS 234 Web Page Development II	CIS 245 Database-Driven Web Pages	CIS 246 .NET Programming III
Database Design/Development	CIS 244 Database Management Concepts or CIS 243 Database Management Application Development	CIS 228 SQL Programming or CIS 243 Database Management Application Development	CIS 247 Database Administration or CIS 229 PL/SQL Programming
Programming	CIS 234 Web Page Development II or CIS 225 Programming with C++ II	CIS 245 Database-Driven Web Pages or CIS 230 Mobile Apps Development	CIS 227 Java II or CIS 246 .NET Programming III or CIS 225 Programming with C++ II

Applications Specialist — CAS

Certificate

Program Goals:

The Applications Specialist certificate is designed for students who want to use today's applications software in the business environment. Credits earned through this curriculum can be transferred to the two Computer Information Systems degrees as part of a career ladder.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Demonstrate knowledge of fundamental business methods including communications, math, and writing.
- Apply Personal Productivity using IS Technology.
- Code basic Programming techniques.
- Describe the Fundamentals of Information Theory Systems, Practice, Hardware and Systems Software.
- Explain introductory Networks and Telecommunications concepts.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face.
- This program may be completed 100% online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 11.0202.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

cis@qcc.mass.edu

Gainful Employment:

Visit www.QCC.edu/gainful-employment for more information.

Applications Specialist — Certificate — CAS

Course Title	Course #	Semester Offered	Credits	Prerequisites
Financial Accounting I	ACC 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, MAT 090 with a "C" or higher on the MAT 090 departmental final exam or approp place score
E-Business Law & Ethics	BSL 103	F/S	3	Coreq: CIS 111
Introduction to Information Technology	CIS 105	F/S/SU	3	
Introduction to Microcomputer Applications	CIS 111	F/S/SU	3	
Advanced Microcomputer Applications	CIS 112	F/S/SU	3	CIS 111
Introduction to Programming with C++	CIS 121	F/S	3	Coreq: CIS 111 or CIS 115
Introduction to Data Communication & Networks	CIS 141	F/S	3	CIS 111
CIS Career Elective*	---	F/S/SU	3	
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Total Credits Required:			27	

Program Notes:

- Students should note that some of the program specific courses require ENG and/or MAT prerequisites.

*Any CIS 200-level course.

Database — DB

Certificate

Program Goals:

The certificate in Database is designed to provide the student with the basic knowledge and skills necessary for career opportunities in entry-level Database design, management or administration. This certificate is ideal for adult students re-entering college or for students who are currently in the workforce and want to update their skill sets. The curriculum may be completed in one academic year, depending on the student's background in computer applications. Courses in general computer applications and basic programming are combined with basic database development tools and approaches through the use of Relational Database Management Systems (RDBMS) and SQL. At the completion of this certificate, students will be able to manipulate data in complex RDBMS structures. This certificate is for anyone who wants to understand basic database design and implementation technologies in today's workplace.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Demonstrate knowledge of fundamental business methods including communications, math, and writing.
- Demonstrate Personal Productivity with IS Technology.
- Develop Basic Programming, Data, and Database techniques.
- Apply Database Management Application Development techniques to basic business applications.
- Code intermediate and advanced SQL and PL/SQL Programs for the solution of business applications.
- Design a (RDBMS) Relational Database Management System per industry (DSDLC) Database System Development Life Cycle standards.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face.
- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 11.0802.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

cis@qcc.mass.edu

Gainful Employment:

Visit www.QCC.edu/gainful-employment for more information.

Database — Certificate — DB

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Introduction to Microcomputer Applications	CIS 111	F/S/SU	3	
Internet Communications	HUM 142	S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, Computer Literacy
Introduction to Programming with C++	CIS 121	F/S	3	Coreq: CIS 111 or CIS 115
Introduction to Data Communication & Networks	CIS 141	F/S	3	CIS 111
Semester 2				
.NET Programming I	CIS 223	S	3	CIS 111 or CIS 115, CIS 121
SQL Programming	CIS 228	F/S	3	CIS 105 or CIS 111 or CIS 115
Database Management Application Development	CIS 243	F/S	3	CIS 105 or CIS 111
Database Management Concepts	CIS 244	S	3	CIS 105 or CIS 111 or CIS 115
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Total Credits Required:			27	

Program Notes:

- Students should note that some of the program specific courses require ENG and/or MAT prerequisites.

Web Applications — CWA

Certificate

Program Goals:

The certificate in Web Applications is designed to provide the student with the basic knowledge and skills necessary for career opportunities as an entry-level Web Developer or Web Administrator. This certificate is ideal for adult students re-entering college or for students who are currently in the workforce and want to update their skill sets. The curriculum may be completed in one academic year depending on the student's background in computer applications. Courses in general computer applications and basic programming are combined with basic web development tools and approaches through the use of HTML structures, Javascript, and CGI. At the completion of this certificate, students will be able to manage complex web applications in today's rapidly changing internet world. This certificate is for anyone who wants to understand today's web applications, development and technology.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Demonstrate Personal Productivity with IS Technology.
- Develop basic Programming, Data, and Database techniques.
- Develop intermediate Client Side Web applications.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face.
- This program may be completed 80% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 11.0801.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

cis@qcc.mass.edu

Gainful Employment:

Visit www.QCC.edu/gainful-employment for more information.

Web Applications — Certificate — CWA

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Introduction to Microcomputer Applications	CIS 111	F/S/SU	3	
Introduction to Information Technology	CIS 105	F/S/SU	3	
Introduction to Programming with C++	CIS 121	F/S	3	Coreq: CIS 111 or CIS 115
Web Page Development I	CIS 134	F/S	3	Coreq: CIS 111 or CIS 115
Semester 2				
Internet Server Technologies	CIS 135	S	3	CIS 105
.NET Programming I	CIS 223	S	3	CIS 111 or CIS 115, CIS 121
Web Page Development II	CIS 234	F/S	3	CIS 121, CIS 134
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Internet Communications	HUM 142	S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, Computer Literacy
Total Credits Required:			27	

Computer Science Transfer — CS

Associate in Science

Program Goals:

The Associate in Science in Computer Science Transfer program is designed to prepare students for transfer to four-year institutions where they can complete the baccalaureate degree, leading to careers in computer science, software engineering, and systems analysis.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Apply knowledge of computing and mathematics appropriate to the discipline.
- Think critically and apply the scientific method.
- Analyze a problem and craft an appropriate algorithmic solution.
- To design, implement and evaluate an appropriate and secure computer-based system, process, component, or program to satisfy required specifications.
- Read and interpret technical information, as well as listen effectively to, communicate orally with, and write clearly for a wide range of audiences.
- Function effectively as a member of a team to accomplish common goals.
- Engage in continuous learning as well as research and assess new ideas and information to provide the capabilities for lifelong learning.
- Exhibit professional, legal and ethical behavior.

Note: Student learning outcomes for this program align with recommendations for Transfer Programs as defined by the Committee for Computing Education in Community Colleges of the Association for Computing Machinery (ACM).

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- The Computer Science Transfer program utilizes a virtual laboratory. Students enrolled in all CSC courses required in this program will be required to bring their own PC/Windows laptop to class.

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face.
- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 11.0701.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

compsci@qcc.mass.edu

Additional Information:

- Understand the basic principles of the scientific method.
- Use effective communication skills in documenting programming projects.
- Student learning outcomes for this program align with recommendations for Transfer Programs as defined by the Committee for Computing Education in Community Colleges of the Association for Computing Machinery (ACM).
- WPI awards no transfer credit for any online course work. Students are advised to consult with their transfer institution(s) of choice for similar policies.

Computer Science Transfer — Associate in Science — CS

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Calculus I	MAT 233	F/S/SU	4	MAT 124
Computer Science I	CSC 108	F/S/SU	4	CIS 111, ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, Coreq: MAT 100 or approp place score
Lab Science	---	F/S/SU	4	
Social Science Elective	---	F/S/SU	3	
Semester 2				
Composition II	ENG 102	F/S/SU	3	ENG 101
Calculus II	MAT 234	F/S/SU	4	MAT 233
Computer Science II	CSC 109	F/S/SU	4	CSC 106* or CSC 108
Lab Science	---	F/S/SU	4	
Social Science Elective	---	F/S/SU	3	
Semester 3				
Programming with Data Structures	CSC 211	F/S/SU	4	CSC 107** or CSC 109 or CIS 225
Humanities Elective	---	F/S/SU	3	
Discrete Mathematics	MAT 125	F/S	3	MAT 123 or approp place score
Speech Communication Skills	SPH 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Humanities Elective	---	F/S/SU	3	
Semester 4				
Introduction to Software Engineering	CSC 212	F/S/SU	4	CSC 211
Probability & Statistics for Engineers and Scientists	MAT 237	F/S/SU	3	MAT 234
Introduction to Architecture and Assembly Language	CSC 208	F/S/SU	4	CSC 211
Social Science Elective	---	F/S/SU	3	
Total Credits Required:			66	

Program Notes:

- Students should note that most required courses carry minimum prerequisites of CIS 111 and MAT 100.
- The Computer Science Transfer program utilizes a virtual laboratory. Students enrolled in all CSC courses required in this program will be required to bring their own PC/Windows laptop to class.
- WPI awards no transfer credit for any online course work. Students are advised to consult with their transfer institution(s) of choice for similar policies.

*CSC 106 is no longer offered.

**CSC 107 is no longer offered.

Computer Systems Engineering Technology — SE

Associate in Science

Program Goals:

The mission of the Computer Systems Engineering Technology (CSET) Program is to prepare students for a broad range of career opportunities in the Information Technology (IT) field. Graduates are prepared to work in virtually any business or organization that utilizes computers and computer networks. This is accomplished by adhering to industry standards developed to measure and promote the competency of IT professionals. The CSET Program offers two Associate Degrees and nine certificate options that allow students to specialize in specific areas of interest.

Student Learning Outcomes:

Computer Systems Engineering Technology program *Student Learning Outcomes* include the following knowledge, skills, and abilities:

- Knows fundamental business methods including communications, math, and writing.
- Demonstrates the application of information technology to common business functions, including the implementation and use of basic end user software.
- Demonstrates the fundamentals of telecommunications in a modern business environment, including management of voice, call centers, and Voice Over IP.
- Performs support and maintenance of computer hardware.
- Analyzes and applies operating systems concepts to implement and support multiple industry standard operating systems in enterprise networking environments.
- Applies an understanding of basic programming structures and algorithms.
- Applies networking concepts to design, implement and maintain LANs and WANs to support modern implementations including internetworking and data convergence.
- Ability to design and implement basic and advanced routing utilizing the TCP/IP and other common networking protocols and utilities.
- Analyzes and applies security in computer and networking infrastructures while detecting any legal and ethical breaches.
- Defines and manages network services for effective network performance.
- Designs data storage solutions that meet the enterprises' varied needs, including fault tolerance and disaster recovery.
- Deploys and manages common third party applications to support business needs.
- Demonstrates the management of IT infrastructures and projects.
- Develops documentation appropriate to clearly communicate computer network specification, configuration, and/or processes.
- Troubleshoots computer networking infrastructures to resolve user problems.
- Demonstrates the implementation of IT in a business environment through cooperative education and seminars or service learning experience.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks may be required. Finger printing and drug testing may be required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Students who pursue any of the industry certifications will incur additional expenses for testing fees.

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face.
- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning, including industry standard certifications. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 15.1201.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

cset@qcc.mass.edu

Additional Information:

The CSET program offers extensive coursework, lecturing on theoretical information technology design, principles, and approaches and supplementing the lecture with practical hands-on application in QCC's state-of-the-art CSET labs.

The CSET Program offers courses that teach material from several industry standard certifications including:

- Computing Technology Industry Association (CompTIA):
 - A+ - CSC 233 Computer Hardware and Support
 - Network+ - CSC 234 Networking Technologies
 - Linux+ - CST 245 UNIX Operating Systems I
 - Security+ - CST 205 IT Security Foundations
 - Convergent Technology Professional (CTP+) - CST 207 Telecommunications in Business
- Microsoft's Certified Solutions Associate, Specialist, or Technology Associate, in the following topics:
 - Windows 10 - CSC 141 Windows Client Operating

Systems

- Windows Server 2012 - CSC 241 Windows Server Operating Systems
- Microsoft SQL Server 2012 - CST 251 SQL Server Administration
- Microsoft Exchange Server 2013 - CST 252-Exchange Server Administration
- Cisco's Certified:
 - Network Administrator (CCNA) - CST 240 Routing Technologies
 - Network Professional (CCNP) - CST 260 Enterprise Network Convergence and CST 265 Wide Area Networks
- EMC's Proven Professional Information Storage and Management Associate - CSC 210 Storage Technologies

Computer Systems Engineering Technology — Associate in Science — SE

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Windows Client Operating Systems	CSC 141	F/S/SU	4	
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Computer Hardware and Support	CSC 233	F/S/SU	4	Coreq: CSC 141
Telecommunications in Business	CST 207	F/S	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
IT Help Desk Concepts	CSC 105	F/S/SU	2	
Social Science Elective	---	F/S/SU	3	
Semester 2				
Storage Technologies	CSC 210	S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Windows Server Operating Systems	CSC 241	F/SU	3	CSC 141
Networking Technologies	CSC 234	F/S/SU	4	Coreq: CSC 141
Composition II	ENG 102	F/S/SU	3	ENG 101
Project Management	BUS 205	F/S	3	ENG 101
Mathematics Elective*	---	F/S/SU	3	
Semester 3				
Systems Programming and Scripting	CSC 201	F/S	3	CSC 141, Coreq: CST 245
CSET Elective**	---	F/S/SU	1	
CSET Elective**	---	F/S/SU	1	
Internetworking Principles and Protocols	CST 231	F/S	3	Coreq: CSC 234
Network Infrastructure Management	CST 235	F/S/SU	3	CSC 234, Coreq: CST 231
UNIX Operating Systems I	CST 245	F/S/SU	4	Coreq: CSC 141
Liberal Arts Elective	---	F/S/SU	3-4	
Semester 4				
IT Security Foundations	CST 205	S/SU	3	CSC 141, CSC 234
Enterprise Networking and Application Infrastructure	CST 238	S/SU	3	Coreq: CSC 241
Routing Technologies	CST 240	F/S	3	Coreq: CST 231
Cooperative Work Experience & Seminar	CST 299	F/S/SU	3	Approval of Program Coordinator
Speech Communication Skills	SPH 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Liberal Arts Elective	---	F/S/SU	3-4	
Total Credits Required:			74-76	

Program Notes:

- Students should note that many required courses have ENG and/or MAT prerequisites.

*Mathematics Elective: 100-level or higher.

**CSET Electives should be chosen from the following: CST 250, CST 251, CST 252, CST 253, and CST 254.

Forensics Option — SEF

Associate in Science

Program Goals:

CSET with Computer Forensics Option Associate in Science Degree provides an in-depth insight into Criminal Justice and Information Technology for analysis of digital information commonly used in criminal investigations.

Student Learning Outcomes:

Computer Systems Engineering Technology Forensics program *Student Learning Outcomes* include the following knowledge, skills, and abilities:

- Knows fundamental business methods including communications, math, and writing.
- Demonstrates the application of information technology to common business functions, including the implementation and use of basic end user software.
- Understands the common processes and procedures used to conduct criminal and noncriminal investigations of activities involving evidence with digital media, including the laws that apply to these processes.
- Performs support and maintenance of computer hardware.
- Analyzes and applies operating systems concepts to implement and support multiple industry standard operating systems in enterprise networking environments.
- Applies networking concepts to design, implement and maintain LANs and WANs to support modern implementations including internetworking and data convergence.
- Ability to design and implement basic and advanced routing utilizing the TCP/IP and other common networking protocols and utilities.
- Analyzes and applies security in computer and networking infrastructures while detecting any legal and ethical breaches.
- Defines and manages network services for effective network performance.
- Develops documentation appropriate to clearly communicate computer network specification, configuration, and/or processes.
- Troubleshoots computer networking infrastructures to resolve user problems.

- Demonstrates the implementation of digital forensics techniques and processes in a business and/or law enforcement environment through cooperative education and seminars or service learning experience.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks may be required. Finger printing and drug testing may be required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Students who pursue any of the industry certifications will incur additional expenses for testing fees.

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face.
- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning, including industry standard certifications. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for

specific occupational information. The CIP code for this program is 11.1003.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

cset@qcc.mass.edu

Additional Information:

- The CSET Forensics Program offers extensive coursework, lecturing on theoretical information technology design, principles, and approaches and supplementing the lecture with practical hands-on application in QCC's state-of-the-art CSET labs.
- The CSET Forensics Program offers courses that teach material from several industry standard certifications including:
 - Computing Technology Industry Association (CompTIA):
 - A+ - CSC 233 Computer Hardware and Support
 - Network+ - CSC 234 Networking Technologies
 - Linux+ - CST 245 UNIX Operating Systems I
 - Security+ - CST 205 IT Security Foundations
 - Microsoft's Certified Specialist:
 - Windows 10 - CSC 141 Windows Client Operating Systems
 - Cisco's Certified:
 - Network Administrator (CCNA) - CST 240 Routing Technologies

Forensics Option — Associate in Science — SEF

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Windows Client Operating Systems	CSC 141	F/S/SU	4	
Introduction to Criminal Justice	CRJ 101	F/S/SU	3	ENG 091 with a grade of "C" or higher; or approp place score
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
E-Business Law & Ethics	BSL 103	F/S	3	Coreq: CIS 111
Mathematics Elective*	---	F/S/SU	3	
Semester 2				
Criminal Investigation	CRJ 207	F/S/SU	3	ENG 101
Windows Server Operating Systems	CSC 241	F/SU	3	CSC 141
Networking Technologies	CSC 234	F/S/SU	4	Coreq: CSC 141
Composition II	ENG 102	F/S/SU	3	ENG 101
Social Science Elective**	---	F/S/SU	3	
Semester 3				
Evidence & Court Procedure	CRJ 211	F/S/SU	3	ENG 101
Internetworking Principles and Protocols	CST 231	F/S	3	Coreq: CSC 234
UNIX Operating Systems I	CST 245	F/S/SU	4	Coreq: CSC 141
Liberal Arts Elective***	---	F/S/SU	3	
Liberal Arts Elective***	---	F/S/SU	3	
Semester 4				
Computer Hardware and Support	CSC 233	F/S/SU	4	Coreq: CSC 141
IT Security Foundations	CST 205	S/SU	3	CSC 141, CSC 234
Computer Forensics	CST 206	F/S	3	CSC 141
Cooperative Work Experience & Seminar	CST 299	F/S/SU	3	Approval of Program Coordinator
Speech Communication Skills	SPH 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Total Credits Required:			64	

Program Notes:

- Students should note that many required courses have ENG and/or MAT prerequisites.

*Mathematics Elective: 100-level or higher.

**Social Science Elective in program area.

***Liberal Arts Elective in Liberal Arts program area.

Computer Forensics — CF Certificate

Program Goals:

Computer Forensics Certificate prepares graduates to work in the Information Technology and Criminal Justice fields as Computer and Digital Forensics Investigators. According to the Occupational Outlook Handbook, 2014-2015 Edition, employment of computer forensics specialists is expected to increase by 6% from 2012 to 2022.¹ Competition will be high for these positions, requiring advanced technical and investigative skills and knowledge. Demand for these workers will result from the increase use of digital devices by individuals and businesses, as well as the increase in criminal activity on the Internet, such as identity thief, electronic harassment, illegal obtainment of copyrighted materials, and malware activities. Computer forensics, also called cyber forensics, *“is the application of investigation and analysis techniques to gather and preserve evidence from a particular computing device in a way that is suitable for presentation in a court of law. The goal of computer forensics is to perform a structured investigation while maintaining a documented chain of evidence to find out exactly what happened on a computing device and who was responsible for it.”*²

1. www.bls.gov/ooh/

2. <http://searchsecurity.techtarget.com/definition/computer-forensics>

Student Learning Outcomes:

Computer Forensics Certificate *Student Learning Outcomes* include the following knowledge, skills, and abilities:

- Demonstrates the application of information technology to common business functions, including the implementation and use of basic end user software.
- Understands the common processes and procedures used to conduct criminal and noncriminal investigations of activities involving evidence with digital media, including the laws that apply to these processes.
- Performs support and maintenance of computer hardware.
- Analyzes and applies operating systems concepts to implement and support multiple industry standard operating systems in enterprise networking environments.
- Applies networking concepts to design, implement

and maintain LANs and WANs to support modern implementations including internetworking and data convergence.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Students who pursue any of the industry certifications will incur additional expenses for testing fees.

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face.
- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning, including industry standard certifications. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 11.1003.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

cset@qcc.mass.edu

Additional Information:

- The Computer Forensics Certificate offers extensive coursework, lecturing on theoretical information technology design, principles, and approaches and supplementing the lecture with practical hands-on application in QCC's state-of-the-art CSET labs.
- The Computer Forensics Certificate offers courses that teach material from several industry standard certifications including:
 - Computing Technology Industry Association (CompTIA):
 - A+ - CSC 233 Computer Hardware and Support
 - Network+ - CSC 234 Networking Technologies
 - Linux+ - CST 245 UNIX Operating Systems I
 - Microsoft's Certified Specialist:
 - Windows 10 - CSC 141 Windows Client Operating Systems

Gainful Employment:

Visit www.QCC.edu/gainful-employment for more information.

Computer Forensics — Certificate — CF

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Windows Client Operating Systems	CSC 141	F/S/SU	4	
Computer Hardware and Support	CSC 233	F/S/SU	4	Coreq: CSC 141
Networking Technologies	CSC 234	F/S/SU	4	Coreq: CSC 141
Introduction to Criminal Justice	CRJ 101	F/S/SU	3	ENG 091 with a grade of "C" or higher; or appropriate score
Semester 2				
Evidence & Court Procedure	CRJ 211	F/S/SU	3	ENG 101
UNIX Operating Systems I	CST 245	F/S/SU	4	Coreq: CSC 141
Computer Forensics	CST 206	F/S	3	CSC 141
Criminal Investigation	CRJ 207	F/S/SU	3	ENG 101
Total Credits Required:			28	

Program Notes:

- Students should note that many required courses have ENG and/or MAT prerequisites.

Cyber Security — CBS Certificate

Program Goals:

Cyber Security is designed to prepare graduates to work in the Information Technology field as Computer Support Specialists with an emphasis in cyber security. According to the Occupational Outlook Handbook, 2014-2015 Edition, employment of computer support specialists is expected to increase by 17% from 2012 to 2022, which is faster than the average for all occupations.¹ Demand for these workers will result as organizations and individuals continue to adopt the newest forms of technology. As technology becomes more complex and widespread, support specialists will be needed in greater numbers to implement technology solutions and resolve the technical problems that arise. Businesses, especially, will demand greater levels of support, as information technology has become essential in the business environment. *"We lead Internet-connected, digital lives. From our desks and homes to on the go, we work, learn and play online. Even when we are not directly connected to the Internet, our critical infrastructure – the vast, worldwide connection of computers, data and websites supporting our everyday lives through financial transactions, transportation systems, healthcare records, emergency response systems, personal communications and more – impacts everyone. Cybersecurity is the mechanism that maximizes our ability to grow commerce, communications, community and content in a connected world."*²

1. www.bls.gov/ooh/

2. <http://staysafeonline.org/ncsam/about/>

Student Learning Outcomes:

Cyber Security Certificate *Student Learning Outcomes* include the following knowledge, skills, and abilities:

- Demonstrates the application of information technology to common business functions, including the implementation and use of basic end user software.
- Analyzes and applies operating systems concepts to implement and support multiple industry standard operating systems in enterprise networking environments.
- Applies networking concepts to design, implement and maintain LANs and WANs to support modern implementations including internetworking and data convergence.
- Ability to design and implement basic and advanced

routing utilizing the TCP/IP and other common networking protocols and utilities.

- Analyzes and applies security in computer and networking infrastructures while detecting any legal and ethical breaches.
- Troubleshoots computer networking infrastructures to resolve user problems.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Students who pursue any of the industry certifications will incur additional expenses for testing fees.

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face.
- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning, including industry standard certifications. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 11.1003.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

cset@qcc.mass.edu

Additional Information:

- The Cyber Security Certificate offers extensive coursework, lecturing on theoretical information technology design, principles, and approaches and supplementing the lecture with practical hands-on application in QCC's state-of-the-art CSET labs.
- The Cyber Security Certificate offers courses that teach material from several industry standard certifications including:
 - Computing Technology Industry Association (CompTIA):
 - Network+ - CSC 234 Networking Technologies
 - Linux+ - CST 245 UNIX Operating Systems I
 - Security+ - CST 205 IT Security Foundations
 - Microsoft's Certified Specialist:
 - Windows 10 - CSC 141 Windows Client Operating Systems
 - Installing and Configuring Windows Server 2012 - CSC 241 Windows Server Operating Systems

Gainful Employment:

Visit www.QCC.edu/gainful-employment for more information.

Cyber Security — Certificate — CBS

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Windows Client Operating Systems	CSC 141	F/S/SU	4	
E-Business Law & Ethics	BSL 103	F/S	3	Coreq: CIS 111
Networking Technologies	CSC 234	F/S/SU	4	Coreq: CSC 141
UNIX Operating Systems I	CST 245	F/S/SU	4	Coreq: CSC 141
Semester 2				
Security Threats, Vulnerabilities & Countermeasures	CST 208	S	3	CSC 141
IT Security Foundations	CST 205	S/SU	3	CSC 141, CSC 234
Computer Forensics	CST 206	F/S	3	CSC 141
Internetworking Principles and Protocols	CST 231	F/S	3	Coreq: CSC 234
Total Credits Required:			27	

Help Desk Technician — HDTC

Certificate

Program Goals:

The Help Desk Technician Certificate prepares graduates to work in the Information Technology field as an entry-level Computer Support Specialist, such as a Help Desk Technician or Desktop Specialist. According to the Occupational Outlook Handbook, 2014-2015 Edition, employment of computer support specialists and/or help desk technicians is expected to increase by 17% from 2012 to 2022.¹ Demand for these workers will result from the increased use of IT and digital communications technology at home and in the business environment. Computer Support Specialists or Help Desk Technicians “provide help and advice to people and organizations using computer software or equipment. Some, called computer network support specialists [technical support specialists], support information technology (IT) employees within their organization. Others, called computer user support specialists [help-desk technicians], assist non-IT users who are having computer problems.”¹

1. www.bls.gov/ooh/computer-and-information-technology/computer-support-specialists.htm

Student Learning Outcomes:

Help Desk Technician Certificate *Student Learning Outcomes* include the following knowledge, skills, and abilities:

- Demonstrates the application of information technology to common business functions, including the implementation and use of basic end user software.
- Analyzes and applies operating systems concepts to implement and support multiple industry standard operating systems in enterprise networking environments.
- Performs support and maintenance of computer hardware.
- Troubleshoots computer infrastructures to resolve user problems.
- Provides problem resolution services to customers using IT.
- Implements basic Local Area Network (LAN) solutions utilizing TCP/IP networking protocols and utilities.
- Troubleshoots computer networking infrastructures to resolve user problems.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks may be required. Finger printing and drug testing may be required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Students who pursue any of the industry certifications will incur additional expenses for testing fees.

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face.
- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning, including industry standard certifications. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 11.1006.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer

articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

cset@qcc.mass.edu

Additional Information:

- The Help Desk Technician Certificate offers extensive coursework, lecturing on theoretical information technology design, principles, and approaches and supplementing the lecture with practical hands-on application in QCC's state-of-the-art CSET labs.
- The Help Desk Technician Certificate offers courses that teach material from several industry standard certifications including:
 - Computing Technology Industry Association (CompTIA):
 - Network+ - CSC 234 Networking Technologies
 - Linux+ - CST 245 UNIX Operating Systems I
 - Microsoft's Certified Specialist:
 - Windows 10 - CSC 141 Windows Client Operating Systems

Gainful Employment:

Visit www.QCC.edu/gainful-employment for more information.

Help Desk Technician — Certificate — HDTC

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Mobile Operating Systems	CSC 140	F/S	3	
Windows Client Operating Systems	CSC 141	F/S/SU	4	
IT Help Desk Concepts	CSC 105	F/S/SU	2	
Computer Hardware and Support	CSC 233	F/S/SU	4	Coreq: CSC 141
Networking Technologies	CSC 234	F/S/SU	4	Coreq: CSC 141
Total Credits Required:			17	

Program Notes:

- Students should note that many required courses have ENG and/or MAT prerequisites.

Network Associate — NAC Certificate

Program Goals:

The Network Associate Certificate prepares graduates to work in the Information Technology field as an entry-level Network Specialist, such as a Network Administrator or Network Associate. According to the Occupational Outlook Handbook, 2014-2015 Edition, employment of network systems and data communications analysts is expected to increase by 12% from 2012 to 2022, which is average for all occupations¹ Demand for these workers will result from the increased use of IT and digital communications technology at home and in the business environment. A Network Associate certificate “*validates the ability to install, configure, operate, and troubleshoot medium-size route and switched networks*”, including implementation and verification of connections to remote sites in a WAN.²

1. www.bls.gov/ooh/
2. www.cisco.com/web/learning/certifications/associate/ccna/index.html

Student Learning Outcomes:

Network Associate Certificate *Student Learning Outcomes* include the following knowledge, skills, and abilities:

- Demonstrates the application of information technology to common business functions, including the implementation and use of basic end user software.
- Demonstrates the fundamentals of telecommunications in a modern business environment, including management of voice, call centers, and Voice Over IP.
- Analyzes and applies operating systems concepts to implement and support multiple industry standard operating systems in enterprise networking environments.
- Applies networking concepts to design, implement and maintain LANs and WANs to support modern implementations including internetworking and data convergence.
- Ability to design and implement basic and advanced routing utilizing the TCP/IP and other common networking protocols and utilities.
- Defines and manages network services for effective network performance.
- Designs data storage solutions that meet the

enterprises’ varied needs, including fault tolerance and disaster recovery.

- Troubleshoots computer networking infrastructures to resolve user problems.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks may be required. Finger printing and drug testing may be required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Students who pursue any of the industry certifications will incur additional expenses for testing fees.

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face.
- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning, including industry standard certifications. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for

specific occupational information. The CIP code for this program is 11.0901.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

cset@qcc.mass.edu

Additional Information:

- The Network Associate Certificate offers extensive coursework, lecturing on theoretical information technology design, principles, and approaches and supplementing the lecture with practical hands-on application in QCC's state-of-the-art CSET labs.
- The Network Associate Certificate offers courses that teach material from several industry standard certifications including:
 - Computing Technology Industry Association (CompTIA):
 - Network+ - CSC 234 Networking Technologies
 - Linux+ - CST 245 UNIX Operating Systems I
 - Convergent Technology Professional (CTP+) - CST 207 Telecommunications in Business
 - Microsoft's Certified Specialist:
 - Windows 10 - CSC 141 Windows Client Operating Systems
 - Cisco's Certified:
 - Network Administrator (CCNA) - CST 240 Routing Technologies
 - EMC's Proven Professional Storage and Management Associate - CSC 210 Storage Technologies

Gainful Employment:

Visit www.QCC.edu/gainful-employment for more information.

Network Associate — Certificate — NAC

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Windows Client Operating Systems	CSC 141	F/S/SU	4	
Networking Technologies	CSC 234	F/S/SU	4	Coreq: CSC 141
UNIX Operating Systems I	CST 245	F/S/SU	4	Coreq: CSC 141
Telecommunications in Business	CST 207	F/S	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 2				
Lync Server Administration	CST 253	S	1	CSC 141, CSC 234, Coreq: CST 231
Storage Technologies	CSC 210	S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Internetworking Principles and Protocols	CST 231	F/S	3	Coreq: CSC 234
Network Infrastructure Management	CST 235	F/S/SU	3	CSC 234, Coreq: CST 231
Routing Technologies	CST 240	F/S	3	Coreq: CST 231
Total Credits Required:			28	

Program Notes:

- Students should note that many required courses have ENG and/or MAT prerequisites.

Network Professional — NPC

Certificate

Program Goals:

Network Professional Certificate prepares graduates to work in the Information Technology field as an advanced professional specializing in networking, such as a Network Designer, Manager, or Engineer. According to the Occupational Outlook Handbook, 2014-2015 Edition, employment of network systems and data communications analysts is expected to increase by 12% from 2012 to 2022, which is average for all occupations.¹ Competition will be high for these positions, requiring advanced technical and investigative skills and knowledge. Demand for these workers will result from the increased use of IT and digital communications technology in the business environment. A Network Professional certificate *“validates the ability to plan, implement, verify and troubleshoot local and wide-area enterprise networks and work collaboratively with specialists on advanced security, voice, wireless and video solutions.”*²

1. www.bls.gov/ooh/
2. www.cisco.com/web/learning/certifications/professional/ccnp/index.html

Student Learning Outcomes:

Network Professional Certificate *Student Learning Outcomes* include the following knowledge, skills, and abilities:

- Knows fundamental business methods including communications and writing.
- Demonstrates the application of information technology to common business functions, including the implementation and use of basic end user software.
- Demonstrates the fundamentals of telecommunications in a modern business environment, including management of voice, call centers, and Voice Over IP.
- Analyzes and applies operating systems concepts to implement and support multiple industry standard operating systems in enterprise networking environments.
- Applies networking concepts to design, implement and maintain LANs and WANs to support modern implementations including internetworking and data convergence.
- Ability to design and implement basic and advanced routing utilizing the TCP/IP and other common

networking protocols and utilities.

- Analyzes and applies security in computer and networking infrastructures while detecting any legal and ethical breaches.
- Defines and manages network services for effective network performance.
- Designs data storage solutions that meet the enterprises' varied needs, including fault tolerance and disaster recovery.
- Demonstrates the management of IT infrastructures and projects.
- Develops documentation appropriate to clearly communicate computer network specification, configuration, and/or processes.
- Troubleshoots computer networking infrastructures in complex environments.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency and
- One of the following:
 - Completion of Computer Systems Engineering Technology-Certificate-Network Associate; or
 - Completion of Computer Systems Engineering Technology-Associate in Science (Study Option: SE); or
 - Completion of Computer Systems Engineering Technology-Associate in Science-Computer Forensics Option (Study Option: SEF); or
 - Cisco Certified Network Associate (CCNA®) Certification.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Students who pursue any of the industry certifications will incur additional expenses for testing fees.

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face.
- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning, including industry standard certifications. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 11.0901.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

cset@qcc.mass.edu

Additional Information:

- The Network Professional Certificate offers extensive coursework, lecturing on theoretical information technology design, principles, and approaches and supplementing the lecture with practical hands-on application in QCC's state-of-the-art CSET labs.
- The Network Professional Certificate offers courses that teach material from several industry standard certifications including:

- Computing Technology Industry Association (CompTIA):
 - Network+ - CSC 234 Networking Technologies
 - Security+ - CST 205 IT Security Foundations
- Microsoft's Certified Solutions Associate:
 - Installing and Configuring Windows Server 2012 - CSC 241 Windows Server Operating Systems
 - Microsoft Exchange Server 2013 - CST 252 Exchange Server Administration
- Cisco's Certified:
 - Network Professional (CCNP) - CST 260 Enterprise Network Convergence and CST 265 Wide Area Networks

Gainful Employment:

Visit www.QCC.edu/gainful-employment for more information.

Network Professional — Certificate — NPC

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Introduction to Microcomputer Applications	CIS 111	F/S/SU	3	
Technical and Workplace Writing or Integrated Communications for Business	ENG 205 BUS 201	F/S/SU	3	ENG 102, Computer Literacy ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, CIS 111
Windows Server Operating Systems	CSC 241	F/SU	3	CSC 141
Wide Area Networks	CST 265	F	3	CST 240
Semester 2				
IT Security Foundations	CST 205	S/SU	3	CSC 141, CSC 234
Project Management	BUS 205	F/S	3	ENG 101
Enterprise Network Convergence	CST 260	S	3	CST 240, CST 207
E-Business Law & Ethics	BSL 103	F/S	3	Coreq: CIS 111
Web Server Administration	CST 250	S	1	CST 245 or CSC 141
Exchange Server Administration	CST 252	S	1	CSC 241
Lync Server Administration	CST 253	S	1	CSC 141, CSC 234, Coreq: CST 231
Total Credits Required:			27	

Program Notes:

- Students should note that many required courses have ENG and/or MAT prerequisites.

Network Technician — NTC

Certificate

Program Goals:

The Network Technician Certificate prepares graduates to work in the Information Technology field as an entry-level Network Specialist, such as a Network Technician. According to the Occupational Outlook Handbook, 2014-2015 Edition, employment of network systems and data communications analysts is expected to increase by 12% from 2012 to 2022, which is average for all occupations.¹ Demand for these workers will result from the increased use of IT and digital communications technology at home and in the business environment. A Network Technician has *“the ability to install, operate and troubleshoot a small enterprise branch network, including basic network security.”*²

1. www.bls.gov/ooh/
2. www.cisco.com/web/learning/certifications/entry/ccent/index.html

Student Learning Outcomes:

Network Technician Certificate *Student Learning Outcomes* include the following knowledge, skills, and abilities:

- Demonstrates the fundamentals of telecommunications in a modern business environment, including management of voice, call centers, and Voice Over IP.
- Analyzes and applies operating systems concepts to implement and support multiple industry standard operating systems in enterprise networking environments.
- Implements basic Local Area Network (LAN) solutions utilizing TCP/IP networking protocols and utilities.
- Manages network services for effective network performance.
- Implements data storage solutions that meet the enterprises' varied needs, including fault tolerance and disaster recovery.
- Troubleshoots computer networking infrastructures to resolve user problems.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks may be required. Finger printing and drug testing may be required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Students who pursue any of the industry certifications will incur additional expenses for testing fees.

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning, including industry standard certifications. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 11.0901.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

cset@qcc.mass.edu

Additional Information:

- The Network Technician Certificate offers extensive coursework, lecturing on theoretical information technology design, principles, and approaches and supplementing the lecture with practical hands-on application in QCC's state-of-the-art CSET labs.
- The Network Technician Certificate offers courses that teach material from several industry standard certifications including:
 - Computing Technology Industry Association (CompTIA):
 - Network+ - CSC 234 Networking Technologies
 - Linux+ - CST 245 UNIX Operating Systems I
 - Microsoft's Certified Specialist:
 - Windows 10 - CSC 141 Windows Client Operating Systems

Gainful Employment:

Visit www.QCC.edu/gainful-employment for more information.

Network Technician — Certificate — NTC

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Windows Client Operating Systems	CSC 141	F/S/SU	4	
Networking Technologies	CSC 234	F/S/SU	4	Coreq: CSC 141
Storage Technologies	CSC 210	S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Telecommunications in Business	CST 207	F/S	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Internetworking Principles and Protocols	CST 231	F/S	3	Coreq: CSC 234
Total Credits Required:			17	

Program Notes:

- Students should note that many required courses have ENG and/or MAT prerequisites.

Personal Computer Specialist — PCS Certificate

Program Goals:

Personal Computer Specialist Certificate prepares graduates to work in the Information Technology field as Computer Support Specialists with an emphasis on personal computer/desktop management and support. According to the Occupational Outlook Handbook, 2014-2015 Edition, employment of computer support specialists is expected to increase by 17% from 2012 to 2022, which is faster than the average for all occupations.¹ Demand for these workers will result from the increased use of IT and digital communications technology by individuals and organizations. As technology becomes more complex and prevalent, a greater level of support will become essential to users and their employers. A Personal Computer Specialist has “*responsibility for analyzing, managing, supervising, or performing work necessary to plan, design, develop, acquire, document, test, implement, integrate, maintain, or modify systems for solving problems or accomplishing work processes by using computers*” in a desktop or personal computer environment.²

1. www.bls.gov/ooh/
2. <http://archive.opm.gov/fedclass/gso3334.pdf>

Student Learning Outcomes:

Personal Computer Specialist Certificate *Student Learning Outcomes* include the following knowledge, skills, and abilities:

- Knows fundamental business methods including communications, math, and writing.
- Demonstrates the application of information technology to common business functions, including the implementation and use of basic end user software.
- Performs support and maintenance of computer hardware.
- Analyzes and applies operating systems concepts to implement and support multiple industry standard operating systems in enterprise networking environments.
- Applies an understanding of basic programming structures and algorithms.
- Deploys and manages common third party applications to support business needs.
- Troubleshoots computer resources to resolve user problems.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Students who pursue any of the industry certifications will incur additional expenses for testing fees.

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face.
- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning, including industry standard certifications. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 11.1006.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/

ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

cset@qcc.mass.edu

Additional Information:

- The Personal Computer Specialist Certificate offers extensive coursework, lecturing on theoretical information technology design, principles, and approaches and supplementing the lecture with practical hands-on application in QCC's state-of-the-art CSET labs.
- The Personal Computer Specialist Certificate offers courses that teach material from several industry standard certifications including:
 - Computing Technology Industry Association (CompTIA):
 - A+ - CSC 233 Computer Hardware and Support
 - Linux+ - CST 245 UNIX Operating Systems I
 - Microsoft's Certified Specialist:
 - Windows 10 - CSC 141 Windows Client Operating Systems

Gainful Employment:

Visit www.QCC.edu/gainful-employment for more information.

Personal Computer Specialist — Certificate — PCS

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Introduction to Information Technology	CIS 105	F/S/SU	3	
Introduction to Microcomputer Applications	CIS 111	F/S/SU	3	
Mobile Operating Systems	CSC 140	F/S	3	
Windows Client Operating Systems	CSC 141	F/S/SU	4	
IT Help Desk Concepts	CSC 105	F/S/SU	2	
Semester 2				
Advanced Microcomputer Applications	CIS 112	F/S/SU	3	CIS 111
UNIX Operating Systems I	CST 245	F/S/SU	4	Coreq: CSC 141
Systems Programming and Scripting	CSC 201	F/S	3	CSC 141, Coreq: CST 245
Computer Hardware and Support	CSC 233	F/S/SU	4	Coreq: CSC 141
Total Credits Required:			29	

UNIX Systems Administrator — USAC Certificate

Program Goals:

Unix Systems Administrator Certificate prepares graduates to work in the Information Technology field as a Systems Administrator with an emphasis on management and support of Unix and Linux operating systems. According to the Occupational Outlook Handbook, 2014-2015 Edition, employment of computer support specialists is expected to increase by 12% from 2012 to 2022, which is average for all occupations.¹ Demand for these workers will increase as organizations continue to invest in technology as an integral part of their business. *“The person who is responsible for setting up and maintaining the system or server is called the system administrator ... The duties of a system administrator are wide-ranging, and vary widely from one organization to another. Sysadmins are usually charged with installing, supporting, and maintaining servers or other computer systems, and planning for and responding to service outages and other problems. Other duties may include scripting or light programming, project management for systems-related projects.”*²

1. www.bls.gov/ooh/
2. www.cyberciti.biz/faq/what-is-the-role-of-the-system-administrator/

Student Learning Outcomes:

Unix Systems Administrator Certificate *Student Learning Outcomes* include the following knowledge, skills, and abilities:

- Demonstrates the application of information technology to common business functions, including the implementation and use of basic end user software.
- Analyzes and applies operating systems concepts to implement and support multiple industry standard operating systems in enterprise networking environments.
- Applies an understanding of basic programming structures and algorithms.
- Applies networking concepts to design, implement and maintain LANs and WANs to support modern implementations including internetworking and data convergence.
- Ability to design and implement basic and advanced routing utilizing the TCP/IP and other common networking protocols and utilities.

- Designs data storage solutions that meet the enterprises' varied needs, including fault tolerance and disaster recovery.
- Deploys and manages common third party applications to support business needs.
- Analyzes and applies security in computer and networking infrastructures while detecting any legal and ethical breaches.
- Troubleshoots computer networking infrastructures to resolve user problems.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Students who pursue any of the industry certifications will incur additional expenses for testing fees.

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face.
- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning, including industry standard certifications. Please contact the Student Employment and Transfer Center (Room 272A)

at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 15.1201.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

cset@qcc.mass.edu

Additional Information:

- The Unix Systems Administrator Certificate offers extensive coursework, lecturing on theoretical information technology design, principles, and approaches and supplementing the lecture with practical hands-on application in QCC's state-of-the-art CSET labs.
- The Unix Systems Administrator Certificate offers courses that teach material from several industry standard certifications including:
 - Computing Technology Industry Association (CompTIA):
 - Network+ - CSC 234 Networking Technologies
 - Linux+ - CST 245 UNIX Operating Systems I
 - Security+ - CST 205 IT Security Foundations
 - Microsoft's Certified Specialist:
 - Windows 10 - CSC 141 Windows Client Operating Systems

Gainful Employment:

Visit www.QCC.edu/gainful-employment for more information.

UNIX Systems Administrator — Certificate — USAC

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Mobile Operating Systems	CSC 140	F/S	3	
Windows Client Operating Systems	CSC 141	F/S/SU	4	
UNIX Operating Systems I	CST 245	F/S/SU	4	Coreq: CSC 141
Networking Technologies	CSC 234	F/S/SU	4	Coreq: CSC 141
Semester 2				
UNIX Operating Systems II	CST 246	F/S/SU	3	CST 245
Internetworking Principles and Protocols	CST 231	F/S	3	Coreq: CSC 234
IT Security Foundations	CST 205	S/SU	3	CSC 141, CSC 234
Web Server Administration	CST 250	S	1	CST 245 or CSC 141
Systems Programming and Scripting	CSC 201	F/S	3	CSC 141, Coreq: CST 245
Total Credits Required:			28	

Windows Systems Administrator — WSAC Certificate

Program Goals:

Windows Systems Administrator Certificate prepares graduates to work in the Information Technology field as a Systems Administrator with an emphasis on management and support of Windows operating systems and environments. According to the Occupational Outlook Handbook, 2014-2015 Edition, employment of computer support specialists is expected to increase by 12% from 2012 to 2022, which is average for all occupations.¹

Demand for these workers will increase as organizations continue to invest in technology as an integral part of their business. This certificate follows the coursework of the Microsoft Certified Systems Administrator. *"The person who is responsible for setting up and maintaining the system or server is called the system administrator ... The duties of a system administrator are wide-ranging, and vary widely from one organization to another. Sysadmins are usually charged with installing, supporting, and maintaining servers or other computer systems, and planning for and responding to service outages and other problems. Other duties may include scripting or light programming, project management for systems-related projects."*²

1. www.bls.gov/ooh/
2. www.cyberciti.biz/faq/what-is-the-role-of-the-system-administrator/

Student Learning Outcomes:

Windows Systems Administrator Certificate *Student Learning Outcomes* include the following knowledge, skills, and abilities:

- Demonstrates the application of information technology to common business functions, including the implementation and use of basic end user software.
- Performs support and maintenance of computer hardware.
- Analyzes and applies operating systems concepts to implement and support multiple industry standard operating systems in enterprise networking environments.
- Applies networking concepts to design, implement and maintain LANs and WANs to support modern implementations including internetworking and data convergence.
- Defines and manages network services for effective network performance.

- Designs data storage solutions that meet the enterprises' varied needs, including fault tolerance and disaster recovery.
- Deploys and manages common third party applications to support business needs.
- Troubleshoots computer networking infrastructures to resolve user problems.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Students who pursue any of the industry certifications will incur additional expenses for testing fees.

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning, including industry standard certifications. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 15.1201.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

cset@qcc.mass.edu

Additional Information:

- The Windows Systems Administrator Certificate offers extensive coursework, lecturing on theoretical information technology design, principles, and approaches and supplementing the lecture with practical hands-on application in QCC's state-of-the-art CSET labs.
- The Windows Systems Administrator Certificate offers courses that teach material from several industry standard certifications including:
 - Computing Technology Industry Association (CompTIA):
 - A+ - CSC 233 Computer Hardware and Support
 - Network+ - CSC 234 Networking Technologies
 - Microsoft's Certified Specialist:
 - Windows 10 - CSC 141 Windows Client Operating Systems
 - Installing and Configuring Windows Server 2012 - CSC 241 Windows Server Operating Systems
 - Microsoft SQL Server 2012 - CST 251 SQL Server Administration
 - Microsoft Exchange Server 2013 - CST 252 Exchange Server Administration

Gainful Employment:

Visit www.QCC.edu/gainful-employment for more information.

Windows Systems Administrator — Certificate — WSAC

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Mobile Operating Systems	CSC 140	F/S	3	
Windows Client Operating Systems	CSC 141	F/S/SU	4	
Networking Technologies	CSC 234	F/S/SU	4	Coreq: CSC 141
Internetworking Principles and Protocols	CST 231	F/S	3	Coreq: CSC 234
Semester 2				
Windows Server Operating Systems	CSC 241	F/SU	3	CSC 141
Network Infrastructure Management	CST 235	F/S/SU	3	CSC 234, Coreq: CST 231
Enterprise Networking and Application Infrastructure	CST 238	S/SU	3	Coreq: CSC 241
Web Server Administration	CST 250	S	1	CST 245 or CSC 141
SQL Server Administration	CST 251	S	1	CSC 141
Exchange Server Administration	CST 252	S	1	CSC 241
Lync Server Administration	CST 253	S	1	CSC 141, CSC 234, Coreq: CST 231
SharePoint Server Administration	CST 254	S	1	CSC 141
Total Credits Required:			28	

Criminal Justice — CJ

Associate in Science

Program Goals:

This program provides students with a broad academic background in the area of criminal justice and the opportunity to develop the skills needed for pursuing a public service career in policing, corrections, courts, probation, parole, federal agencies, the private sector, or transfer to a four-year institution.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Communicate ideas and information; plan, organize, and evaluate projects.
- Work in teams and with diverse populations and constituencies.
- Apply problem-solving techniques.
- Use technology appropriate to their fields.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

Location:

- This program may be completed at the QCC Worcester campus or at the Southbridge location.
- This program may be completed face-to-face.
- This program may be completed 80% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for DANTES and CLEP Exams (six credit maximum). Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

- Note: As required by the Massachusetts Department of Higher Education for the ongoing approval for participation in the Police Career Incentive Pay Program (PCIPP), also known as the “Quinn Bill Program”, the QCC Criminal Justice Program has instituted a policy since May 1, 2003 that:
 - No credit toward graduation is awarded for pre-college or remedial work;
 - Only credit from a regionally accredited institution of higher education is transferrable to the QCC Criminal Justice Program; and
 - No academic credit is awarded within the Criminal Justice Program for life experience, or training through the military, police academy, or other training.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 43.0107.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

criminaljustice@qcc.mass.edu

Criminal Justice — Associate in Science — CJ

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Introduction to Criminal Justice	CRJ 101	F/S/SU	3	ENG 091 with a grade of "C" or higher; or approp place score
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Introduction to Psychology	PSY 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Introductory Sociology (Principles) or	SOC 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Cultural Anthropology	ANT 111			
Semester 2				
Criminal Law	CRJ 111	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Composition II	ENG 102	F/S/SU	3	ENG 101
Multicultural Diversity in Criminal Justice	CRJ 110	F/S	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Speech Communication Skills	SPH 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Mathematics Elective* or	---	F/S/SU	3-4	
Lab Science Elective	---			
Semester 3				
Criminal Investigation	CRJ 207	F/S/SU	3	ENG 101
Technologies in Criminal Justice	CRJ 208	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
United States Government	PSC 201	F/S/SU	3	ENG 101
The Dynamics of Racial & Ethnic Relations	SOC 211	F/S/SU	3	ENG 101
Juvenile Delinquency & the Juvenile Justice System	SOC 212	F/S/SU	3	ENG 101
Semester 4				
Evidence & Court Procedure	CRJ 211	F/S/SU	3	ENG 101
Criminology	CRJ 213	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Introduction to Ethics or	PHI 131	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Legal and Ethical Concepts in Human Services	HUS 231	F/S		
State & Local Government	PSC 221	F/S/SU	3	ENG 101
Criminal Justice Elective	---	F/S/SU	3	
Elective	---	F/S/SU	3	
Total Credits Required:			60-61	

Program Notes:

*MAT 100 or higher.

Law Enforcement — LEC

Certificate

Program Goals:

This certificate was developed in cooperation with the Massachusetts Police Chiefs Association (MPCA) to have a better-educated and more professional workforce. The certificate credits are directly applicable to an associate of science degree in criminal justice.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Appreciate the discipline of criminal justice and its role in contributing to our understanding of the evolving world of crime.
- Understand the criminal justice system and organizational environment in which they plan to work, including government institutions, political institutions, and organizational structure.
- Demonstrate the ability to use technology to access information and perform technological functions relating to the criminal justice systems; communication that facilitates cogent rhetorical expression of one's abilities and knowledge through literacy.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

Location:

- This program may be completed at the QCC Worcester campus or at the Southbridge location.

- This program may be completed face-to-face.
- This program may be completed 80% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 43.0107.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

criminaljustice@qcc.mass.edu

Gainful Employment:

Visit www.QCC.edu/gainful-employment for more information.

Law Enforcement — Certificate — LEC

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Introduction to Criminal Justice	CRJ 101	F/S/SU	3	ENG 091 with a grade of "C" or higher; or approp place score
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Introduction to Psychology	PSY 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Introductory to Sociology (Principles)	SOC 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Speech Communication Skills	SPH 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 2				
Criminal Law	CRJ 111	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Evidence & Court Procedure	CRJ 211	F/S/SU	3	ENG 101
Criminology	CRJ 213	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Introduction to Policing	CRJ 231	F/S/SU	3	ENG 091 with a grade of "C" or higher; or approp place score
Total Credits Required:			27	

Dental Assisting — DA Certificate

Program Goals:

This program prepares the student to obtain employment as a dental assistant along with the knowledge to take the Dental Assisting National Board examination in order to achieve the Certified Dental Assistant (CDA) designation. In addition the students will be prepared to continue their studies at the Associate degree level.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Obtain entry-level employment as an integral member of the dental health team within six months of graduation, or enroll in an advanced education program.
- Competently perform chair side assisting and related office and laboratory procedures under the direction and supervision of the dentist within the guidelines of the Massachusetts Dental Practice Act.
- Demonstrate the appropriate level of knowledge needed to perform dental assisting functions by successfully challenging the Dental Assisting National Board Certification Dental Assistant examination.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.
- Test into MAT 099 and ENG 101.
- One year of High School Biology or QCC equivalent grade of "C" or higher.
- One year of High School Chemistry or QCC equivalent grade of "C" or higher.
- Required TEAS V composite score of 45%.
- Required TEAS V scores must be achieved within two attempts of taking the test.
- Attend a Health Information Session.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI), Sex Offender Registry Information (SORI), and National Background checks are required in the program, either annually or every semester. Finger printing and drug testing may be required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Dental Assisting students should anticipate additional expenses for uniforms/clinical wear, textbooks, professional liability insurance, licensing examinations, and required skills remediation.

Location:

- This program may be completed at the QCC Worcester campus along with 300 hours at dental offices within Worcester County.
- This program may be completed face-to-face.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 51.0601.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

dentalassisting@qcc.mass.edu

Additional Information:**Dental Assisting "Bridge" to Dental Hygiene Program**

Two seats in the Dental Hygiene freshman class will be reserved for currently-enrolled dental assistants scheduled to graduate in May 2016. Students must bridge directly from the Dental Assisting program to the Dental Hygiene program. "Bridge" selection applications may be obtained from the Dental Assisting Program Coordinator. Decisions will be made by April 15th each year.

Dental Assisting graduates may be eligible to by-pass the Dental Hygiene wait-list if the following criteria are met:

- Minimum grade point average of 3.3.
- Minimum grade of "B" in all QCC DHY courses.
- Minimum grade of "A-" in the DAS 151, DAS 153, and DAS 155 courses.
- Two recommendations from QCC DHY core course faculty, of which one is from a full-time faculty member.
- BIO 111 and BIO 112 must be completed prior to the start of Fall classes with a passing grade of "C" or higher.
- Current dental hygiene admissions requirements including a minimum grade of "B" in Biology and Chemistry as well as the TEAS V test will be waived; these requirements may be used to determine eligibility if more than two students qualify for admission.
- Attendance at a Health Information Session.
- Any DHY course taken in the DAS program can transfer with a "C" or higher up to one year of the completion of the certificate.
- Students will need to audit DHY 241. This will entail attending all DHY 241 lab sessions. Attending lecture is optional.

All students who have taken DHY 131 Dental Radiology - and passed with a "C" or higher within one year of entering or re-entering the Dental Hygiene program - will be required to demonstrate competency the summer before entering or re-entering the program. This will be scheduled for three hours in late August. There will be no charge for this competency evaluation. If students fail the competency exam, they will be required to enroll in or audit DHY 131L.

Students who have taken DHY 131 prior to one year will be required to retake the course. In addition, students will also be required to demonstrate competency the

following January before treating patients. There will be a fee of \$75.00 for this competency and review course. If students do not demonstrate competency, they will be required to participate in remediation prior to exposing radiographs on patients at the expense of \$25.00 per hour. The competency will consist of:

- Review of QCC Dental Hygiene program radiograph exposure protocols, forms, and documentation.
- Review of darkroom procedures, x-ray equipment, and safety.
- Exposing digital and film based intra-oral radiographs and a digital panoramic radiograph on a DXTR to clinical competency.

Gainful Employment:

Visit www.QCC.edu/gainful-employment for more information.

Dental Assisting — Certificate — DA

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1 (Fall)				
Clinical Science I	DAS 101	F	3	Coreq: BIO 100, DAS 151
Dental Assisting I	DAS 151	F	4	Coreq: DAS 101
Dental Sciences	DAS 102	F	3	DAS students only, Coreq: DAS 101
Dental Radiology	DHY 131	F	3	
Dental Materials	DHY 241	F	2	
Principles of Human Biology*	BIO 100	F/S/SU	4	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 2 (Intersession)				
Dental Assisting Clinical Practicum	DAS 153	IN	2	BIO 100, DAS 101, DAS 151, DHY 131
Semester 3 (Spring)				
Clinical Science II	DAS 105	S	4	DAS 101
Practice Management	DAS 111	S	3	
Introduction to Oral Pathology	DAS 124	S	1	DAS students only
Dental Assisting II	DAS 155	S	6	DAS 153
Composition I*	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Total Credits Required:			38	

Program Notes:

- The program in Dental Assisting is accredited by the Commission on Dental Accreditation. The Commission is a specialized accrediting body recognized by the United States Department of Education. The Commission of Dental Accreditation can be contacted at 312.440.4653 or at 211 East Chicago Avenue, Chicago, IL 60611.
- In order to continue in the program, students must achieve a grade of "C" or higher in all DAS courses and in BIO 100, PHY 131, and DHY 241 courses.

*It is suggested that students take BIO 100 and ENG 101 prior to entering the program.

Allied Dental Services - Dental Office Management Option — ADDO

Associate in Science

Program Goals:

This program prepares graduates to oversee the business operations of a dental practice. A successful dental office manager enjoys working with computers, managing multiple administrative tasks, and/or supervising people.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Obtain employment as an integral member of the dental health team after graduation.
- Demonstrate an understanding of the management of a dental practice.
- Oversee the business operations of a dental practice.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.
- Program certificate in Dental Assisting from a postsecondary ADA accredited program.
- Current CDA status.
- Attend a Health Information Session.
- See the *Admissions Requirements - Healthcare Programs* section of the Admissions page for additional information (Page 17).

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI), Sex Offender Registry Information (SORI), and National Background checks are required in the program, either annually or every semester. Finger printing and drug testing may be required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Allied Dental Services students should anticipate additional expenses for uniforms/clinical wear, textbooks, professional liability insurance, licensing examinations, and any required skills remediation.

Location:

- This program may be completed at the QCC Worcester campus with extern hours at dental offices within Worcester County.
- This program may be completed face-to-face.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 51.0699.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

dentalassisting@qcc.mass.edu

Allied Dental Services - Dental Office Management Option — Associate in Science — ADDO

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Clinical Science I	DAS 101	F	3	Coreq: BIO 100, DAS 151
Dental Sciences	DAS 102	F	3	DAS students only, Coreq: DAS 101
Dental Assisting I	DAS 151	F	4	Coreq: DAS 101
Dental Radiology	DHY 131	F	3	
Dental Materials	DHY 241	F	2	
Principles of Human Biology	BIO 100	F/S/SU	4	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 2				
Dental Assisting Clinical Practicum	DAS 153	IN	2	BIO 100, DAS 101, DAS 151, DHY 131
Semester 3				
Clinical Science II	DAS 105	S	4	DAS 101
Practice Management	DAS 111	S	3	
Introduction to Oral Pathology	DAS 124	S	1	DAS students only
Dental Assisting II	DAS 155	S	6	DAS 153
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 4				
Financial Accounting I	ACC 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, MAT 090 with a "C" or higher on the MAT 090 departmental final exam or approp place score
Introduction to Medical Terminology	ALH 102	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Medical/Dental Billing and Insurance	BSS 112	F/S	3	ALH 102
Medical Law and Ethics or	ALH 106	F/S	3	ENG 096 with a grade of "C" or higher; or approp place score
Introduction to Microcomputer Applications	CIS 111	F/S/SU		
Semester 5				
Dental Externship	DAS 299	S	3	BSS 111, BSS 112
Composition II	ENG 102	F/S/SU	3	ENG 101
Human Relations in Organizations	PSY 158	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Speech Communication Skills	SPH 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Elective	---	F/S/SU	3	
Total Credits Required:			68	

Allied Dental Services - Dental Sales/ Marketing Option — ADDS *Associate in Science*

Program Goals:

This program prepares graduates to work as sales representatives or product managers for a dental products company. For individuals who are outgoing, enjoy meeting people, and like to travel, this option will provide them with the professional skills they need to be successful in marketing or sales.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Obtain entry-level employment as an integral member of the dental sales team after graduation.
- Demonstrate and market specific products to dental professionals.
- Communicate effectively in the dental sales field.
- Demonstrate the knowledge, skills and tools necessary to be a successful sales professional.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.
- Program certificate in Dental Assisting from a postsecondary ADA accredited program.
- Current CDA status.
- Attend a Health Information Session.
- See the *Admissions Requirements - Healthcare Programs* section of the Admissions page for additional information (Page 17).

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI), Sex Offender Registry Information (SORI), and National Background checks are required in the program, either annually or every semester. Finger printing and drug testing may be required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Allied Dental Services students should anticipate additional expenses for uniforms/clinical wear, textbooks, professional liability insurance, licensing examinations, and any required skills remediation.

Location:

- This program may be completed at the QCC Worcester campus with extern hours at dental offices within Worcester County.
- This program may be completed face-to-face.
- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 51.0699.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

dentalassisting@qcc.mass.edu

Allied Dental Services - Dental Sales/Marketing Option — Associate in Science — ADDS

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Clinical Science I	DAS 101	F	3	Coreq: BIO 100, DAS 151
Dental Sciences	DAS 102	F	3	DAS students only, Coreq: DAS 101
Dental Assisting I	DAS 151	F	4	Coreq: DAS 101
Dental Radiology	DHY 131	F	3	
Dental Materials	DHY 241	F	2	
Principles of Human Biology	BIO 100	F/S/SU	4	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 2				
Dental Assisting Clinical Practicum	DAS 153	IN	2	BIO 100, DAS 101, DAS 151, DHY 131
Semester 3				
Clinical Science II	DAS 105	S	4	DAS 101
Practice Management	DAS 111	S	3	
Introduction to Oral Pathology	DAS 124	S	1	DAS students only
Dental Assisting II	DAS 155	S	6	DAS 153
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 4				
Introduction to Microcomputer Applications	CIS 111	F/S/SU	3	
Mathematics Elective	---	F/S/SU	3	
Principles of Marketing	MRK 201	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Introduction to Psychology	PSY 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Elective	---	F/S/SU	3	
Semester 5				
Dental Externship	DAS 299	S	3	BSS 111, BSS 112
Composition II	ENG 102	F/S/SU	3	ENG 101
Sales & Sales Management	MRK 221	F/S	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Human Relations in Organizations	PSY 158	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Speech Communication Skills	SPH 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Total Credits Required:			68	

Allied Dental Services - Health Sciences

Option — ADHS

Associate in Science

Program Goals:

This program prepares its graduates with a strong science background and is a good choice if the ultimate goal is transfer into the Dental Hygiene program or into a baccalaureate program. Does not require DANB, CDA status.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Meet the requirements to apply for the Dental Hygiene Program.
- Transfer to a Baccalaureate program in the Health Field.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.
- Program certificate in Dental Assisting from a postsecondary ADA accredited program.
- Attend a Health Information Session.
- See the *Admissions Requirements - Healthcare Programs* section of the Admissions page for additional information (Page 17).

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI), Sex Offender Registry Information (SORI), and National Background checks are required in the program, either annually or every semester. Finger printing and drug testing may be required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Allied Dental Services students should anticipate additional expenses for uniforms/clinical wear, textbooks, professional liability insurance, licensing examinations, and any required skills remediation.

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 51.0699.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

dentalassisting@qcc.mass.edu

Allied Dental Services - Health Sciences Option — Associate in Science — ADHS

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Clinical Science I	DAS 101	F	3	Coreq: BIO 100, DAS 151
Dental Sciences	DAS 102	F	3	DAS students only, Coreq: DAS 101
Dental Assisting I	DAS 151	F	4	Coreq: DAS 101
Dental Radiology	DHY 131	F	3	
Dental Materials	DHY 241	F	2	
Elective	---	F/S/SU	3-4	
Semester 2				
Dental Assisting Clinical Practicum	DAS 153	IN	2	BIO 100, DAS 101, DAS 151, DHY 131
Semester 3				
Clinical Science II	DAS 105	S	4	DAS 101
Practice Management	DAS 111	S	3	
Introduction to Oral Pathology	DAS 124	S	1	DAS students only
Dental Assisting II	DAS 155	S	6	DAS 153
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 4				
Anatomy and Physiology I	BIO 111	F/S/SU	4	BIO 101 or High School Advanced Placement Biology, Coreq: ENG 101
Introduction to the Chemistry of Living Systems	CHM 101	F/S/SU	4	CHM 090 or one year of High School Chemistry, MAT 095 with a "C" or higher on the MAT 095 departmental final exam or approp place score
Speech Communication Skills	SPH 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Introduction to Psychology	PSY 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Introductory Sociology (Principles)	SOC 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 5				
Anatomy & Physiology II	BIO 112	F/S/SU	4	BIO 111
Medical Microbiology	BIO 232	F/S/SU	4	BIO 112 or CHM 123 or CHM 105
Introduction to Pharmacology for Allied Health Professionals	ALH 103	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Composition II	ENG 102	F/S/SU	3	ENG 101
Total Credits Required:			68-69	

Dental Hygiene — DH

Associate in Science

Program Goals:

- To accept students into the program who have the potential for achieving the stated competencies.
- To provide a curriculum that includes scientific advancements and innovations in dental hygiene practice and health care systems, as well as current information in the behavioral and dental sciences which will enable dental hygiene students to achieve the stated competencies required for the dental hygiene process of care.
- To prepare each dental hygiene graduate to assume responsibility for ethical dental hygiene care in accordance with the laws of the Commonwealth of Massachusetts.
- To graduate students who will advance the profession through service activities, community partnerships and affiliations with professional organizations.
- To develop and provide ongoing continuing education programs for community dental professionals and the QCC Dental Hygiene students.
- To provide access to quality dental hygiene care to the community within the parameters of the educational requirements of the program.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Provide the Dental Hygiene Process of care to a diverse population, including the child, adolescent, adult, geriatric, compromised patient and patients with all classifications of periodontal disease as well as in assessing the treatment needs of patients with special needs.
- Demonstrate effective interpersonal and communication skills in the interaction with diverse population groups and other members of the health care team.
- Assess, analyze data, plan, implement and evaluate community-based oral health programs including health promotion and disease prevention activities.
- Apply legal and regulatory concepts to the provision and/or support of oral health care services.
- Apply of the principles of ethical reasoning, ethical decision making and professional responsibility as they pertain to academic environment, research, patient care and patient management.

- Utilize technology as a learning resource and for information management.
- Evaluate current scientific literature and research.
- Manage comprehensive patient care utilizing critical thinking, problem solving skills and apply self-assessment skills in preparation for life-long learning.
- Represent and support the profession through community service and affiliations with professional organizations.
- Provide appropriate life support measures for medical emergencies that may be encountered in dental hygiene practice.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.
- GPA: 3.0 or equivalent in high school or 3.0 in college with minimum 10 credits or 550 Battery Average on GED, or HiSET 45.
- Must take the college placement test to determine Math and English levels if no college level courses were previously completed.
- Attend a Health Information Session.
- Math: minimum grade of "B" in MAT 098 or MAT 099 or place into MAT 100-level or above.
- Biology: minimum grade of "B" in high school biology or "C+" in BIO 101 (recommended) or other college level biology course.
- Chemistry: minimum grade of "B" in high school chemistry or "B" in CHM 090.
- English: ENG 091 with a grade of "B" or higher, ENG 096 with a grade of "B" or higher; or appropriate placement score.
- Required TEAS V scores must be achieved within two attempts of taking the test.
 - English: 53%
 - Reading: 53%
 - Mathematics: 54%
 - Science: 40%
- Four-hour dental office observation.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI), Sex Offender Registry Information (SORI), and National Background checks are required in the program, either annually or every semester. Finger printing and drug testing may be required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Uniforms/clinical wear, textbooks, required academic or skills remediation, membership in the Dental Hygiene Professional Association, Regional and National Board exams.

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 51.0602.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

dentalhygiene@qcc.mass.edu

Additional Information:

- The QCC Dental Hygiene Program is accredited by the ADA's Commission on Dental Accreditation, 211 East

Chicago Avenue, Chicago, IL 60611-267.

- Dental hygienists must be licensed by the state in which the student practices. Licensure in Massachusetts requires that applicants pass the National Board Dental Hygiene Examination and the Northeast Regional Board Examination.
- Students accepted to the Dental Hygiene Program must obtain Health Care Provider level BLS/CPR certification prior to beginning the program.
- Although every effort will be made to schedule patients for students, ultimately, students are responsible for supplying their own patients to meet their clinical requirements.
- Clinical rotations may be required during summer sessions or intersession. Clinical rotations may be required off-campus throughout the duration of the program. Students are responsible for their own transportation.
- Provide documentation of immunization currency and satisfactory health status and be cleared by the Health Compliance Officer by July 2nd.
- Students are required to maintain health insurance throughout the students' enrollment.
- Annual TB testing required.

Dental Assisting "Bridge" to Dental Hygiene Program

Graduates of the QCC Dental Assisting Program may transfer into the QCC Dental Hygiene Program. See the Dental Assisting Certificate page for details.

Dental Hygiene — Associate in Science — DH

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1 (Summer I)				
Anatomy & Physiology I	BIO 111	F/S/SU	4	BIO 101 or High School Advanced Placement Biology, Coreq: ENG 101
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 2 (Summer II)				
Anatomy & Physiology II	BIO 112	F/S/SU	4	BIO 111
Introduction to the Chemistry of Living Systems	CHM 101	F/S/SU	4	CHM 090 or one year of High School Chemistry, MAT 095 with a "C" or higher on the MAT 095 departmental final exam or approp place score
Dental Anatomy	DHY 125	SU	1	
Semester 3 (Fall)				
Dental Hygiene Process I	DHY 111	F	4	BIO 112, CHM 101, DHY 125
Anatomy of the Head & Neck	DHY 121	F	2	Admission to Dental Assisting or Dental Hygiene program
Oral Histology & Embryology	DHY 123	F	2	
Dental Radiology	DHY 131	F	3	
Introduction to Psychology	PSY 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 4 (Intersession)				
Practice Management for the Dental Hygienist	DHY 116	IN	1	DHY 111
Semester 5 (Spring)				
Nutrition in Oral and Systemic Health	DHY 250	S	2	BIO 112, Coreq: DHY 112
Dental Hygiene Process II	DHY 112	S	5	BIO 112, CHM 101, DHY 111, DHY 131, Coreq: DHY 250
Periodontology	DHY 124	S	2	
Oral Pathology	DHY 126	S	2	
Local Anesthesia for the Dental Hygienist	DHY 150	S	2	BIO 111, CHM 101, DHY 111, DHY 121, DHY 125, DHY 131, Coreq: BIO 112, DHY 112
Semester 6 (Summer I)				
Medical Microbiology	BIO 232	F/S/SU	4	BIO 112 or CHM 123 or CHM 105
Composition II	ENG 102	F/S/SU	3	ENG 101
Semester 7 (Summer II)				
Dental Hygiene Process Summer Clinic	DHY 113	SU	1	DHY 112, DHY 250
Semester 8 (Fall)				
Health Promotion	DHY 201	F	2	
Dental Hygiene Process III	DHY 211	F	5	BIO 112, DHY 113
Dental Pharmacology	DHY 231	F	2	
Dental Materials	DHY 241	F	2	
Introductory Sociology (Principles)	SOC 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 9 (Spring)				
Dental Ethics, Jurisprudence & Professional Issues	DHY 202	S	2	
Dental Hygiene Process IV	DHY 212	S	6	DHY 211
Dental Public Health	DHY 243	S	2	
Liberal Arts Elective	---	F/S/SU	3	
Total Credits Required:			79	

Program Notes:

- BIO 111, BIO 112, BIO 232, CHM 101, and all professional courses must be completed with a grade of "C" or higher in order to continue in the program.
- Enrollment in courses designated as DHY is limited to Dental Hygiene majors only, unless otherwise noted.

Early Childhood Education — EC

Associate in Arts

Program Goals:

This program prepares students for responsible positions in the field of early care and education or for careers in other child-related areas. Graduates will be qualified for career opportunities in Early Education and care as a lead teacher and, depending upon experience, as an assistant director or a director in a variety of early education programs. Students are also prepared for transfer to a four-year institution.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Describe young children's characteristics and needs and the multiple influences on development and learning.
- Apply knowledge of development to create healthy, respectful, supportive, and challenging learning environments.
- Demonstrate knowledge and understanding of family and community characteristics and describe methods for involving families and communities in their children's development and learning.
- Demonstrate knowledge of and practice meaningful observation, documentation and assessment of young children that support individual learning and growth.
- Employ positive guidance strategies that are developmentally appropriate.
- Integrate content knowledge with other disciplines to support the development, implementation, and evaluation of curriculum that promotes positive outcomes for children.
- Engage in continuous, collaborative learning to inform practice.
- Value ethical standards and professional guidelines.
- Demonstrate informed advocacy for children and the profession.
- Identify and utilize professional resources.
- Demonstrate ability to write and speak effectively.
- Demonstrate knowledge and appreciation of diverse cultures.
- Pass the CLST portion of the MTEL test after completion of ENG 102 (for students transferring into Licensure program at a four-year institution).

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI), Sex Offender Registry Information (SORI), and Department of Children & Families (DCF) checks are required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

Location:

- This program may be completed at the QCC Worcester campus.
- Many courses are offered at the Southbridge location.
- This program may be completed face-to-face.
- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 13.1209.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

earlychildhood@qcc.mass.edu

Additional Information:

- Students must pass all ECE courses with a "C" or higher.
- Students cannot take any ECE course more than twice.
- Student teaching may be completed at the student's work site.
- Students will be required to complete a one semester field placement in a community-based setting.

Early Childhood Education — Associate in Arts — EC

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Introduction to Early Childhood Education	ECE 101	F/S/SU	3	ENG 096 with a grade of "C" or higher; or approp place score
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Introduction to Psychology	PSY 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Mathematics for Educators I	MAT 111	F/S/SU	3	MAT 099 with a "C" or higher on the MAT 099 departmental final exam or approp place score
Lab Science Elective*	---	F/S/SU	4	
Semester 2				
Growth & Development of the Young Child	ECE 102	F/S/SU	3	ENG 096 with a grade of "C" or higher; or approp place score
Family Issues & Dynamics	ECE 112	F/S/SU	3	ENG 096 with a grade of "C" or higher; or approp place score
Composition II	ENG 102	F/S/SU	3	ENG 101
Humanities Elective	---	F/S/SU	3	
Lab Science Elective*	---	F/S/SU	4	
Semester 3				
Curriculum for Young Children I	ECE 231	F	3	ENG 101, ECE 101, ECE 102 or PSY 123, Coreq: ECE 251, ECE 253
Integrating Theory and Practice I: Guidance of Young Children	ECE 251	F	3	ENG 101, ECE 101, ECE 112, ECE 102 or PSY 123, Coreq: ECE 231, ECE 253
Supervised Student Participation I	ECE 253	F	4	ENG 101, ECE 101, ECE 112, ECE 102 or PSY 123, Coreq: ECE 231, ECE 251
History Elective**	---	F/S/SU	3	
Children's Literature	ENG 200	F/S/SU	3	ENG 102
Semester 4				
Curriculum for Young Children II	ECE 232	S	3	ENG 101, ECE 231, ECE 251, ECE 253, Coreq: ECE 252, ECE 254
Integrating Theory and Practice II: Observing, Recording and Authentic Assessment	ECE 252	S	3	ECE 251, Coreq: ECE 232, ECE 254
Supervised Student Participation II	ECE 254	S	4	ENG 101, ECE 231, ECE 251, ECE 253, Coreq: ECE 232, ECE 252
ECE Elective	---	F/S/SU	3	
Social Science Elective	---	F/S/SU	3	
Humanities Elective	---	F/S/SU	3	
Total Credits Required:			67	

Program Notes:

- Students are advised to consult the requirements of the college to which they plan to transfer and to use student's credits to fulfill the academic major requirements of the institution.
- It is highly recommended that students planning to complete a licensure Early Childhood Bachelor's Degree take the CLST portion of the Teacher Test (MTEL) after completing Semester 2.

*Science Elective must be a four credit course with a Lab; SCI 105 and SCI 106 are recommended.

**History Elective must be selected from the following: HST 104, HST 105, HST 106, HST 115, or HST 116.

Preschool Assistant Teacher — PATC Certificate

Program Goals:

This certificate program provides students who are not yet interested in an associate degree with some formal education about young children. This program gradually introduces students to the development of young children along with the teaching practices that are most effective when working with these children.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Describe young children's characteristics and needs and the multiple influences on development and learning.
- Apply knowledge of development to support healthy, respectful, supportive, and challenging learning environments.
- Demonstrate knowledge and understanding of family and community characteristics and describe methods for involving families and communities in their children's development and learning.
- Integrate content knowledge with other disciplines to support the development, implementation, and evaluation of curriculum that promotes positive outcomes for children.
- Employ positive guidance strategies that are developmentally appropriate.
- Engage in continuous, collaborative learning to inform practice.
- Value ethical standards and professional guidelines.
- Demonstrate informed advocacy for children and the profession.
- Identify and utilize professional resources.
- Demonstrate ability to write and speak effectively.
- Demonstrate knowledge and appreciation of diverse cultures.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI), Sex Offender

Registry Information (SORI), and Department of Children & Families (DCF) checks are required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

Location:

- This program may be completed at the QCC Worcester campus.
- Many courses are offered at the Southbridge location.
- Student teaching must be done at the QCC Worcester campus.
- This program may be completed face-to-face.
- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 13.1209.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

- Many of the required courses transfer into the Associate Degree options. Most courses in this program transfer directly into the Early Childhood Education Associate Degree Program.

Program Contact Email:

earlychildhood@qcc.mass.edu

Additional Information:

- Students must pass all ECE courses with a "C" or higher.
- Students cannot take any ECE course more than twice.

Gainful Employment:

Visit www.QCC.edu/gainful-employment for more information.

Preschool Assistant Teacher — Certificate — PATC

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Introduction to Psychology	PSY 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Introduction to Early Childhood Education	ECE 101	F/S/SU	3	ENG 096 with a grade of "C" or higher; or approp place score
Family Issues & Dynamics	ECE 112	F/S/SU	3	ENG 096 with a grade of "C" or higher; or approp place score
Semester 2				
ECE Elective	---	F/S/SU	3	
Planning Programs for Young Children	ECE 131	S	3	ENG 096 with a grade of "C" or higher; or approp place score
Growth & Development of the Young Child or	ECE 102	F/S/SU	3	ENG 096 with a grade of "C" or higher; or approp place score
Human Development I: Conception to Adolescence*	PSY 123	F/S		PSY 101
Fieldwork with Young Children I	ECE 202	S	3	
Discipline: Guiding Children's Behavior	ECE 255	F/S	3	ENG 096 with a grade of "C" or higher; or approp place score
Total Credits Required:			24	

Program Notes:

*Students wishing to transfer should take PSY 123.

Infant Toddler Training — IC Certificate

Program Goals:

This certificate program provides students with both the theoretical knowledge and practical skills training necessary for the care of infants and toddlers in family day care homes or child care centers.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Describe infant and toddler children's characteristics and needs and the multiple influences on development and learning.
- Apply knowledge of development to support healthy, respectful, supportive, and challenging learning environments.
- Demonstrate knowledge and understanding of family and community characteristics and describe methods for involving families and communities in their children's development and learning.
- Employ positive guidance strategies that are developmentally appropriate.
- Integrate content knowledge with other disciplines to support the development, implementation, and evaluation of curriculum that promotes positive outcomes for children.
- Engage in continuous, collaborative learning to inform practice.
- Value ethical standards and professional guidelines.
- Demonstrate informed advocacy for children and the profession.
- Identify and utilize professional resources.
- Demonstrate ability to write and speak effectively.
- Demonstrate knowledge and appreciation of diverse cultures.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI), Sex Offender Registry Information (SORI), and Department of Children & Families (DCF) checks are required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

Location:

- This program may be completed at the QCC Worcester campus.
- Many courses are offered at the Southbridge location.
- This program may be completed face-to-face.
- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 13.1209.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

earlychildhood@qcc.mass.edu

Additional Information:

- Students must pass all ECE courses with a "C" or higher.
- Students cannot take any ECE course more than twice.
- Field placement will be held at an approved off campus infant and toddler program.
- Many of the required courses can be applied to the Associate Degree option(s).

Gainful Employment:

Visit www.QCC.edu/gainful-employment for more information.

Infant Toddler Training — Certificate — IC

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Introduction to Early Childhood Education	ECE 101	F/S/SU	3	ENG 096 with a grade of "C" or higher; or approp place score
Introduction to Psychology	PSY 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Health, Safety & Nutrition in Programs for Young Children	ECE 103	F	3	ENG 096 with a grade of "C" or higher; or approp place score
Infant & Toddler Curriculum and Development	ECE 221	F	3	ENG 096 with a grade of "C" or higher; or approp place score
Semester 2				
Family Issues & Dynamics	ECE 112	F/S/SU	3	ENG 096 with a grade of "C" or higher; or approp place score
Fieldwork with Infants and Toddlers (Observation and Experience)	ECE 123	S	3	ENG 096 with a grade of "C" or higher; or approp place score
Growth & Development of the Young Child or	ECE 102	F/S/SU	3	ENG 096 with a grade of "C" or higher; or approp place score
Human Development I: Conception to Adolescence*	PSY 123	F/S		PSY 101
ECE Elective	---	F/S/SU	3	
Total Credits Required:			24	

Program Notes:

*Students wishing to transfer should take PSY 123.

Leadership in Early Education and Care — EEC Certificate

Program Goals:

This certificate program provides students who are already working in early childhood centers as directors, supervisors, or aspiring to a leadership role with the skills required for creating and sustaining healthy working relationships leading to quality programs for young children and their families.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Demonstrate knowledge of child and adult development, personality typologies, dispositions and learning styles as they relate to self and others.
- Demonstrate communication skills supportive of collaboration in a school setting and with families.
- Document reflective thinking necessary for self-growth and professional development.
- Demonstrate ability to advocate on behalf of young children, their families and the early childhood community.
- Reflect critically on early childhood educational leadership competencies.
- Demonstrate ethical leadership skills in early childhood education settings.
- Engage in continuous, collaborative learning to inform practice.
- Value ethical standards and professional guidelines.
- Identify and utilize professional resources.
- Demonstrate ability to write and speak effectively.
- Demonstrate knowledge and appreciation of diverse cultures.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI), Sex Offender Registry Information (SORI), and Department of Children & Families (DCF) checks are required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

Location:

- This program may be completed at the QCC Worcester campus.
- Many courses are offered at the Southbridge location.
- This program may be completed face-to-face.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 13.1209.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

earlychildhood@qcc.mass.edu

Additional Information:

- Students must pass all ECE courses with a "C" or higher.
- Students cannot take any ECE course more than twice.

Gainful Employment:

Visit www.QCC.edu/gainful-employment for more information.

Leadership in Early Education and Care — Certificate — EEC

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Administration in Early Education and Care	ECE 243	F	3	ECE 102 or PSY 123
Supervision, Coaching and Mentoring in Early Childhood Settings	ECE 238	F	3	ENG 101
Semester 2				
Communication for Collaboration	ECE 244	S	3	ECE 102 or PSY 123
Advocacy and Ethics for Social Justice in Early Care and Education	ECE 245	S	3	ECE 102 or PSY 123
Seminar and Field Experience: Leadership in Early Education and Care	ECE 246	S	3	ECE 102 or PSY 123
Total Credits Required:			15	

School Age — CSA Certificate

Program Goals:

This certificate program provides students who are already working directly with school age children in after-school group settings with the classroom and fieldwork supervision that will acquaint them with the Standards for Quality School-Age distribution by the National School-Age Care Alliance. Developmental understanding of the school-age child leading to appropriate curriculum planning is combined with on-site fieldwork supervision.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Describe school age children's characteristics and the multiple influences on development and learning.
- Apply knowledge of development to create healthy supportive and challenging learning environments.
- Demonstrate knowledge and understanding of family and community characteristics and describe methods for involving families and communities in their children's development and learning.
- Integrate content knowledge with other disciplines to support the development, implementation, and evaluation of curriculum that promotes positive outcomes for children.
- Engage in continuous, collaborative learning to inform practice.
- Employ positive guidance strategies that are developmentally appropriate.
- Value ethical standards and professional guidelines.
- Demonstrate informed advocacy for children and the profession.
- Identify and utilize professional resources.
- Demonstrate ability to write and speak effectively.
- Demonstrate knowledge and appreciation of diverse cultures.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI), Sex Offender Registry Information (SORI), and Department of Children & Families (DCF) checks are required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

Location:

- This program may be completed at the QCC Worcester campus.
- Many courses are offered at the Southbridge location.
- This program may be completed face-to-face.
- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 13.1209.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

earlychildhood@qcc.mass.edu

Additional Information:

- Students must pass all ECE courses with a "C" or higher.
- Students cannot take any ECE course more than twice.
- All fieldwork will be completed at the student's work site pending supervisor approval.
- Many of the required courses can be applied to the Associate Degree option(s).

Gainful Employment:

Visit www.QCC.edu/gainful-employment for more information.

School Age — Certificate — CSA

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Introduction to Early Childhood Education	ECE 101	F/S/SU	3	ENG 096 with a grade of "C" or higher; or approp place score
Introduction to Psychology	PSY 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Family Issues & Dynamics	ECE 112	F/S/SU	3	ENG 096 with a grade of "C" or higher; or approp place score
Semester 2				
ECE Elective	---	F/S/SU	3	
Growth & Development of the Young Child or	ECE 102	F/S/SU	3	ENG 096 with a grade of "C" or higher; or approp place score
Human Development I: Conception to Adolescence*	PSY 123	F/S		PSY 101
Curriculum Planning for School Age Children	ECE 113	S	3	ENG 096 with a grade of "C" or higher; or approp place score
Discipline: Guiding Children's Behavior	ECE 255	F/S	3	ENG 096 with a grade of "C" or higher; or approp place score
Fieldwork with School-Age Children	ECE 204	S	3	ENG 096 with a grade of "C" or higher; or approp place score, ECE 102 or PSY 123
Total Credits Required:			24	

Program Notes:

*Students wishing to transfer should take PSY 123.

Technician in Applied Behavior Analysis — TABC

Certificate

Program Goals:

This certificate program provides students with both the theoretical knowledge and practical skills training necessary for working with atypical and typical children particularly around the use of Applied Behavior Analysis.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Describe children's developmental characteristics and needs and the multiple influences on development and learning.
- Apply knowledge of Applied Behavior Analysis to demonstrate the competency needed to become a Registered Behavior Technician.
- Apply knowledge of development to support healthy, respectful, supportive, and challenging learning environments.
- Demonstrate knowledge and understanding of family and community characteristics and describe methods for involving families and communities in their children's development and learning.
- Employ positive guidance strategies that are developmentally appropriate.
- Integrate content knowledge with other disciplines to support the development, implementation, and evaluation of curriculum that promotes positive outcomes for children.
- Engage in continuous, collaborative learning to inform practice.
- Value ethical standards and professional guidelines.
- Demonstrate informed advocacy for children and the profession.
- Identify and utilize professional resources.
- Demonstrate ability to write and speak effectively.
- Demonstrate knowledge and appreciation of diverse cultures.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI), Sex Offender Registry Information (SORI), and Department of Children & Families (DCF) checks are required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

Location:

- This program may be completed at the QCC Worcester campus.
- Many courses are offered at the Southbridge location.
- This program may be completed face-to-face.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 13.1015.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

earlychildhood@qcc.mass.edu

Additional Information:

- Students must pass all ECE courses with a "C" or higher.
- Students cannot take any ECE course more than twice.
- All fieldwork will be completed at the student's work site pending supervisor approval.
- Many of the required courses can be applied to the Associate Degree option(s).

Technician in Applied Behavior Analysis — Certificate — TABC

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Introduction to Early Childhood Education	ECE 101	F/S/SU	3	ENG 096 with a grade of "C" or higher; or approp place score
Growth & Development of the Young Child	ECE 102	F/S/SU	3	ENG 096 with a grade of "C" or higher; or approp place score
Understanding Applied Behavior Analysis	ECE 105	F/S	3	ENG 096 with a grade of "C" or higher; or approp place score
Semester 2				
Family Issues & Dynamics	ECE 112	F/S/SU	3	ENG 096 with a grade of "C" or higher; or approp place score
Applied Behavior Analysis Supervised Practicum	ECE 205	F/S	3	ECE 105 with a grade of "C" or higher
Young Children with Special Needs	ECE 242	F/S	3	ENG 096 with a grade of "C" or higher; or approp place score, ECE 102 or PSY 123
Total Credits Required:			18	

Electronics Engineering Technology - Biomedical Instrumentation

Option — EEBI

Associate in Science

Program Goals:

The Biomedical Instrumentation Option in Electronics Engineering Technology prepares students to enter the workforce as an essential member of a medical organization, calibrating, troubleshooting, and maintaining the electronic instrumentation equipment that is vital to today's technology-driven healthcare industry. Graduates may also continue their education toward a bachelor's degree in Engineering Technology.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Communicate effectively through verbal and written means.
- Apply the concepts and methods of mathematics to the solution of technical problems.
- Apply the concepts of Physics to the solution of technical problems.
- Write technical reports using a word processor.
- Collect, sort and analyze data using a spreadsheet.
- Operate electronic test equipment such as multi-meters, function generators and oscilloscopes.
- Troubleshoot and configure computer networks.
- Troubleshoot and repair basic electronic systems.
- Identify key areas of human anatomy and physiology.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks may be required of students enrolled in ELT 299. Finger printing

and drug testing may be required of students enrolled in ELT 299.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 15.0303.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

electronics@qcc.mass.edu

Electronics Engineering Technology - Biomedical Instrumentation Option — Associate in Science — EEBI

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Windows Client Operating Systems	CSC 141	F/S/SU	4	
Electronics I	ELT 103	F/S	4	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, MAT 095 with a "C" or higher on the MAT 095 departmental final exam or approp place score
Digital Circuits	ELT 121	F/S	4	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, MAT 095 with a "C" or higher on the MAT 095 departmental final exam or approp place score
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
College Mathematics I: Pre-Calculus	MAT 123	F/S/SU	3	MAT 100 or approp place score
Semester 2				
Networking Technologies	CSC 234	F/S/SU	4	Coreq: CSC 141
Electronics II	ELT 104	F/S	4	ELT 103
Embedded Microcontrollers	ELT 130	S	4	ELT 103, ELT 121
College Mathematics II: Trigonometry	MAT 124	F/S/SU	3	MAT 123 or approp place score
Semester 3				
Instrumentation and Control Technology	ELM 251	F/S	4	ELT 104, ELT 130
ELT or ELM Program Elective*	---	F/S/SU	4	
Physics I	PHY 101	F	4	Coreq: MAT 124
Composition II or Technical Writing**	ENG 102 ENG 105	F/S/SU	3	ENG 101
Semester 4				
Mechatronic Systems	ELM 258	F/S	4	ELT 130
ELT or ELM Program Elective*	---	F/S/SU	4	
Cooperative Work Experience & Seminar	ELT 299	F/S/SU	3-6	ELT 104, ELT 130
Principles of Human Biology	BIO 100	F/S/SU	4	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Social Science Elective	---	F/S/SU	3	
Total Credits Required:			66-69	

Program Notes:

*ELT or ELM Program Elective must be a 200-level course.

**ENG 105 is recommended for students whose primary goal is employment after graduation.

Electronics Engineering Technology - Mechatronics Option — EEMO

Associate in Science

Program Goals:

The goal of the Mechatronics Option in Electronics Engineering Technology is to prepare students for careers as Mechatronics technicians. Mechatronics technicians install, maintain, troubleshoot and repair a wide range of computer-driven automated equipment and/or robotic systems. They must understand basic electronics, mechanics, computer interfacing and software. These skills are vital to the success of advanced manufacturing.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Communicate effectively through verbal and written means.
- Apply the concepts and methods of mathematics to the solution of technical problems.
- Write technical reports using a word processor.
- Collect, sort and analyze data using a spreadsheet.
- Operate electronic test equipment such as multi-meters, function generators and oscilloscopes.
- Troubleshoot and configure computer networks.
- Troubleshoot and repair basic mechatronic systems.
- Wire, test and program basic programmable logic controller systems.
- Program and troubleshoot basic robotic systems.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks may be required of students enrolled in ELM 299. Finger printing and drug testing may be required of students enrolled in ELM 299.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 15.0303.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

electronics@qcc.mass.edu

Electronics Engineering Technology - Mechatronics Option — Associate in Science — EEMO

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Electronics I	ELT 103	F/S	4	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, MAT 095 with a "C" or higher on the MAT 095 departmental final exam or approp place score
Digital Circuits	ELT 121	F/S	4	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, MAT 095 with a "C" or higher on the MAT 095 departmental final exam or approp place score
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Mathematics Elective*	---	F/S/SU	3	
Semester 2				
Electronics II	ELT 104	F/S	4	ELT 103
Embedded Microcontrollers	ELT 130	S	4	ELT 103, ELT 121
Windows Client Operating Systems	CSC 141	F/S/SU	4	
Composition II or	ENG 102	F/S/SU	3	ENG 101
Technical Writing**	ENG 105			
Mathematics Elective*	---	F/S/SU	3	
Semester 3				
Instrumentation and Control Technology	ELM 251	F/S	4	ELT 104, ELT 130
Introduction to Programmable Logic Controllers	ELM 257	F/S	4	ELT 121
Networking Technologies	CSC 234	F/S/SU	4	Coreq: CSC 141
Lab Science Elective***	---	F/S/SU	4	
Semester 4				
Mechatronic Systems	ELM 258	F/S	4	ELT 130
Industrial Robotics	ELM 260	F/S	4	ELT 130
Cooperative Work Experience & Seminar	ELM 299	F/S/SU	3-6	ELT 104, ELT 130
Liberal Arts Elective****	---	F/S/SU	3-4	
Social Science Elective*****	---	F/S/SU	3	
Total Credits Required:			65-69	

Program Notes:

*Recommended Mathematics Electives: For students whose primary goal is employment after graduation, MAT 100 and MAT 122 are recommended; for students intending to transfer to a four-year college, MAT 123 and MAT 124 are recommended.

**ENG 105 is recommended for students whose primary goal is employment after graduation.

***Recommended Lab Science Elective for students intending to transfer to a four-year college: PHY 101.

****Recommended Liberal Arts Elective: SPH 101.

*****Recommended Social Science Elective: PSY 118.

Electronics Engineering Technology - Photonics Option — EEPH

Associate in Science

Program Goals:

The goal of the Photonics Option in Electronics Engineering Technology is to prepare students for careers as Photonics technicians and/or Electronics technicians with photonics experience. Photonics technicians build, test, troubleshoot and maintain systems involving lasers, fiber optics and other electro-optical components. This is an exciting, dynamic career field that is projected to grow steadily as new Photonics applications are developed to support manufacturing, telecommunications, medical devices and systems, security systems, clean energy systems, research, etc. Students also build a foundation of knowledge that forms the basis for further study in electronics and photonics.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Communicate effectively through verbal and written means.
- Apply the concepts and methods of mathematics to the solution of technical problems.
- Understand the operation of electro-optical systems such as lasers.
- Analyze electro-optic systems and their interfaces.
- Operate electronic test equipment such as multi-meters, function generators and oscilloscopes.
- Troubleshoot and repair electro-optic and photonic systems.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks may be

required of students enrolled in ELM 299. Finger printing and drug testing may be required of students enrolled in ELM 299.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

Location:

- This program may be completed at the Southbridge location.
- This program may be completed face-to-face.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 15.0304.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

electronics@qcc.mass.edu

Electronics Engineering Technology - Photonics Option — Associate in Science — EEPH

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Windows Client Operating Systems	CSC 141	F/S/SU	4	
Electronics I	ELT 103	F/S	4	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, MAT 095 with a "C" or higher on the MAT 095 departmental final exam or approp place score
Digital Circuits	ELT 121	F/S	4	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, MAT 095 with a "C" or higher on the MAT 095 departmental final exam or approp place score
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
College Mathematics I: Pre-Calculus	MAT 123	F/S/SU	3	MAT 100 or approp place score
Semester 2				
Networking Technologies	CSC 234	F/S/SU	4	Coreq: CSC 141
Electronics II	ELT 104	F/S	4	ELT 103
Embedded Microcontrollers	ELT 130	S	4	ELT 103, ELT 121
College Mathematics II: Trigonometry	MAT 124	F/S/SU	3	MAT 123 or approp place score
Semester 3				
Introduction to Photonics	ELT 120	F/S	4	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, MAT 099 with a "C" or higher on the MAT 099 departmental final exam or approp place score
Instrumentation and Control Technology	ELM 251	F/S	4	ELT 104, ELT 130
Lab Science Elective	---	F/S/SU	4	
Composition II or Technical Writing*	ENG 102 ENG 105	F/S/SU	3	ENG 101
Semester 4				
Photonics Technology	ELT 222	F/S	4	ELT 120
ELT or ELM Program Elective**	---	F/S/SU	4	
Cooperative Work Experience & Seminar	ELM 299	F/S/SU	3	ELT 104, ELT 130
Social Science Elective	---	F/S/SU	3	
Total Credits Required:			62	

Program Notes:

*ENG 105 is recommended for students whose primary goal is employment after graduation.

**ELT or ELM Program Elective must be a 200-level course.

Electronics Technology — CE

Certificate

Program Goals:

The Electronics Technology Certificate prepares students for entry-level positions in the field of Electronics. Students also build a foundation of core Electronics skills and knowledge that form the basis for further study in Electronics, Mechatronics, Photonics, or Biomedical Instrumentation.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Apply the concepts and methods of arithmetic and basic algebra to the solution of technical problems.
- Write technical reports using a word processor.
- Collect, sort and analyze data using a spreadsheet.
- Operate electronic test equipment such as multi-meters, function generators and oscilloscopes.
- Analyze basic electronic systems.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 15.0303.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

electronics@qcc.mass.edu

Gainful Employment:

Visit www.QCC.edu/gainful-employment for more information.

Electronics Technology — Certificate — CE

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Electronics I	ELT 103	F/S	4	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, MAT 095 with a "C" or higher on the MAT 095 departmental final exam or approp place score
Digital Circuits	ELT 121	F/S	4	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, MAT 095 with a "C" or higher on the MAT 095 departmental final exam or approp place score
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
College Algebra	MAT 100	F/S/SU	3	MAT 099 with a "C" or higher on the MAT 099 departmental final exam or approp place score
Semester 2				
Electronics II	ELT 104	F/S	4	ELT 103
Embedded Microcontrollers	ELT 130	S	4	ELT 103, ELT 121
Windows Client Operating Systems	CSC 141	F/S/SU	4	
Technical Writing	ENG 105	F/S/SU	3	ENG 101
Total Credits Required:			29	

Paramedic Technology — EM

Associate in Science

Program Goals:

To prepare competent entry-level Emergency Medical Technician-Paramedics to serve in career and volunteer positions throughout the Commonwealth and neighboring regions.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Comprehend, apply and evaluate the didactic, clinical and field information relative to the graduate's role as an entry-level Paramedic and to display behaviors consistent with the professional and employer expectations within the Commonwealth.
- Demonstrate technical proficiency in all skills necessary to fulfill the role of entry-level Paramedic within the Commonwealth including but not limited to:
 - Administer advanced life support care to sick and injured persons from pre-term through geriatric patients.
 - Assess the nature and extent of illness or injury to establish and prioritize medical procedures to be followed or need for additional assistance.
 - Restore and stabilize heart rhythm on pulseless, non-breathing patients, using defibrillator, cardioversion, or external pacemaker.
 - Monitor cardiac patients using electrocardiograph.
 - Initiate intravenous fluids to administer medication, or to replace fluids to the body.
 - Perform endotracheal intubation to maintain the patient's airway and to ventilate the patient.
 - Administer injections of medications.
 - Record patient vital signs including blood pressure, pulse rate, respiratory rate, skin color, texture and temperature, pupil response to light, capillary refill time, blood glucose reading, pulse oximetry and capnography.
 - Extricate entrapped victims.
 - Observe, record, and report any changes in patient condition to the physician.
 - Operate and maintain control of the emergency response vehicle.
 - Function in the role of Team Leader for additional personnel involved in any emergency scene.

- Communicate effectively to additional personnel at scene or to hospital personnel via radio/telephone systems.
- At the completion of didactic, clinical and field practicum, the Paramedic student is prepared to sit for the National Registry of Emergency Medical Technicians Practical and Written Examinations.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.
- EMT-B certification.
- One year of EMT-B certification as verified by letter from employer.
- ENG 096 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI), Sex Offender Registry Information (SORI), and National Background checks are required in the program, either annually or every semester. Finger printing and drug testing may be required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Cost for NREMT practical exam: \$150.00 to OEMS; QCC site fee of \$175.00. Other site fees vary. Cost for NREMT written exam: \$55.00. Uniforms for Clinical and Field Practicum vary per semester by student agreement. Estimated current cost: \$200.00.

Location:

- This program may be completed at the QCC Healthcare and Workforce Development Center in downtown Worcester.
- This program will require students to travel to clinical sites within the Worcester County area.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 51.0904.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

emt@qcc.mass.edu

Paramedic Technology — Associate in Science— EM

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Anatomy & Physiology I	BIO 111	F/S/SU	4	BIO 101 or High School Advanced Placement Biology, Coreq: ENG 101
Introduction to Advanced Pre-Hospital Care	EMT 108	F/S	4	Coreq: BIO 100 or BIO 111, EMT 109, EMT 110, EMT 112, EMT 114
Pharmacology for Advanced Pre-Hospital Care	EMT 109	F/S	2	Coreq: BIO 100 or BIO 111, EMT 108, EMT 110, EMT 112, EMT 114
Patient Assessment and Human Systems	EMT 110	F/S	2	Coreq: BIO 100 or BIO 111, EMT 108, EMT 109, EMT 112, EMT 114
Patient Assessment/Pharmacology Laboratory Component	EMT 112	F/S	1	Coreq: BIO 100 or BIO 111, EMT 108, EMT 109, EMT 110, EMT 114
Life Span and Healthcare Issues for Pre-Hospital Care	EMT 114	F/S	4	Coreq: BIO 100 or BIO 111, EMT 108, EMT 109, EMT 110, EMT 112
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 2				
Anatomy & Physiology II	BIO 112	F/S/SU	4	BIO 111
Advanced Pre-Hospital Care	EMT 115	F/S	4	EMT 108, EMT 109, EMT 110, EMT 112, EMT 114, Coreq: BIO 100 or BIO 112, EMT 116, EMT 117, EMT 118, EMT 119
Cardiology and Advanced Cardiac Life Support	EMT 116	F/S	4	EMT 108, EMT 109, EMT 110, EMT 112, EMT 114, Coreq: BIO 100 or BIO 112, EMT 115, EMT 117, EMT 118, EMT 119
Trauma	EMT 117	F/S	3	EMT 108, EMT 109, EMT 110, EMT 112, EMT 114, Coreq: BIO 100 or BIO 112, EMT 115, EMT 116, EMT 118, EMT 119
Neonatal and Pediatric Emergencies	EMT 118	F/S	2	EMT 108, EMT 109, EMT 110, EMT 112, EMT 114, Coreq: BIO 100 or BIO 112, EMT 115, EMT 116, EMT 117, EMT 119
Topics In Advanced Life Support	EMT 119	F/S	3	EMT 108, EMT 109, EMT 110, EMT 112, EMT 114, Coreq: BIO 100 or BIO 112, EMT 115, EMT 116, EMT 117, EMT 118
Semester 3				
Clinical Placement for the Paramedic	EMT 202	F/S	7	EMT 115, EMT 116, EMT 117, EMT 118, EMT 119, Coreq: EMT 203
Field Placement for the Paramedic	EMT 203	F/S	5	Coreq: EMT 202
Semester 4				
Composition II	ENG 102	F/S/SU	3	ENG 101
Introduction to Psychology or	PSY 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Psychology of Interpersonal Relations	PSY 118			
Semester 5				
Introduction to Microcomputer Applications	CIS 111	F/S/SU	3	
Speech Communication Skills	SPH 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Elective	---	F/S/SU	3	
Liberal Arts Elective	---	F/S/SU	3	
Total Credits Required:			70	

EMT Paramedic — PC

Certificate

Program Goals:

To prepare competent entry-level Emergency Medical Technician-Paramedics to serve in career and volunteer positions throughout the Commonwealth and neighboring regions.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Comprehend, apply and evaluate the didactic, clinical and field information relative to the graduate's role as an entry-level Paramedic and to display behaviors consistent with the professional and employer expectations within the Commonwealth.
- Demonstrate technical proficiency in all skills necessary to fulfill the role of entry-level Paramedic within the Commonwealth including but not limited to:
 - Administer advanced life support care to sick and injured persons from pre-term through geriatric patients.
 - Assess the nature and extent of illness or injury to establish and prioritize medical procedures to be followed or need for additional assistance.
 - Restore and stabilize heart rhythm on pulseless, non-breathing patients, using defibrillator, cardioversion, or external pacemaker.
 - Monitor cardiac patients using electrocardiograph.
 - Initiate intravenous fluids to administer medication, or to replace fluids to the body.
 - Perform endotracheal intubation to maintain the patient's airway and to ventilate the patient.
 - Administer injections of medications.
 - Record patient vital signs including blood pressure, pulse rate, respiratory rate, skin color, texture and temperature, pupil response to light, capillary refill time, blood glucose reading, pulse oximetry and capnography.
 - Extricate entrapped victims.
 - Observe, record, and report any changes in patient condition to the physician.
 - Operate and maintain control of the emergency response vehicle.
 - Function in the role of Team Leader for additional personnel involved in any emergency scene.

- Communicate effectively to additional personnel at scene or to hospital personnel via radio/telephone systems.

- At the completion of didactic, clinical and field practicum, the Paramedic student is prepared to sit for the National Registry of Emergency Medical Technicians Practical and Written Examinations.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.
- EMT-B certification.
- One year of EMT-B certification as verified by letter from employer.
- ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI), Sex Offender Registry Information (SORI), and National Background checks are required in the program, either annually or every semester. Finger printing and drug testing may be required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Cost for NREMT practical exam: \$150.00 to OEMS; QCC site fee of \$175.00. Other site fees vary. Cost for NREMT written exam: \$55.00. Uniforms for Clinical and Field Practicum vary per semester by student agreement. Estimated current cost: \$200.00.

Location:

- This program may be completed at the QCC Healthcare and Workforce Development Center in downtown Worcester.
- This program will require students to travel to clinical sites within the Worcester county area.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 51.0904.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

emt@qcc.mass.edu

Gainful Employment:

Visit www.QCC.edu/gainful-employment for more information.

EMT Paramedic — Certificate — PC

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Principles of Human Biology	BIO 100	F/S/SU	4	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Introduction to Advanced Pre-Hospital Care	EMT 108	F/S	4	Coreq: BIO 100 or BIO 111, EMT 109, EMT 110, EMT 112, EMT 114
Pharmacology for Advanced Pre-Hospital Care	EMT 109	F/S	2	Coreq: BIO 100 or BIO 111, EMT 108, EMT 110, EMT 112, EMT 114
Patient Assessment and Human Systems	EMT 110	F/S	2	Coreq: BIO 100 or BIO 111, EMT 108, EMT 109, EMT 112, EMT 114
Patient Assessment/Pharmacology Laboratory Component	EMT 112	F/S	1	Coreq: BIO 100 or BIO 111, EMT 108, EMT 109, EMT 110, EMT 114
Life Span and Healthcare Issues for Pre-Hospital Care	EMT 114	F/S	4	Coreq: BIO 100 or BIO 111, EMT 108, EMT 109, EMT 110, EMT 112
Semester 2				
Advanced Pre-Hospital Care	EMT 115	F/S	4	EMT 108, EMT 109, EMT 110, EMT 112, EMT 114, Coreq: BIO 100 or BIO 112, EMT 116, EMT 117, EMT 118, EMT 119
Cardiology and Advanced Cardiac Life Support	EMT 116	F/S	4	EMT 108, EMT 109, EMT 110, EMT 112, EMT 114, Coreq: BIO 100 or BIO 112, EMT 115, EMT 117, EMT 118, EMT 119
Trauma	EMT 117	F/S	3	EMT 108, EMT 109, EMT 110, EMT 112, EMT 114, Coreq: BIO 100 or BIO 112, EMT 115, EMT 116, EMT 118, EMT 119
Neonatal and Pediatric Emergencies	EMT 118	F/S	2	EMT 108, EMT 109, EMT 110, EMT 112, EMT 114, Coreq: BIO 100 or BIO 112, EMT 115, EMT 116, EMT 117, EMT 119
Topics In Advanced Life Support	EMT 119	F/S	3	EMT 108, EMT 109, EMT 110, EMT 112, EMT 114, Coreq: BIO 100 or BIO 112, EMT 115, EMT 116, EMT 117, EMT 118
Semester 3				
Clinical Placement for the Paramedic	EMT 202	F/S	7	EMT 115, EMT 116, EMT 117, EMT 118, EMT 119, Coreq: EMT 203
Field Placement for the Paramedic	EMT 203	F/S	5	Coreq: EMT 202
Total Credits Required:			45	

Emergency Medical Technician — EMT Certificate

Program Goals:

The Emergency Medical Technician program prepares a student for a career as an Emergency Medical Technician. Emergency Medical Technicians are important members of the healthcare team.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- List key developments in the history of EMS, the five types of services that provide emergency care, and discuss the role of the National Scope of Practice and the National EMS Education Standards as they relate to the levels of EMS education.
- Understand the body's topographic anatomy, including the anatomic position and the planes of the body, and the major structures of the respiratory system.
- Explain how pharmacology relates to paramedic clinical practice and describe the regulatory measures affecting medications administered in the pre-hospital setting.
- Describe how to determine the mechanism of injury or nature of illness at an emergency and the importance of differentiating trauma patients from medical patients. Discuss some of the possible hazards that may be present at an emergency scene, ways to recognize them, and the precautions to protect personal safety.
- Define the term trauma and explain its relationship to energy, kinetics, and biomechanics.
- Discuss the importance of the American Heart Association's five links of the Chain of Survival to a successful code. Describe how progressive communities can improve survival of pre-hospital cardiac arrest patients.
- Understand the normal changes that occur in the various body systems during pregnancy.
- Summarize the medical equipment, safety equipment, and operations equipment carried on an ambulance. Provide examples of some high-risk situations and hazards that may affect the safety of the ambulance and its passengers during both pre-transport and transport.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI), Sex Offender Registry Information (SORI), and National Background checks are required in the program, either annually or every semester. Finger printing and drug testing may be required.

- Students should be aware that a prior or current history of criminal or sexual offense could prevent them from participation in the program.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Students should anticipate additional expenses for clinical uniforms, professional liability insurance, clinical parking fees, materials required in the program, EMT practical exam, and EMT written exam.

Location:

- This program may be completed at the QCC Healthcare and Workforce Development Center in downtown Worcester.
- This program will require students to travel to clinical sites within the Worcester County area.
- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 51.0904.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

emt@qcc.mass.edu

Additional Information:

- This is a great opportunity for students to gain entry-level employment in the healthcare field prior to matriculating into a select program.
- Must take the college placement test to determine Math and English levels if no college level courses were previously completed.

Emergency Medical Technician — Certificate — EMT

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Strategies for College and Career*	ORT 110	F/S/SU	3	Coreq: ENG 090 and ENG 095 or approp place score
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Introduction to Medical Terminology	ALH 102	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Introduction to Microcomputer Applications	CIS 111	F/S/SU	3	
Principles of Human Biology	BIO 100	F/S/SU	4	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Basic Emergency Medical Technology**	EMT 101	F/S/SU	7	
Total Credits Required:			23	

Program Notes:

- If students complete the Health Certificate, maintain a GPA of 3.0 and meet the admissions requirements of a Healthcare program, they will be guaranteed admission on a space-available basis.

*Students are to take ORT 110 with a Healthcare focus.

**EMT 101 may be taken as a free-standing course, or as part of the entire certificate.

Emergency Medical Services - Emergency Medical Technician - Basic Course Offerings

Program Goals:

This course prepares the student upon successful completion of the Massachusetts EMT-Basic exam to practice at the EMT-Basic level. It provides supervised classroom, laboratory training, and field experience with a local Emergency Services provider. Students in this program will be required to complete approximately 160 hours of intensive lecture and laboratory materials. This program is accredited by the Massachusetts Office of Emergency Medical Services (OEMS). Upon successful completion of the didactic and clinical components of this program, the student will be eligible to take the certification examination for EMT-Basic of the Massachusetts Office of Emergency Medical Services.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are required of all students accepted into the program. Students

should be aware that a court record may prevent them from certification for EMT-Basic or the Massachusetts Department of Public Health. Finger printing may be required and drug testing will be required. All students must submit evidence of a positive Hepatitis B titer to be admitted to the program. To qualify for this course, the candidate must hold a current Massachusetts driver's license, and possess a Health Care Provider CPR card. A completed health form is also required.

Technical Performance Standards:

See the Technical Performance Standards page (page 20).

Program Contact Email:

cfinn@qcc.mass.edu

Course Title	Course #	Semester Offered	Credits	Prerequisites
Basic Emergency Medical Technology	EMT 101	F/S/SU	7	
Total:			7	

Engineering — ERG

Associate in Science

Program Goals:

The Engineering program is a rigorous program that emphasizes mathematics and sciences. It prepares students for transfer to four-year colleges and universities at which they can continue their education in all fields of engineering, life sciences, and sciences. The program strives to develop students' ability and awareness to think critically, solve problems, foster a strong sense of global community, and work wisely and creatively to better themselves and the world in which they live.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Apply knowledge of mathematics, science, and engineering.
- Design and conduct experiments, as well as to analyze and interpret data.
- Design a system, component or process to meet desired needs.
- Function on multidisciplinary teams.
- Identify, formulate, and solve engineering problems.
- Use the techniques, skills, and modern engineering tools necessary for engineering practice.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 15.9999.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

Engineering@qcc.mass.edu

Additional Information:

- Students should note that some required courses carry a minimum corequisite of MAT 233.
- WPI awards no transfer credit for any online course work. Students are advised to consult with their transfer institution(s) of choice for similar policies.
- For students who are pursuing an associate degree in Engineering, it is strongly recommended they take six of these courses at QCC: Calculus III, Differential Equations, General Physics III, Linear Algebra, Probability & Statistics for Engineers and Scientists, Thermodynamics, and C++ For Scientists & Engineers.
- It is strongly recommended that interested students contact the Program Coordinator as early as possible in order to review degree requirements and make arrangements for any needed prerequisite courses.

Engineering — Associate in Science — ERG

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Principles of Chemistry for Engineers I	CHM 123	F/S/SU	4	Coreq: MAT 233
C++ For Scientists & Engineers	CSC 221	F/S/SU	3	MAT 124, Coreq: MAT 233 recommended
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Engineering Graphics	ERG 101	F/S/SU	3	MAT 124
Calculus I	MAT 233	F/S/SU	4	MAT 124
Semester 2				
Principles of Chemistry for Engineers II	CHM 124	F/S/SU	4	CHM 123
Composition II	ENG 102	F/S/SU	3	ENG 101
Calculus II	MAT 234	F/S/SU	4	MAT 233
General Physics I	PHY 105	F/S/SU	4	MAT 233
Social Science Elective	---	F/S/SU	3	
Semester 3				
Introduction to Materials Science	ERG 211	F/SU	3	CHM 123, PHY 105
Statics	ERG 221	F/IN	3	Coreq: MAT 235, PHY 106
Calculus III	MAT 235	F/S	4	MAT 234
Probability & Statistics for Engineers and Scientists	MAT 237	F/S/SU	3	MAT 234
General Physics II	PHY 106	F/S/SU	4	MAT 234, PHY 105
Semester 4				
Thermodynamics	ERG 223	S/SU	3	CHM 124, MAT 235, PHY 106
Strength of Materials	ERG 225	S/SU	3	ERG 221, MAT 235, Coreq: MAT 238
Differential Equations	MAT 238	F/S/SU	3	MAT 235
Linear Algebra	MAT 243	F/S/SU	3	Coreq: MAT 238
General Physics III	PHY 205	F/S/SU	4	MAT 235, PHY 106, Coreq: MAT 238
Total Credits Required:			68	

Program Notes:

- Students should note that some required courses carry a minimum corequisite of MAT 233.
- WPI awards no transfer credit for any online course work. Students are advised to consult with their transfer institution(s) of choice for similar policies.

Engineering - Biomedical Engineering Option — ERBM

Associate in Science

Program Goals:

The Engineering - Biomedical Engineering Option is a rigorous program that emphasizes mathematics, sciences, and life sciences. It prepares students for transfer to four-year colleges and universities at which they can continue their education in all fields of biomedical engineering, medicine, life sciences, and sciences. The program strives to develop students' ability and awareness to think critically, solve problems, foster a strong sense of global community, and work wisely and creatively to better themselves and the world in which they live.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Apply knowledge of mathematics, biology, sciences, and engineering.
- Design and conduct experiments, as well as to analyze and interpret data.
- Design a component, device, or process to meet desired needs.
- Function on multidisciplinary teams.
- Identify, formulate, and solve engineering problems with special focus on biological and health systems and products.
- Use the techniques, skills, and modern engineering tools necessary for engineering practice.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 14.0501.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

Engineering@qcc.mass.edu

Additional Information:

- Students should note that some required courses carry a minimum prerequisite of MAT 124 or higher.
- WPI awards no transfer credit for any online course work. Students are advised to consult with their transfer institution(s) of choice for similar policies.
- For students pursuing the Associate in Science in Engineering - Biomedical Engineering Option, it is strongly recommended that the following courses are taken in residence at QCC: BIO 107, BIO 159, BIO 160, ERG 223, MAT 235, MAT 237, MAT 238, MAT 243, and PHY 205.
- It is strongly recommended that interested students contact the Program Coordinator as early as possible in order to review degree requirements and make arrangements for any needed prerequisite courses.

Engineering - Biomedical Engineering Option — Associate in Science — ERBM

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Principles of Biology I*	BIO 107	F/S/SU	4	MAT 099 with a "C" or higher on the MAT 099 departmental final exam or approp place score, Coreq: ENG 101
Principles of Chemistry for Engineers I	CHM 123	F/S/SU	4	Coreq: MAT 233
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Calculus I	MAT 233	F/S/SU	4	MAT 124
Social Science Elective	---	F/S/SU	3	
Semester 2				
Cell Biology	BIO 259	F/S	4	BIO 107
Principles of Chemistry for Engineers II	CHM 124	F/S/SU	4	CHM 123
Composition II	ENG 102	F/S/SU	3	ENG 101
Calculus II	MAT 234	F/S/SU	4	MAT 233
General Physics I	PHY 105	F/S/SU	4	MAT 233
Semester 3 (Summer)				
Probability & Statistics for Engineers and Scientists	MAT 237	F/S/SU	3	MAT 234
General Physics II	PHY 106	F/S/SU	4	MAT 234, PHY 105
Semester 4				
Molecular Biology	BIO 260	F/S	4	BIO 107
Introduction to Materials Science	ERG 211	F/SU	3	CHM 123, PHY 105
Statics	ERG 221	F/IN	3	Coreq: MAT 235, PHY 106
Calculus III	MAT 235	F/S	4	MAT 234
Semester 5				
Thermodynamics	ERG 223	S/SU	3	CHM 124, MAT 235, PHY 106
Strength of Materials	ERG 225	S/SU	3	ERG 221, MAT 235, Coreq: MAT 238
Differential Equations	MAT 238	F/S/SU	3	MAT 235
Linear Algebra	MAT 243	F/S/SU	3	Coreq: MAT 238
General Physics III	PHY 205	F/S/SU	4	MAT 235, PHY 106, Coreq: MAT 238
Total Credits Required:			74	

Program Notes:

- Students should note that some required courses carry a minimum prerequisite of MAT 124 or higher.
- WPI awards no transfer credit for any online course work. Students are advised to consult with their transfer institution(s) of choice for similar policies.

*Students who have successfully completed BIO 101 prior to Fall 2012 can substitute this course for BIO 107.

Energy Utility Technology — EUTC Certificate

Program Goals:

The Energy Utility Technology certificate program is designed to prepare students for entry-level positions in the electrical and/or gas utility industry. The energy industry has forecast a strong need for technologically literate employees in the next several years for positions such as overhead and underground line workers, meter workers, and substation maintenance personnel. The program includes courses that provide students with and introduction to the energy industry; knowledge of direct and alternating current circuits; generation, transmission and distribution of electricity; industrial safety; and computer applications. In addition, students will gain hands-on experience through a practicum in the second semester.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Enter the electrical utility workforce in an entry-level position.
- Enter the gas utility workforce in an entry-level position.
- Advance through utility specific training.
- Transfer into the General Studies - EUT Associates Degree Program at QCC.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.
- Assess into MAT 099 or higher on the Accuplacer.
- Assess into ENG 101.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

- CORI/SORI checks, finger printing, and drug testing

may be required by utility employers. Additionally, driving infractions will likely affect an individual's employability.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Practicum participants will be expected to wear protective boots with steel or composite toes and an EH rating at the utility training site (approximately \$100.00-\$200.00).

Location:

- This program may be completed at the QCC Worcester campus and at a utility training facility located in Millbury, MA.
- This program may be completed face-to-face.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 49.9051.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

eut@qcc.mass.edu

Additional Information:

- Students are advised to enroll in all Semester 1 courses in the fall semester in order to progress to Semester 2.
- Students should enroll in all Semester 2 courses in order to complete the program in one academic year.

- Individuals seeking employment with utility companies must also meet employer-specific hiring requirements. This may include CORI/SORI checks, finger printing, and drug testing.
- Individuals with driving and/or legal infractions should be aware that their actions may impact their employability.

Gainful Employment:

Visit www.QCC.edu/gainful-employment for more information.

Energy Utility Technology — Certificate — EUTC

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Fundamentals of the Energy Industry	EUT 101	F	4	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Introduction to Microcomputer Applications	CIS 111	F/S/SU	3	
Applied Technical Mathematics I*	MAT 108	F/S	4	MAT 095 with a "C" or higher on the MAT 095 departmental final exam or approp place score
Electrical Principles I	EUT 110	F	4	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, MAT 095 with a "C" or higher on the MAT 095 departmental final exam or approp place score, Coreq: EUT 101
Semester 2				
Electrical Principles II	EUT 111	S	4	EUT 110
Generation, Transmission and Distribution	EUT 115	S	4	EUT 110
Industrial Safety	EUT 120	S	3	EUT 101
Energy Utility Technology Practicum	EUT 190	S	3	Coreq: EUT 111, EUT 115, EUT 120
Total Credits Required:			29	

Program Notes:

- Students are advised to enroll in all Semester 1 courses in the fall semester in order to progress to Semester 2. Students should enroll in all Semester 2 courses in order to complete the program in one academic year.
- Individuals seeking employment with utility companies must also meet employer-specific hiring requirements. Individuals with driving and/or legal infractions should be aware that their actions may impact their employability.

*MAT 108 is designed to teach students how to apply mathematics to specific technical disciplines and is offered for credit toward the certificate or degree to be earned in Energy Utility Technology. It may not be considered equivalent to college level mathematics for the purpose of transfer of credit to some baccalaureate institutions.

English as a Second Language (ESL) Course Offerings

Non-Credit ESL

Non-credit ESL courses are also available, some of which are offered free of charge. For more information on these classes please visit the QCC Center for Workforce Development and Continuing Education.

- Short- and long-term classes.
- No high school diploma required.
- Increase your job opportunities, focus on pronunciation, and develop social skills in a new culture.

Credit ESL

Quinsigamond Community College offers college level classes in English as a Second Language (ESL) for non-

native speakers of English. These are credit-bearing courses and may be used as elective credit for some degree programs. Students wishing to enroll in ESL classes must have a high school diploma or GED and appropriate placement scores. Students taking these courses are charged the same tuition and fees as all other credit courses. For more information about credit ESL courses, please contact esl@qcc.mass.edu (link sends e-mail).

- 15 week semesters.
- Flexible scheduling (day and evening classes).
- Small, comfortable classes.
- Financial aid and payment plans are available.
- Receive college credit.
- Begin a career.
- Develop college language skills.
- Access FREE tutoring six days a week.
- Experience college life.
- Change your life!

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
English as a Second Language: Writing I*	ESL 103	F/S	3	Non-native speaker of English, High School Diploma or GED and approp place score
English as a Second Language: Reading I*	ESL 113	F/S	3	
English as a Second Language: Listening/Speaking I*	ESL 133	F/S	3	
English as a Second Language: Note-Taking I*	ESL 143	F/S	3	
Semester 2				
English as a Second Language: Writing II	ESL 104	F/S	3	Non-native speaker of English, High School Diploma or GED and ESL 103 passed with a grade of "C" or higher or approp place score
English as a Second Language: Reading II	ESL 114	F/S	3	Non-native speaker of English, High School Diploma or GED and ESL 113 passed with a grade of "C" or higher or approp place score
English as a Second Language: Listening/Speaking II	ESL 134	F/S	3	Non-native speaker of English, High School Diploma or GED and ESL 133 passed with a grade of "C" or higher or approp place score
English as a Second Language: Note-Taking II	ESL 144	F/S	3	Non-native speaker of English, High School Diploma or GED and ESL 143 passed with a grade of "C" or higher or approp place score
Semester 3				
English as a Second Language: Writing III	ESL 105	F/S	3	Non-native speaker of English, High School Diploma or GED and ESL 104 passed with a grade of "C" or higher or approp place score
English as a Second Language: Reading III	ESL 115	F/S	3	Non-native speaker of English, High School Diploma or GED and ESL 114 passed with a grade of "C" or higher or approp place score
English as a Second Language: Listening/Speaking III	ESL 135	F/S	3	Non-native speaker of English, High School Diploma or GED and ESL 134 passed with a grade of "C" or higher or approp place score
English as a Second Language: Note-Taking III	ESL 145	F/S	3	Non-native speaker of English, High School Diploma or GED and ESL 144 passed with a grade of "C" or higher or approp place score
Semester 4				
English as a Second Language: Advanced Reading/Writing	ESL 155	F/S	3	Non-native speaker of English, High School Diploma or GED and ESL 105 and ESL 115 or approp place score
Total Credits Required:			39	

Notes: *To enroll in any English as a Second Language (ESL) course, student must be a non-native speaker of English, have a High School Diploma or GED and appropriate placement score.

Fire Science — FS

Associate in Science

Program Goals:

This program prepares students for a career as a firefighter or to advance in the Firefighting profession. Graduates are prepared to transfer to a four-year program.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Demonstrate and use basic interpersonal, group and public communication skills.
- Formulate accurate and clearly written letters, memos, technical reports and business communications.
- Illustrate and relate the basics of mathematical models to fire and life safety.
- Summarize and restate basic theories and fundamentals of how and why fires start, spread and are controlled.
- Evaluate the components of building construction related to fire and life safety; including inspections, pre-incident planning and emergency operations.
- Compare and contrast and performing basic responsibilities of company officers including supervision, delegation, problem solving, decision-making, communications and leadership.
- Evaluate the laws, rules, regulations, and codes and those relevant to fire prevention of the authority having jurisdiction.
- Distinguish the benefits of fire protection systems in various types of structures.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- The Fire Science Program does not have any additional costs. However, EMT 101 may require students to purchase some supplies. The EMT 101 course prepares students for the Massachusetts State Certification exam and the cost of the state exam is the student's responsibility.

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face.
- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

- Additionally, credit may be earned for courses taken at the Massachusetts Firefighting Academy or at Worcester Fire Academy or for EMT 101 for students with current EMT Basic, EMT I or EMT Paramedic certification.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 43.0202.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

firescience@qcc.mass.edu

Additional Information:

- This Program is designed to align with the Fire and Emergency Services Higher Education (FESHE) Model for Associate degree Programs in Fire Science.
- QCC is recognized as a FESHE College by the National Fire Academy - FEMA.

Fire Science — Associate in Science — FS

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Mathematics Elective*	---	F/S/SU	3	
Principles of Emergency Services	FSC 101	F/S	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Basic Emergency Medical Technology**	EMT 101	F/S/SU	7	
Semester 2				
Composition II	ENG 102	F/S/SU	3	ENG 101
Introduction to Microcomputer Applications or	CIS 111	F/S/SU	3	CIS 111
Advanced Microcomputer Applications	CIS 112			
Fire Behavior and Combustion	FSC 104	F/S	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, FSC 101
Building Construction for Fire Protection	FSC 121	F/S	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, FSC 101
Speech Communication Skills	SPH 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 3				
Lab Science Elective***	---	F/S/SU	4	
Introduction to Psychology	PSY 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Principles of Fire and Emergency Services Safety and Survival	FSC 201	F/S	3	FSC 104, FSC 121
Fire Prevention	FSC 203	F/S	3	FSC 104, FSC 121, ENG 101
Fire Science Elective	---	F/S/SU	3	
Semester 4				
Lab Science Elective***	---	F/S/SU	4	
Introductory Sociology (Principles) or	SOC 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score Coreq: ENG 101
Social Problems & Social Change	SOC 111			
Fire Protection Systems	FSC 223	F/S	3	FSC 203
Introduction to Fire and Emergency Services Administration	FSC 263	F/S	3	FSC 203, SPH 101
Fire Science Elective	---	F/S/SU	3	
Total Credits Required:			63	

Program Notes:

*MAT 100, MAT 121, MAT 122, or higher; MAT 122 recommended.

**Credit for EMT 101 may be earned through credentialing for students with current EMT Basic, EMT I or EMT Paramedic certification or take two Fire Science Electives.

***Recommend taking BIO 101 and BIO 111 as Lab Science Electives if students are considering becoming a paramedic. See Paramedic Technology Program for admissions requirements and program details.

Fire Science Certificate — FSC Certificate

Program Goals:

This program prepares students for a career as a firefighter or to advance in the Firefighting profession. The certificate credits are directly applicable to an Associate of Science Degree in Fire Science.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Demonstrate and use basic interpersonal, group and public communication skills.
- Formulate accurate and clearly written letters, memos, technical reports and business communications.
- Illustrate and relate the basics of mathematical models to fire and life safety.
- Summarize and restate basic theories and fundamentals of how and why fires start, spread and are controlled.
- Evaluate the components of building construction related to fire and life safety; including inspections, pre-incident planning and emergency operations.
- Compare and contrast and performing basic responsibilities of company officers including supervision, delegation, problem solving, decision-making, communications and leadership.
- Evaluate the laws, rules, regulations, and codes and those relevant to fire prevention of the authority having jurisdiction.
- Distinguish the benefits of fire protection systems in various types of structures.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- The Fire Science Program does not have any additional costs. However, EMT 101 Basic Emergency Medical Technology may require students to purchase some supplies. The QCC EMT 101 course prepares students for the Massachusetts State Certification exam and the cost of the state exam is the student's responsibility.

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face.
- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

- Additionally credit may be earned for courses taken at the Massachusetts Firefighting Academy or at Worcester Fire Academy or for EMT 101 for students with current EMT Basic, EMT I or EMT Paramedic certification.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 43.0203.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

firescience@qcc.mass.edu

Additional Information:

- This Program is designed to align with the Fire and Emergency Services Higher Education (FESHE) Model for Associate degree Programs in Fire Science.
- QCC is recognized as a FESHE College by the National Fire Academy.

Gainful Employment:

Visit www.QCC.edu/gainful-employment for more information.

Fire Science Certificate — Certificate — FSC

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Principles of Emergency Services	FSC 101	F/S	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Occupational Safety and Health for Emergency Services	FSC 151	F/S	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Basic Emergency Medical Technology	EMT 101	F/S/SU	7	
Semester 2				
Building Construction for Fire Protection	FSC 121	F/S	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, FSC 101
Fire Behavior and Combustion	FSC 104	F/S	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, FSC 101
Introduction to Microcomputer Applications	CIS 111	F/S/SU	3	
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Total Credits Required:			25	

General Studies — GS

Associate in Arts

Program Goals:

- To provide a comprehensive, responsive, directed academic experience which helps students identify educational and career choices, develop individualized career plans and implement career pathways leading to further education or careers.
- To meet the academic needs of QCC career programs, four-year institutions and area employers.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Identify and explore their educational and career choices.
- Write and speak effectively.
- Locate, evaluate and apply reliable and appropriate information.
- Apply the concepts and methods of mathematics to solve problems.
- Relate scientific methods of inquiry to the acquisition of knowledge.
- Demonstrate knowledge and appreciation of the relative historical and cultural perspectives of society.
- Demonstrate knowledge and appreciation of the behavioral sciences.
- Demonstrate knowledge of the basic principles and practices of sound critical thinking and problem solving.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

Location:

- This program may be completed at the QCC Worcester campus and at the Southbridge location.
- This program may be completed face-to-face.
- This program may be completed 100% online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 24.0102.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

generalstudies@qcc.mass.edu

General Studies — Associate in Arts — GS

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Behavioral Science Elective	---	F/S/SU	3	
College Algebra or	MAT 100	F/S/SU	3	MAT 099 with a "C" or higher on the MAT 099 departmental final exam or approp place score
Topics in Mathematics or	MAT 121			
Statistics	MAT 122			
Strategies for College and Career or	ORT 110	F/S/SU	3	Coreq: ENG 090 and ENG 095 or approp place score ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Self-Assessment and Career Planning	PSY 115			
Critical Thinking and Problem Solving	HUM 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 2				
Composition II	ENG 102	F/S/SU	3	ENG 101
History Elective	---	F/S/SU	3	
Program Elective	---	F/S/SU	3	
Program Elective*	---	F/S/SU	3	
Elective	---	F/S/SU	3	
Semester 3				
Speech Communication Skills	SPH 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Program Elective	---	F/S/SU	3	
Humanities Elective	---	F/S/SU	3	
Lab Science Elective	---	F/S/SU	4	
Social Science Elective	---	F/S/SU	3	
Semester 4				
Humanities Elective**	---	F/S/SU	3	
Lab Science Elective	---	F/S/SU	4	
Social Science Elective	---	F/S/SU	3	
Program Elective	---	F/S/SU	3	
Elective**	---	F/S/SU	3	
Total Credits Required:			62	

Program Notes:

- Student must complete ORT 110 or PSY 115 prior to the completion of 20 credits in order to register for additional courses in the General Studies Program. Courses that meet developmental, core, or general education requirements are not Career Electives.
- Career Electives: Courses with the objective of preparing students for a specific occupation or semester of occupations **or** courses that have been recommended based upon the student's Academic and Career Plan.

*Suggested course designations include: CIS, CSC, and APA.

**Must be a 200-level course.

General Studies - Biotechnology

Option — GSBT

Associate in Arts

Program Goals:

This program provides students with a strong academic foundation in biotechnology and lab sciences. Graduates are prepared to enter the workforce or transfer to a four-year college.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Understand the fundamental scientific principles of biotechnology.
- Demonstrate the ability to manipulate and analyze data.
- Demonstrate the ability to work effectively in a laboratory setting.
- Utilize critical thinking and scientific methodology.
- Demonstrate the application of scientific knowledge to common biotechnological techniques.
- Demonstrate effective written and verbal communication.
- Demonstrate math competency.
- Demonstrate the ability to be an effective team leader.
- Transfer to four-year institutions.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

Location:

- This program may be completed at the QCC Worcester campus. Some laboratory classes may be completed at local laboratory facilities.
- This program may be completed face-to-face.
- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 26.1201.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

biotechnology@qcc.mass.edu

General Studies - Biotechnology Option — Associate in Arts — GSBT

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1 (Fall)				
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Principles of Biology I*	BIO 107	F/S/SU	4	MAT 099 with a "C" or higher on the MAT 099 departmental final exam or approp place score, Coreq: ENG 101
Introduction to Biotechnology	BTT 101	F/S	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, MAT 095 with a "C" or higher on the MAT 095 departmental final exam or approp place score
General Chemistry I	CHM 105	F/S/SU	4	CHM 090 or one year of High School Chemistry, MAT 099 with a "C" or higher on the MAT 099 departmental final exam or approp place score
Critical Thinking and Problem Solving	HUM 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 2 (Spring)				
Composition II	ENG 102	F/S/SU	3	ENG 101
Cell Biology	BIO 259	F/S	4	BIO 107
Behavioral Science Elective	---	F/S/SU	3	
General Chemistry II	CHM 106	F/S/SU	4	CHM 105
College Mathematics I: Pre-Calculus	MAT 123	F/S/SU	3	MAT 100 or approp place score
Semester 3 (Summer I or Summer II)				
Statistics	MAT 122	F/S/SU	3	MAT 099 with a "C" or higher on the MAT 099 departmental final exam or approp place score
History Elective	---	F/S/SU	3	
Semester 4 (Fall)				
Speech Communication Skills	SPH 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
General Microbiology	BIO 231	F/S	4	BIO 107
Science Elective**	---	F/S/SU	4	
Social Science Elective	---	F/S/SU	3	
Semester 5 (Spring)				
Humanities Elective	---	F/S/SU	3	
Social Science Elective	---	F/S/SU	3	
Mathematics Elective or Science Elective	---	F/S/SU	3-4	
Mathematics Elective or Science Elective***	---	F/S/SU	3-6	
Total Credits Required:			66-70	

Program Notes:

*Students who have successfully completed BIO 101 prior to Fall 2012 can substitute this course for BIO 107.

**BIO 260 recommended for students seeking employment after graduation.

***BTT 201 (summer only) recommended for students seeking employment after graduation.

General Studies - Deaf Studies Option — GSDS

Associate in Arts

Program Goals:

The Deaf Studies Option prepares students to have the necessary communication skills and cultural knowledge to work with deaf and hard of hearing individuals. Through practicum participation and other course related research, students explore career opportunities in the deaf community.

Student Learning Outcomes:

- Upon completion of the program graduates will be able to:
- Transfer to a four-year college to continue in the area of Deaf Studies.
- Transfer to an interpreter training program.
- Work in a program serving deaf and hard of hearing individuals.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are required. Finger printing and drug testing are not required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

Location:

- This program may be completed at the QCC Worcester campus. Some laboratory classes may be completed at local laboratory facilities.
- This program may be completed face-to-face.
- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 26.1201.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

deafstudies@qcc.mass.edu

General Studies - Deaf Studies Option — Associate in Arts — GSDS

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Beginning American Sign Language I	ASL 111	F/S/SU	3	
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Critical Thinking and Problem Solving	HUM 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Introduction to Psychology	PSY 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Introductory Sociology (Principles)	SOC 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 2				
Beginning American Sign Language II	ASL 112	F/S/SU	3	ASL 111
Introduction to Deaf Studies	ASL 113	S	3	ASL 111
Composition II	ENG 102	F/S/SU	3	ENG 101
Topics in Mathematics* or Statistics*	MAT 121 MAT 122	F/S/SU	3	MAT 099 with a "C" or higher on the MAT 099 departmental final exam or approp place score
American Deaf Culture	SOC 220	F	3	SOC 101
Semester 3				
Deaf Community Practicum	ASL 200	F/S	3	ASL 112, ASL 113, CORI/SORI Check
Intermediate American Sign Language I	ASL 211	S	3	ASL 112
Introduction to the Field of Interpreting	ASL 215	S	3	ASL 113, ASL 211
Speech Communication Skills	SPH 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Lab Science Elective**	---	F/S/SU	4	
Semester 4				
Intermediate American Sign Language II	ASL 212	S	3	ASL 211
Social Problems & Social Change	SOC 111	F/S/SU	3	Coreq: ENG 101
History Elective	---	F/S/SU	3	
Social Science Elective	---	F/S/SU	3	
Science Elective	---	F/S/SU	4	
Total Credits Required:			62	

Program Notes:

- CORI/SORI checks are required of all students taking a practicum.

*Regarding mathematics requirements, students are advised to consult the requirements of the college to which they plan to transfer.

**SCI 108 recommended.

General Studies - Elementary Education Transfer Option — GSEE

Associate in Arts

Program Goals:

The Elementary Education Transfer Option meets the standards of Mass Transfer and prepares students for transfer to undergraduate elementary education programs at Massachusetts public higher education institutions. The program includes broad based general education courses as well as courses that are more closely aligned to children and teaching. The goal is to provide students with a clear path to a degree at a four-year university.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Demonstrate mastery of number sense and numeration, patterns and functions, geometry and measurement, and data analysis.
- Apply the concepts and methods of understanding of human development from conception to adolescence.
- Apply the concepts and methods of understanding children's literature.
- Apply the concepts and methods of teaching and learning at the Elementary level.
- Achieve awareness of historical, philosophical and pedagogical perspectives in elementary education.
- Write and speak clearly.
- Locate, evaluate and apply reliable and appropriate information.
- Apply the concepts and methods of mathematics to solve problems.
- Relate scientific methods of inquiry to the acquisition of knowledge.
- Demonstrate knowledge and appreciation of diverse cultures (Social Science Electives).

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are required. Finger printing and drug testing are not required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Optional: MTEL (Massachusetts Tests for Educator Licensure) Preparation Class.

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face.
- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 13.1202.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

elementaryed@qcc.mass.edu

Additional Information:

Note: Students must pass the CLST portion of the MTEL (Massachusetts Tests for Educator Licensure) in order to be admitted into the Elementary Education Program at a Massachusetts four-year college or university. Students are strongly advised to take this exam after completing ENG 102.

General Studies - Elementary Education Transfer Option — Associate in Arts — GSEE

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Mathematics for Educators I	MAT 111	F/S/SU	3	MAT 099 with a "C" or higher on the MAT 099 departmental final exam or approp place score
Introduction to Psychology	PSY 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Speech Communication Skills	SPH 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Liberal Arts Elective*	---	F/S/SU	3	
Semester 2				
Composition II	ENG 102	F/S/SU	3	ENG 101
Mathematics for Educators II	MAT 112	F/S	3	MAT 111
Human Development I: Conception to Adolescence	PSY 123	F/S	3	PSY 101
Elementary Education: Teaching and Learning	EDU 101	F/S	3	ENG 096 with a grade of "C" or higher; or approp place score
History Elective**	---	F/S/SU	3	
Semester 3				
Integrated Science: Earth and Space	SCI 105	F/S/SU	4	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, MAT 095 with a "C" or higher on the MAT 095 departmental final exam or approp place score
Children's Literature	ENG 200	F/S/SU	3	ENG 102
Theory to Practice: The Elementary School Learner	EDU 102	F/S	3	ENG 096 with a grade of "C" or higher; or approp place score
Liberal Arts Elective*	---	F/S/SU	3	
Liberal Arts Elective*	---	F/S/SU	3	
Semester 4				
Foundations of Reading	EDU 200	F/S	3	EDU 101
Integrated Science: The Living World	SCI 106	F/S/SU	4	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, MAT 095 with a "C" or higher on the MAT 095 departmental final exam or approp place score
Liberal Arts Elective*	---	F/S/SU	3	
Humanities Elective***	---	F/S/SU	3	
Curriculum and Instruction in the Elementary School	EDU 201	F/S	3	EDU 101
Total Credits Required:			62	

Program Notes:

- CORI/SORI checks are required of all students taking EDU classes.
- It is highly recommended that students take the CLST portion of the MTEL (Massachusetts Tests for Educator Licensure) after completing ENG 102.

*Students are advised to consult the requirements of the college to which they plan to transfer. Graduates of the Elementary Education Option are required to have an academic major in the Liberal Arts. Since the requirements of each major at each institution will vary, students need to intentionally select the Liberal Arts Electives to maximize student transfer of credits.

**History Electives are designated as: HST 104, HST 105, HST 106, HST 115, or HST 116.

***Humanities course designations include: ART, ENG, FRC, GER, HUM, MUS, PHI, SPH, and SPN.

General Studies - Energy Utility Technology Option — GSET

Associate in Arts

Program Goals:

The General Studies Energy Utility Technology Associate in Arts degree is designed to prepare student for advancement in the energy industry. Additionally, students completing this degree will be prepared to transfer to a four-year program to complete a bachelor degree.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Seek advancement in the energy industry.
- Transfer to a four-year institution.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.
- Completion of the EUT certificate.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

- CORI/SORI checks, finger printing, and drug testing may be required by utility employers. Additionally, driving infractions will likely affect an individual's employability.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

Location:

- This program may be completed at the QCC Worcester campus.
- Non-EUT classes may be completed at the Southbridge location.
- This program may be completed face-to-face.

- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 15.0503.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

eut@qcc.mass.edu

General Studies - Energy Utility Technology Option — Associate in Arts — GSET

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Electrical Principles I*	EUT 110	F	4	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, MAT 095 with a "C" or higher on the MAT 095 departmental final exam or approp place score, Coreq: EUT 101
Fundamentals of the Energy Industry*	EUT 101	F	4	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Applied Technical Mathematics ^{1*}	MAT 108	F/S	4	MAT 095 with a "C" or higher on the MAT 095 departmental final exam or approp place score
Introduction to Microcomputer Applications*	CIS 111	F/S/SU	3	
Semester 2				
Composition II	ENG 102	F/S/SU	3	ENG 101
Electrical Principles II*	EUT 111	S	4	EUT 110
Generation, Transmission and Distribution*	EUT 115	S	4	EUT 110
Industrial Safety*	EUT 120	S	3	EUT 101
Energy Utility Technology Practicum*	EUT 190	S	3	Coreq: EUT 111, EUT 115, EUT 120
Semester 3				
Speech Communication Skills	SPH 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Critical Thinking and Problem Solving	HUM 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Liberal Arts Elective**	---	F/S/SU	3	
Lab Science Elective	---	F/S/SU	4	
Social Science Elective	---	F/S/SU	3	
Semester 4				
Humanities Elective***	---	F/S/SU	3	
Lab Science Elective	---	F/S/SU	4	
Social Science Elective****	---	F/S/SU	3	
History Elective	---	F/S/SU	3	
Total Credits Required:			64	

Program Notes:

- Individuals seeking employment with utility companies must also meet employer-specific hiring requirements. Individuals with driving and/or legal infractions should be aware that their actions may impact their employability.

¹Does not meet the requirements of *MassTransfer*.

*These courses are included in the Energy Utility Technology Certificate.

**MAT 121 or higher is recommended for students intending to meet the requirements of *MassTransfer* to transfer to a four-year institution.

***Must be a 200-level course.

****SOC 111 is recommended.

General Studies - Healthcare Option — GSHC

Associate in Arts

Program Goals:

This program offers students the opportunity to prepare for QCC's Healthcare Programs. Students will also be well prepared to transfer to a baccalaureate institution in science based programs.

Student Learning Outcomes:

- Upon completion of the program graduates will be able to:
- Demonstrate effective communication skills.
- Have an understanding of the biological sciences relative to the Health Professions
- Strengthen the development of their general education skills with courses in English, Math and Humanities.
- Have an understanding of medical terminology and pharmacology for health professions.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

Location:

- This program may be completed at the QCC Worcester campus and at the Southbridge location.
- This program may be completed face-to-face.
- This program may be completed 80% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 51.0000.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

generalstudieshealthcare@qcc.mass.edu

General Studies - Healthcare Option — Associate in Arts — GSHC

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Introduction to Psychology	PSY 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
General Biology: Core Concepts*	BIO 101	F/S/SU	4	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, MAT 095 with a "C" or higher on the MAT 095 departmental final exam or approp place score
Self-Assessment and Career Planning** or	PSY 115	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Strategies for College and Career	ORT 110			Coreq: ENG 090 and ENG 095 or approp place score
Critical Thinking and Problem Solving	HUM 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 2				
Composition II	ENG 102	F/S/SU	3	ENG 101
Statistics	MAT 122	F/S/SU	3	MAT 099 with a "C" or higher on the MAT 099 departmental final exam or approp place score
Introduction to Medical Terminology	ALH 102	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Introduction to Pharmacology for Allied Health Professionals	ALH 103	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Anatomy & Physiology I	BIO 111	F/S/SU	4	BIO 101 or High School Advanced Placement Biology, Coreq: ENG 101
Semester 3				
Speech Communication Skills	SPH 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Technical and Workplace Writing	ENG 205	F/S/SU	3	ENG 102, Computer Literacy
Valuing Diversity	IDS 101	F/S	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Anatomy & Physiology II	BIO 112	F/S/SU	4	BIO 111
Introductory Sociology (Principles) or	SOC 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Social Problems & Social Change	SOC 111			Coreq: ENG 101
Semester 4				
Humanities Elective***	---	F/S/SU	3	
History Elective	---	F/S/SU	3	
Elective****	---	F/S/SU	3	
Bioethics	IDS 215	S	3	Coreq: ENG 101
Pathophysiology	BIO 221	S	3	BIO 112
Total Credits Required:			63	

Program Notes:

- Students must complete ORT 110 or PSY 115 prior to the completion of 20 credits in order to register for additional courses in the General Studies Healthcare Option.

*If BIO 101 is not needed (if prerequisite for BIO 111 is met some other way), then student should either select CHM 101 if Dental Hygiene is the goal or BIO 232 if Nursing or Respiratory Care is the goal.

**PSY 115 is recommended for students placing into ENG 101; ORT 110 is recommended for students placing into ENG 090, ENG 091, ENG 095, or ENG 096.

***Must be a 200-level course.

****CHC 150, CHC 151, CHC 250, CIS 111, BIO 241, PHA 101, or PHA 102.

General Studies - Pre-Pharmacy

Option — GSPH

Associate in Arts

Program Goals:

This program provides students with the first two years of a strong academic foundation required for transfer to a four or six year Bachelor or Ph.D. degree programs in Pharmacy or related biological or biochemistry fields.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Demonstrate the academic and technical skills necessary for admission to a four or six year pharmacy program.
- Demonstrate the ability to be an effective team member.
- Demonstrate effective written and verbal communication skills.
- Understand the fundamental scientific principles necessary for continuation in pharmacology or a related field.
- Demonstrate a high standard of math competency.
- Utilize critical thinking and scientific methodology.
- Demonstrate application of scientific knowledge to common pharmacy and biological sciences practices.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.
- MAT 123 with a "B" or higher.
- ENG 096 with a "B" or higher.
- CHM 090 or one year of High School Chemistry with a "B" or higher.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face.
- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 51.1103.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

prepharm@qcc.mass.edu

General Studies - Pre-Pharmacy Option — Associate in Arts — GSPH

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1 (Fall)				
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Principles of Biology I	BIO 107	F/S/SU	4	MAT 099 with a "C" or higher on the MAT 099 departmental final exam or approp place score, Coreq: ENG 101
Statistics	MAT 122	F/S/SU	3	MAT 099 with a "C" or higher on the MAT 099 departmental final exam or approp place score
General Chemistry I	CHM 105	F/S/SU	4	CHM 090 or one year of High School Chemistry, MAT 099 with a "C" or higher on the MAT 099 departmental final exam or approp place score
Introduction to Psychology	PSY 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 2 (Spring)				
Composition II	ENG 102	F/S/SU	3	ENG 101
Principles of Biology II	BIO 108	F/S/SU	4	BIO 107
College Mathematics II: Trigonometry	MAT 124	F/S/SU	3	MAT 123 or approp place score
General Chemistry II	CHM 106	F/S/SU	4	CHM 105
Introductory Sociology (Principles)	SOC 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 3 (Summer)				
Elective*	---	F/S/SU	3-4	
Elective*	---	F/S/SU	3-4	
Economics Elective*	---	F/S/SU	3	
Speech Communication Skills	SPH 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 4 (Fall)				
Organic Chemistry I	CHM 201	F/S/SU	4	CHM 106 or CHM 124
General Microbiology or	BIO 231	F/S	4	BIO 107
Medical Microbiology	BIO 232	F/S/SU		BIO 112 or CHM 123 or CHM 105
Calculus I	MAT 233	F/S/SU	4	MAT 124
History Elective* or	---	F/S/SU	3	
Political Science Elective*	---			
Semester 5 (Spring)				
Organic Chemistry II	CHM 202	F/S/SU	4	CHM 201
General Physics I	PHY 105	F/S/SU	4	MAT 233
Humanities Elective*	---	F/S/SU	3	
Elective**	---	F/S/SU	3	
Total Credits Required:			75-77	

Program Notes:

*Students are advised to consult the requirements of the college to which they plan to transfer.

**Must be in the Humanities to meet *MassTransfer*.

General Studies - Public Health

Option — GSPL

Associate in Arts

Program Goals:

The General Studies - Public Health Option prepares students for a career as a Public Health Worker and/or prepares students with the first two years of a strong academic foundation required for transfer to a four-year Bachelor degree program in Public Health or related field.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Identify the roles and responsibilities of the public health worker.
- Identify the multiple ways public health affects daily living.
- Explain relationships between the social and behavioral sciences and public health.
- Implement strategies that promote behavior change.
- Understand safe practices as it relates to the public health role.
- Understand the similarities and differences in public and global health including demographic measures of health status and burden of disease.
- Understand the impact of the environment and communicable diseases on the health of populations.
- Describe the basis of chronic diseases on morbidity or mortality and approaches to prevention, early detection, and disease management.
- Understand the historical roots of epidemiological thinking and their contribution to the evolution of the scientific method.
- Describe the basic epidemiologic study designs that are used to test hypotheses, identify associations, and establish causation.
- Apply broad-based skills needed for problem solving in the many areas of public health.
- Participate in a co-operative experience directly related to public health.
- Demonstrate proficiency in the public and/or private sectors of public health.
- Develop multidisciplinary and collaborative strategies for solving health-related problems.
- Participate in a leadership role in health promotion and disease prevention.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI), Sex Offender Registry Information (SORI), and National Background checks are required for the PHA 299 Public Health Co-Operative Externship. Finger printing and drug testing may be required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

Location:

- This program may be completed at the QCC Worcester campus.
- Some classes may be offered at the QCC Healthcare and Workforce Development Center in downtown Worcester or at the Southbridge location.
- This program may be completed face-to-face.
- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 51.2208.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

janej@qcc.mass.edu

General Studies - Public Health Option — Associate in Arts — GSPL

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Introduction to Public Health	PHA 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Survey of Personal Health	PHA 100	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Anatomy & Physiology I	BIO 111	F/S/SU	4	BIO 101 or High School Advanced Placement Biology, Coreq: ENG 101
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 2				
Introduction to the Chemistry of Living Systems	CHM 101	F/S/SU	4	CHM 090 or one year of High School Chemistry, MAT 095 with a "C" or higher on the MAT 095 departmental final exam or approp place score
Introduction to Psychology	PSY 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Introduction to Global Health	PHA 102	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Anatomy & Physiology II	BIO 112	F/S/SU	4	BIO 111
Semester 3				
Medical Microbiology	BIO 232	F/S/SU	4	BIO 112 or CHM 123 or CHM 105
Humanities Elective	---	F/S/SU	3	
Semester 4				
Introductory Sociology (Principles)	SOC 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Speech Communication Skills	SPH 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Statistics	MAT 122	F/S/SU	3	MAT 099 with a "C" or higher on the MAT 099 departmental final exam or approp place score
Composition II	ENG 102	F/S/SU	3	ENG 101
Semester 5				
Public Health Epidemiology	PHA 103	F/S/SU	4	CHM 101, MAT 122, PHA 100, PHA 101, PHA 102
The United States Constitution	HST 212	F/S/SU	3	ENG 101
Nutrition	BIO 241	F/S/SU	3	BIO 101 or BIO 111
Humanities Elective*	---	F/S/SU	3	
Semester 6				
Public Health Co-Operative Externship	PHA 299	F/S/SU	6	BIO 241, HST 212, PHA 103
Total Credits Required:			65	

Program Notes:

- PHA 299 must be in a Public Health facility approved by PHA faculty.
- For the PHA 299 course, all PHA courses must be completed.
- PHA 299 must be taken in the last semester.

*Humanities Elective must be a 200-level course.

Nursing Assistant — NA

Certificate

Program Goals:

The Nursing Assistant Certificate Program educates individuals to work in various aspects of healthcare including hospitals and other health care facilities.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Function effectively as an entry-level nursing assistant.
- Follow safety and infection control procedures for protection of patients/residents, self, and others.
- Apply specialized job skills and abilities that may be required in the sub-acute care, long term care, individual's home, and hospital settings.
- Recognize and report changes and abnormalities to the licensed health care providers.
- Provide respectful care to patients/residents by complying with patient rights and respecting diversity.
- Utilize effective communication techniques with patients and members of the interdisciplinary healthcare team.
- Follow HIPAA guidelines for the protection of patient confidentiality.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI), Sex Offender Registry Information (SORI), and National Background checks are required in the program, either annually or every semester. Finger printing and drug testing may be required.

- Students should be aware that a prior or current history of criminal or sexual offense could prevent them from participation in the clinical externship.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Students should anticipate additional expenses for clinical uniforms, professional liability insurance, clinical parking fees, and materials required in the program.

Location:

- This program may be completed at the QCC Healthcare and Workforce Development Center in downtown Worcester; certain courses (ALH 131 and ALH 132) in this program are offered at both the QCC Healthcare and Workforce Development Center in downtown Worcester and at the Southbridge location.
- This program will require students to travel to clinical sites within the Worcester county area.
- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 51.1614.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

pcreelman@qcc.mass.edu

Additional Information:

Students accepted into the Nursing Assistant Certificate program must:

- Provide documentation of immunization currency and

satisfactory health status and must submit evidence of a positive Hepatitis B antibody titer prior to beginning the clinical externship. Students are required to meet the health requirements as identified on the QCC Health Form. These documents must be submitted by October 1st, March 1st, May 10th, or July 10th of semester enrolled in ALH 131. Students who have not been cleared by the Health Compliance Officer will not be allowed to participate in the clinical externship, and may necessitate withdrawal or course failure.

- Take the college placement test to determine Math and English levels if no college level courses were previously completed.

This is a great opportunity for students to gain entry-level employment in the healthcare field prior to matriculating into a selective program.

Students should be aware that clinical hours may be scheduled on weekday evenings or on Saturdays, based on facility availability.

Gainful Employment:

Visit www.QCC.edu/gainful-employment for more information.

Nursing Assistant — Certificate — NA

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Strategies for College and Career*	ORT 110	F/S/SU	3	Coreq: ENG 090 and ENG 095 or approp place score
Introduction to Psychology	PSY 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Introduction to Medical Terminology	ALH 102	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Introduction to Microcomputer Applications	CIS 111	F/S/SU	3	
Principles of Human Biology	BIO 100	F/S/SU	4	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Introductory Nursing Assistant	ALH 131	F/S/SU	5	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Advanced Nursing Assistant	ALH 132	F/S/SU	2	Certificate of Completion from a state-approved nursing assistant training program or current C.N.A. certificate, ALH 131
Total Credits Required:			23	

Program Notes:

- If students complete the Health Certificate, maintain a GPA of 3.0, meet the admissions requirements of the selected Healthcare program, receive a letter from Admissions that they have been placed on a waitlist for the specific Healthcare program, then they will be considered for earlier admission to the requested Healthcare program based on space availability.
- ALH 131 and ALH 132 restricted to Nursing Assistant Certificate students only.

*Students are to take ORT 110 with a Healthcare focus.

Perioperative Nursing — PNC

Certificate

Program Goals:

The Perioperative Nursing Program is designed to provide nurses with an understanding of the operating room nurse's role and responsibilities as part of the surgical team. Instruction includes components of the basic sciences, surgical asepsis/sterile technique, operating room techniques, surgical procedures, clinical practices and the assessment of patient's physical, emotional, and spiritual needs. The content is based on the standards and recommended practices established by the Association of Operating Room Nurses (AORN). Upon completion, students will be prepared for an entry-level operating room staff nurse position. Graduates are also eligible to join the AORN and, following two years of operating room experience, may sit for the elective certification exam.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Identify the role and responsibilities of the perioperative nurse.
- Correlate the knowledge of anatomy, physiology, pathophysiology, and microbiology to the role of the perioperative nurse.
- Demonstrate a safe level of practice and knowledge in the circulating and scrubbing roles.
- Identify the components of the nursing process into the perioperative experience.
- Identify the purpose and principles for maintaining environmental controls within the Operating Room Suite.
- Identify the important elements, actions, and use of medications and anesthetic agents used during the perioperative experience.
- Apply principals of aseptic technique in the clinical setting.
- Discuss the process of disinfection/sterilization of instruments and equipment.
- Demonstrate safety in regards to perioperative routines, patient transportation, patient positioning and emergency interventions.
- Acquire an understanding of the medical, ethical, legal, and moral values which relate to the individual patient, perioperative nurse, and operating room procedures.
- Identify common instruments, supplies, and equipment.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- Registered Nurse (RN) with Massachusetts license and 2000 clinical hours verified through a letter from employer.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI), Sex Offender Registry Information (SORI), and National Background checks are required in the program, either annually or every semester. Finger printing and drug testing may be required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Students should anticipate additional expenses for clinical parking fees.

Location:

- This program may be completed at the QCC Healthcare and Workforce Development Center in downtown Worcester.
- This program will require students to travel to clinical sites within the Worcester County area.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 51.3812.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

dcoleman@qcc.mass.edu

Additional Information:

Transportation is required.

Perioperative Nursing — Certificate — PNC

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Perioperative Nursing	SUR 250	F/S	3	Admission to Perioperative Nursing Certificate
Perioperative Nursing Externship	SUR 251	F/S	7	Admission to Perioperative Nursing Certificate, Coreq: SUR 250
Total Credits Required:			10	

Program Notes:

- If students complete the Health Certificate, maintain a GPA of 3.0, meet the admissions requirements of the selected Healthcare program, receive a letter from Admissions that they have been placed on a waitlist for the specific Healthcare program, then they will be considered for earlier admission to the requested Healthcare program based on space availability.

Pharmacy Technician — PT Certificate

Program Goals:

This program provides students with the knowledge needed to prepare for a career as a pharmacy technician.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Gain knowledge regarding the laws of pharmacy practice.
- Learn drug names and classification, compounding, calculations, abbreviations and dosage forms.
- Perform various pharmacy technician duties.
- Refine communication and interview skills.
- Assist the pharmacist as directed.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI), Sex Offender Registry Information (SORI), and National Background checks are required in the program, either annually or every semester. Finger printing and drug testing may be required.

- Students should be aware that a prior or current history of criminal or sexual offense could prevent them from participation in the clinical externship.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Students should anticipate additional expenses for clinical uniforms, professional liability insurance, clinical parking fees, and materials required in the program.

Location:

- This program may be completed at the QCC Healthcare and Workforce Development Center in downtown Worcester.
- This program will require students to travel to clinical sites within the Worcester County area.
- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 51.0805.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

pcreelman@qcc.mass.edu

Additional Information:

Students accepted into the Pharmacy Technician Certificate program must:

- Provide documentation of immunization currency and satisfactory health status prior to beginning the clinical experiences. Students are required to meet the health requirements as identified on the QCC Health Form. These documents must be submitted by December 15th, prior to entering ALH 138 in the Spring Semester. Students who have not been cleared by the Health Compliance Officer will not be able to participate in the clinical experience, and may necessitate withdrawal or course failure.
- Take the college placement test to determine Math and English levels if no college level courses were previously completed.

This is a great opportunity for students to gain entry-level employment in the healthcare field prior to matriculating into a selective program.

Students will increase their chances of obtaining employment by completing both the theoretical course (ALH 137) and the Clinical Externship (ALH 138).

Gainful Employment:

Visit www.QCC.edu/gainful-employment for more information.

Pharmacy Technician — Certificate — PT

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Strategies for College and Career*	ORT 110	F/S/SU	3	Coreq: ENG 090 and ENG 095 or approp place score
Introduction to Psychology	PSY 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Introduction to Medical Terminology	ALH 102	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Introduction to Microcomputer Applications	CIS 111	F/S/SU	3	
Principles of Human Biology	BIO 100	F/S/SU	4	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Pharmacy Technician	ALH 137	F	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, MAT 090 with a "C" or higher on the MAT 090 departmental final exam or approp place score
Pharmacy Technician Clinical Co-Operative Externship	ALH 138	S	6	ALH 137
Total Credits Required:			25	

Program Notes:

- If students complete the Health Certificate, maintain a GPA of 3.0, meet the admissions requirements of the selected Healthcare program, receive a letter from Admissions that they have been placed on a waitlist for the specific Healthcare program, then they will be considered for earlier admission to the requested Healthcare program based on space availability.
- ALH 137 and ALH 138 restricted to Pharmacy Technician Certificate students only.

*Students are to take ORT 110 with a Healthcare focus.

Phlebotomy/EKG Technician — PEKG

Certificate

Program Goals:

This Phlebotomy/EKG Technician Certificate Program educates individuals to work in various aspects of healthcare including hospitals, clinics, and outreach/home sites.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Understand medical terminology, basic anatomy of the venous system, basic hematology, infection control, quality assurance and safety.
- Perform venipuncture and capillary puncture, specimen handling.
- Gain knowledge of basic EKG tracing, rate, rhythm, common heart abnormalities and the use and function of the EKG machine.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI), Sex Offender Registry Information (SORI), and National Background checks are required in the program, either annually or every semester. Finger printing and drug testing may be required.

- Students should be aware that a prior or current history of criminal or sexual offense could prevent them from participation in the clinical externship.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Students should anticipate additional expenses for clinical uniforms, professional liability insurance, clinical parking fees, and materials required in the program.

Location:

- This program may be completed at the QCC Healthcare and Workforce Development Center in downtown Worcester.
- This program will require students to travel to clinical sites within the Worcester County area.

- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 51.1009.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

pcreelman@qcc.mass.edu

Additional Information:

Students accepted into the Phlebotomy/EKG Technician Certificate program must:

- Provide documentation of immunization currency and satisfactory health status and must submit evidence of a positive Hepatitis B antibody titer prior to beginning the clinical externship. Students are required to meet the health requirements as identified on the QCC Health Form. These documents must be submitted by October 1st and March 1st of semester enrolled in ALH 134/ALH 136 coursework. Students who have not been cleared by the Health Compliance Officer will not be allowed to participate in the clinical externship, and may necessitate withdrawal or course failure.
- Take the college placement test to determine Math and English levels if no college level courses were previously completed.

This is a great opportunity for students to gain entry-level employment in the healthcare field prior to matriculating into a selective program.

Students will increase their chances of obtaining employment by completing both the theoretical course (ALH 134) and the Clinical Externship (ALH 136).

Gainful Employment:

Visit www.QCC.edu/gainful-employment for more information.

Phlebotomy/EKG Technician — Certificate — PEKG

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Strategies for College and Career*	ORT 110	F/S/SU	3	Coreq: ENG 090 and ENG 095 or approp place score
Introduction to Psychology	PSY 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Introduction to Medical Terminology	ALH 102	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Introduction to Microcomputer Applications	CIS 111	F/S/SU	3	
Principles of Human Biology	BIO 100	F/S/SU	4	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Phlebotomy/EKG Technician	ALH 134	F/S	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Phlebotomy/EKG Technician Clinical Co-Operative Externship	ALH 136	F/S	6	Coreq: ALH 134
Total Credits Required:			25	

Program Notes:

- If students complete the Health Certificate, maintain a GPA of 3.0, meet the admissions requirements of the selected Healthcare program, receive a letter from Admissions that they have been placed on a waitlist for the specific Healthcare program, then they will be considered for earlier admission to the requested Healthcare program based on space availability.
- ALH 134 and ALH 136 restricted to Phlebotomy/EKG Technician Certificate students only.

*Students are to take ORT 110 with a Healthcare focus.

Heating Ventilation Air Conditioning — HVAC Certificate

Program Goals:

The QCC HVAC/R Program will provide successful graduates with the skills needed to enter the HVAC/R Field as an entry-level technician who can install, maintain and repair a wide variety of HVAC/R equipment. Graduates will also possess the knowledge, skills and abilities that will insure the safe and energy-efficient operation of HVAC/R equipment.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Solder, Braze, and Flare copper tubing.
- Safely wire and install electrical circuits.
- Use electrical meters to make electrical measurements.
- Understand and interpret wiring schematics.
- Troubleshoot electrical problems.
- Evacuate, charge, and recover refrigerant from Air Conditioning and Refrigeration systems.
- Troubleshoot Air Conditioning and Refrigeration systems.
- Troubleshoot Heating systems.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Laptop Computer: Students enrolled in any HVC course will be required to bring their own computer to class.

Please contact the Program Coordinator for minimum hardware and software requirements.

- Hand Tools for lab use: Students enrolled in HVC 101, HVC 102, HVC 104, HVC 105, HVC 106, and HVC 107 will be required to purchase basic hand tools utilized in the laboratory. Please contact the Program Coordinator for a required tool list.

Location:

- This program is offered at the Assabet location only.
- This program must be completed in blended format including both face-to-face and online coursework.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 47.0201.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

hvac@qcc.mass.edu

Additional Information:

For any further program information, call Program Coordinator Bob Recko at 774.288.0117.

Gainful Employment:

Visit www.QCC.edu/gainful-employment for more information.

Heating Ventilation Air Conditioning — Certificate — HVAC

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Introduction to Microcomputer Applications	CIS 111	F/S/SU	3	
Basic Refrigeration Systems and Heat Theory	HVC 101	F	4	Enrollment limited to HVC majors only
Basic Electricity	HVC 102	F	4	Enrollment limited to HVC majors only
Massachusetts Electrical Code	HVC 105	F	4	Enrollment limited to HVC majors only, Coreq: HVC 102
Semester 2				
Comfort Cooling Systems	HVC 107	S	4	HVC 101, Enrollment limited to HVC majors only
Massachusetts Refrigeration Code	HVC 104	S	4	HVC 101, Enrollment limited to HVC majors only
Comfort Heating Systems	HVC 106	S	4	HVC 101, Enrollment limited to HVC majors only
Total Credits Required:			27	

Program Notes:

- Students enrolled in this program must register for HVC 101 and HVC 102 simultaneously in Semester 1 in order to move on to the advanced HVC courses in Semester 2.
- Students are strongly encouraged to take HVC 101, HVC 102, and HVC 105 together; and HVC 107, HVC 104, and HVC 106 together.
- This program is offered at the Assabet location only.

Hospitality and Recreation Management - Foodservice Management Option — HRFO *Associate in Science*

Program Goals:

The goal of the Hospitality and Recreation Management Program is to provide business academics in an entrepreneurial, experiential setting that provides graduates of the Hospitality and Recreation Management Program the confidence, knowledge and skills to successfully advance the area's Hospitality and Recreation Industry.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Demonstrate and develop leadership skills through group cooperation.
- Demonstrate and develop technical skills through practical "real life" experience in the industry.
- Recognize the importance of outstanding guest service quality and ethics.
- Demonstrate improved ability to exercise judgment and critically analyze problems.
- Demonstrate professional written, oral and non-verbal communication skills.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

Note: Students not meeting admissions requirements are encouraged to enroll in the Foodservice Management Certificate program.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are required. Finger printing and drug testing are not required.

- The College is authorized by the Commonwealth's Department of Criminal Justice Information Services to access CORI records. The College shall refer to regulations issued by the Commonwealth's Executive Office of Health and Human Services, 101 CMR 15.00-15.15, as guidance when assessing student CORI records.
- Sex Offender background checks shall be performed

pursuant to Massachusetts General Laws, Chapter 6, Sections 178C-178P, with regulations at 803 CMR 1.01-1.37.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Students enrolled in HRM 299 may incur an additional expense for professional liability insurance.
- Students who successfully complete HRM 111 and HRM 112 will sit for the National Restaurant Association Cooking Certificate. Additional fees may be assessed for this examination.

Location:

- This program may be completed at the QCC Worcester campus.
- All HRM-specific courses are offered at the Worcester Senior Center location.
- This program may be completed face-to-face.
- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 52.0905.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

hrm@qcc.mass.edu

Additional Information:

Students not meeting admissions requirements are encouraged to enroll in the Foodservice Management Certificate program. All courses in the certificate program apply to the Associate Degree. CIS 111 may be used as a Business Elective.

Hospitality and Recreation Management - Foodservice Management Option — Associate in Science — HRFO

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Introduction to Hotel/Restaurant Management	HRM 101	F/S	3	
Basic Foods: Basic Boucher & Patisserie	HRM 111	F	4	Coreq: HRM 115
Sanitation Certification	HRM 115	F	1	
Hospitality Law and Ethics	HRM 121	F/S	3	
Introduction to Microcomputer Applications or Business Elective	CIS 111 ---	F/S/SU	3	
Semester 2				
Composition II	ENG 102	F/S/SU	3	ENG 101
Basic Foods: Garde-Manager & Saucier	HRM 112	S	4	Coreq: HRM 115
Food and Beverage Cost Control	HRM 131	S	3	
Dining Room and Banquet Management	HRM 218	S	3	
Hotel/Restaurant Management Elective	---	F/S/SU	3	
Semester 3				
Nutrition for Foodservice Management	HRM 216	F	3	Coreq: HRM 111 or HRM 112
Psychology of Interpersonal Relations or Human Relations in Organizations	PSY 118 PSY 158	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Liberal Arts Elective	---	F/S/SU	3	
Mathematics Elective or Science Elective*	---	F/S/SU	3-4	
Multiple Perspectives Elective	---	F/S/SU	3	
Semester 4				
Financial Accounting I	ACC 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, MAT 090 with a "C" or higher on the MAT 090 departmental final exam or approp place score
Hotel/Restaurant Management Cooperative Education Experience	HRM 299	F/S/SU	2-6	Approval of Program Coordinator
Business Elective	---	F/S/SU	3	
Hotel/Restaurant Management Elective	---	F/S/SU	3	
Liberal Arts Elective	---	F/S/SU	3	
Total Credits Required:			62-67	

Program Notes:

- Students not meeting admissions requirements are encouraged to enroll in the Foodservice Management Certificate program. All courses in the certificate program apply to the Associate Degree. CIS 111 may be used as a Business Elective.
- CORI/SORI checks are required of all students accepted into the program.

*100-level or higher.

Foodservice Management — FM Certificate

Program Goals:

The Certificate in Foodservice Management is a proud participant in the National Restaurant Association's Management First program. Students can earn simultaneous credentialing with the National Restaurant Association.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Manage and evaluate functional systems in foodservice operations.
- Integrate human, financial and equipment resources into foodservice operations.
- Demonstrate professional ethics and work effectiveness within a team.
- Manage and evaluate interpersonal relationships.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are required. Finger printing and drug testing are not required.

- The College is authorized by the Commonwealth's Department of Criminal Justice Information Services to access CORI records. The College shall refer to regulations issued by the Commonwealth's Executive Office of Health and Human Services, 101 CMR 15.00-15.15, as guidance when assessing student CORI records.
- Sex Offender background checks shall be performed pursuant to Massachusetts General Laws, Chapter 6, Sections 178C-178P, with regulations at 803 CMR 1.01-1.37.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Students enrolled in HRM 299 may incur an additional expense for professional liability insurance.
- Students who successfully complete HRM 111 and HRM 112 will sit for the National Restaurant Association Cooking Certificate. Additional fees may be assessed for this examination.

Location:

- This program may be completed at the QCC Worcester campus.
- All HRM-specific courses are offered at the Worcester Senior Center location.
- This program may be completed face-to-face.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 52.0905.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

hrm@qcc.mass.edu

Additional Information:

- Students not meeting admissions requirements for the Associate in Science degree program are encouraged to enroll in the Foodservice Management Certificate program.
- All courses in the certificate program apply to the Associate Degree.
- CIS 111 may be used as a Business Elective.

Gainful Employment:

Visit www.QCC.edu/gainful-employment for more information.

Foodservice Management — Certificate — FM

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Introduction to Microcomputer Applications or Business Elective	CIS 111 ---	F/S/SU	3	
Introduction to Hotel/Restaurant Management	HRM 101	F/S	3	
Basic Foods: Basic Boucher & Patisserie	HRM 111	F	4	Coreq: HRM 115
Sanitation Certification	HRM 115	F	1	
Hospitality Law and Ethics	HRM 121	F/S	3	
Semester 2				
English Elective*	---	F/S/SU	3	
Basic Foods: Garde-Manager & Saucier	HRM 112	S	4	Coreq: HRM 115
Food and Beverage Cost Control	HRM 131	S	3	
Business Elective	---	F/S/SU	3	
Total Credits Required:			27	

Program Notes:

- CORI/SORI checks are required of all students accepted into the program.

*ENG 101 or higher.

Hospitality and Recreation Management - Hospitality Management Option — HRHO *Associate in Science*

Program Goals:

The goal of the Hospitality and Recreation Management Program is to provide business academics in an entrepreneurial, experiential setting that provides graduates of the Hospitality and Recreation Management Program the confidence, knowledge and skills to successfully advance the area's Hospitality and Recreation Industry.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Demonstrate and develop leadership skills through group cooperation.
- Demonstrate and develop technical skills through practical "real life" experience in the industry.
- Recognize the importance of outstanding guest service quality and ethics.
- Demonstrate improved ability to exercise judgment and critically analyze problems.
- Demonstrate professional written, oral and non-verbal communication skills.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.
- One year of high school mathematics or equivalent with a grade of "C" or higher and three years of high school English or equivalents with grades of "C" or higher.

Note: Students not meeting admissions requirements are encouraged to enroll in the Hospitality Management Certificate program.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are required. Finger printing and drug testing are not required.

- The College is authorized by the Commonwealth's Department of Criminal Justice Information Services to access CORI records. The College shall refer to regulations issued by the Commonwealth's Executive Office of Health

and Human Services, 101 CMR 15.00-15.15, as guidance when assessing student CORI records.

- Sex Offender background checks shall be performed pursuant to Massachusetts General Laws, Chapter 6, Sections 178C-178P, with regulations at 803 CMR 1.01-1.37.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Students enrolled in HRM 299 may incur an additional expense for professional liability insurance.

Location:

- This program may be completed at the QCC Worcester campus.
- All HRM-specific courses are offered at the Worcester Senior Center location.
- This program may be completed face-to-face.
- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 52.0901.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

hrm@qcc.mass.edu

Additional Information:

- Students not meeting admissions requirements are encouraged to enroll in the Hospitality Management Certificate program.
- All courses in the certificate program apply to the Associate Degree.
- CIS 111 may be used as a Business Elective.

Hospitality and Recreation Management - Hospitality Management Option — Associate in Science— HRHO

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Introduction to Hotel/Restaurant Management	HRM 101	F/S	3	
Hospitality Law and Ethics	HRM 121	F/S	3	
Front Office Operations	HRM 135	F	3	
Introduction to Microcomputer Applications or Business Elective	CIS 111 ---	F/S/SU	3	
Semester 2				
Composition II	ENG 102	F/S/SU	3	ENG 101
Front Office Management	HRM 136	S	3	
Bar and Beverage Management	HRM 139	S	3	
Management in the Hospitality Industry	HRM 235	S	3	
Hotel/Restaurant Management Elective	---	F/S/SU	3	
Semester 3				
Hotel Meetings: Sales and Operations	HRM 232	F	3	
Destination Marketing and Management	HRM 236	F	3	
Psychology of Interpersonal Relations or Human Relations in Organizations	PSY 118 PSY 158	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Mathematics Elective or Science Elective	---	F/S/SU	3-4	
Multiple Perspectives Elective	---	F/S/SU	3	
Semester 4				
Financial Accounting I	ACC 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, MAT 090 with a "C" or higher on the MAT 090 departmental final exam or approp place score
Hotel/Restaurant Management Cooperative Education Experience	HRM 299	F/S/SU	2-6	Approval of Program Coordinator
Business Elective	---	F/S/SU	3	
Hotel/Restaurant Management Elective	---	F/S/SU	3	
Liberal Arts Elective	---	F/S/SU	3	
Liberal Arts Elective	---	F/S/SU	3	
Total Credits Required:			62-67	

Program Notes:

- Students not meeting admissions requirements are encouraged to enroll in the Hospitality Management Certificate program. All courses in the certificate program apply to the Associate Degree. CIS 111 may be used as a Business Elective.
- CORI/SORI checks are required of all students accepted into the program.

Hospitality Management — HO Certificate

Program Goals:

The Certificate in Hospitality Management is designed for individuals with industry experience who desire to advance into management positions. The curriculum is designed to build upon an individual's industry experience and knowledge of operations and job responsibilities.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Manage and evaluate functional systems in hospitality operations.
- Integrate human, financial and equipment resources into hospitality operations.
- Demonstrate professional ethics and work effectiveness within a team.
- Manage and evaluate interpersonal relationships.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are required. Finger printing and drug testing are not required.

- The College is authorized by the Commonwealth's Department of Criminal Justice Information Services to access CORI records. The College shall refer to regulations issued by the Commonwealth's Executive Office of Health and Human Services, 101 CMR 15.00-15.15, as guidance when assessing student CORI records.
- Sex Offender background checks shall be performed pursuant to Massachusetts General Laws, Chapter 6, Sections 178C-178P, with regulations at 803 CMR 1.01-1.37.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Students enrolled in HRM 299 may incur an additional expense for professional liability insurance.

Location:

- This program may be completed at the QCC Worcester campus.
- All HRM-specific courses are offered at the Worcester Senior Center location.
- This program may be completed face-to-face.
- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 52.0904.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

hrm@qcc.mass.edu

Additional Information:

- Students not meeting admissions requirements for the Associate in Science degree program are encouraged to enroll in the Hospitality Management Certificate program.
- All courses in the certificate program apply to the Associate Degree.
- CIS 111 may be used as a Business Elective.

Gainful Employment:

Visit www.QCC.edu/gainful-employment for more information.

Hospitality Management — Certificate — HO

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Financial Accounting I	ACC 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, MAT 090 with a "C" or higher on the MAT 090 departmental final exam or approp place score
Introduction to Microcomputer Applications or Business Elective	CIS 111 ---	F/S/SU	3	
Hospitality Law and Ethics	HRM 121	F/S	3	
English Elective	---	F/S/SU	3	
Semester 2				
Front Office Management	HRM 136	S	3	
Management in the Hospitality Industry	HRM 235	S	3	
Hotel/Restaurant Management Cooperative Education Experience	HRM 299	F/S/SU	2-6	Approval of Program Coordinator
Business Elective	---	F/S/SU	3	
Psychology of Interpersonal Relations or Human Relations in Organizations	PSY 118 PSY 158	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Total Credits Required:			26-30	

Program Notes:

- CORI/SORI checks are required of all students accepted into the program.

Dietary Management — DMC Certificate

Program Goals:

The goal of the Dietary Management Certificate is to provide a short term education and training program whose graduates will be prepared for certification, immediate employment, and/or continuing education in the fast growing field of dietary management. The Certificate in Dietary Foodservice Management is a participant in the Association of Nutrition and Foodservice Professionals (ANFP); students can earn simultaneous credentialing with the ANFP.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Manage and evaluate functional systems in dietary foodservice operations.
- Integrate human, financial and equipment resources into foodservice operations.
- Demonstrate professional ethics and work effectiveness within a team.
- Manage and evaluate interpersonal relationships.
- Students completing the pathways (education plus experience) will take the CDM (Certified Dietary Manager) credentialing exam (Association of Nutrition and Foodservice Professionals).
- Plan and prepare a menu that is nutritionally sound.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are required. Finger printing and drug testing are not required.

- The College is authorized by the Commonwealth's Department of Criminal Justice Information Services to access CORI records. The College shall refer to regulations issued by the Commonwealth's Executive Office of Health and Human Services, 101 CMR 15.00-15.15, as guidance when assessing student CORI records.

- Sex Offender background checks shall be performed pursuant to Massachusetts General Laws, Chapter 6, Sections 178C-178P, with regulations at 803 CMR 1.01-1.37.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Students enrolled in HRM 299 may incur an additional expense for professional liability insurance.
- Students who successfully complete HRM 111 and HRM 112 will sit for the National Restaurant Association Cooking Certificate. Additional fees may be assessed for this examination.

Location:

- This program may be completed at the Marlborough Senior Center location.
- All HRM-specific courses are offered at the Marlborough Senior Center location; selected courses may also be offered at the Worcester Senior Center location.
- This program may be completed face-to-face; selected courses may also be available online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 19.0599.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

hrm@qcc.mass.edu

Additional Information:

Students completing the pathways (education plus experience) will take the CDM (Certified Dietary Manager) credentialing exam (Association of Nutrition and Foodservice Professionals).

Dietary Management — Certificate — DMC

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Basic Foods: Garde-Manager & Saucier	HRM 112	S	4	Coreq: HRM 115
Sanitation Certification	HRM 115	F	1	
Hospitality Law and Ethics	HRM 121	F/S	3	
Food and Beverage Cost Control	HRM 131	S	3	
Contract Foodservice Management	HRM 215	F/S	3	Coreq: HRM 115
Semester 2				
Basic Foods: Basic Boucher & Patisier	HRM 111	F	4	Coreq: HRM 115
Nutrition for Foodservice Management	HRM 216	F	3	Coreq: HRM 111 or HRM 112
Management in the Hospitality Industry	HRM 235	S	3	
Hotel/Restaurant Management Cooperative Education Experience	HRM 299	F/S/SU	2	Approval of Program Coordinator
HRM Elective	---	F/S/SU	3	
Total Credits Required:			29	

Program Notes:

- CORI/SORI checks are required of all students accepted into the program.

Human Services — HA

Associate in Science

Program Goals:

This program prepares students for a career as an entry-level human service practitioner. It also serves as a pathway for career development and advancement for non-degree workers in the field of human services. Graduates are prepared to transfer to a four-year program.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Understand the past, present and future of human services.
- Demonstrate the ability to effectively perform empathic listening, observation and interactional skills with individuals, groups, families and community.
- Conduct intake interviews and provide a basic assessment of human needs.
- Apply core interpersonal skills within the helping relationship.
- Be prepared for group facilitation and participation.
- Utilize knowledge of formal and informal networks in the human services delivery system.
- Apply fundamental legal and ethical standards in providing client services and maintaining participant records.
- Advocate for participants needs utilizing a strength-based culturally competent dynamic.
- Identify, explain and apply the 12 National Community Support Skill Standards for human service delivery.
- Be eligible to sit for the Human Services-Board Certified Practitioner (HS-BCP) Exam.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.
- Placement into ENG 101.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are required.

Finger printing and drug testing are not required.

- Note: CORI/SORI checks are required for all students before fieldwork/practicum placement. Students should be aware that a court record, active or inactive, may prevent them from completing curriculum/fieldwork requirements.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Registration for Practicum I and Practicum II includes a fee for Liability/Malpractice Insurance.

Location:

- This program may be completed at the QCC Worcester campus or at the Southbridge location.
- This program may be completed face-to-face.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

- For students attending QCC for career development and that have 5-7 years of prior experience in the field of human services, a portfolio may be a viable option for prior learning credit.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 44.0000.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

humanservices@qcc.mass.edu

Human Services — Associate in Science — HA

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Introduction to Human Services	HUS 101	F/S/SU	3	ENG 096 with a grade of "C" or higher; or approp place score
The Helping Relationship: Delivering Human Services	HUS 121	F/S/SU	3	ENG 096 with a grade of "C" or higher; or approp place score
Introduction to Psychology	PSY 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Introductory Sociology (Principles)	SOC 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 2				
Composition II	ENG 102	F/S/SU	3	ENG 101
Introduction to Aging	GRT 101	F/S/SU	3	ENG 096 with a grade of "C" or higher; or approp place score
Group Process for Human Services	HUS 125	F/S/SU	3	HUS 101, HUS 121
Community Service: Delivering Human Services	HUS 141	F/S/SU	3	ENG 101, HUS 101, HUS 121
Introduction to Counseling	PSY 231	F/S/SU	3	PSY 101
Semester 3				
Cultural Competence for Human Service Workers	HUS 221	F/S/SU	3	ENG 101, HUS 101, SOC 101
Legal and Ethical Concepts in Human Services	HUS 231	F/S	3	HUS 101, HUS 121, HUS 141
Chemical Dependency	PSY 273	F/S/SU	3	PSY 101
Speech Communication Skills	SPH 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Human Services Practicum I	HUS 243	F	4	HUS 101, HUS 141, PSY 231
Semester 4				
Human Services Practicum II	HUS 244	S	4	HUS 243
Elective	---	F/S/SU	3	
Elective	---	F/S/SU	3	
Liberal Arts Elective	---	F/S/SU	3	
Mathematics Elective or Science Elective	---	F/S/SU	3-4	
Total Credits Required:			62-63	

Human Services — HS

Certificate

Program Goals:

This program prepares students for an entry-level career positions in a wide variety of human service occupations. It also serves as a pathway for career development and advancement for non-degree workers in the field. Graduates are prepared to transfer into the Associate's Degree.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Understand the past, present and future of human services.
- Demonstrate the ability to effectively perform empathic listening, observation and interactional skills with individuals, groups, families and community.
- Conduct intake interviews and provide a basic assessment of human needs.
- Apply core interpersonal skills within the helping relationship.
- Be prepared for group facilitation and participation.
- Utilize knowledge of formal and informal networks in the human services delivery system.
- Advocate for participant's needs utilizing strength-based, a culturally competent dynamic.
- Identify, explain and apply the 12 National Community Support Skill Standards for human service delivery.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are required. Finger printing and drug testing are not required.

- Note: CORI/SORI checks are required for all students before fieldwork/practicum placement. Students should be aware that a court record, active or inactive,

may prevent them from completing curriculum/fieldwork requirements.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

Location:

- This program may be completed at the QCC Worcester campus or at the Southbridge location.
- This program may be completed face-to-face.
- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

- For students attending QCC for career development and that have 5-7 years of prior experience in the field of human services, a portfolio may be a viable option for prior learning credit.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 44.0000.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

humanservices@qcc.mass.edu

Gainful Employment:

Visit www.QCC.edu/gainful-employment for more information.

Human Services — Certificate — HS

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Introduction to Aging	GRT 101	F/S/SU	3	ENG 096 with a grade of "C" or higher; or approp place score
Introductory Sociology (Principles)	SOC 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Introduction to Psychology	PSY 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Introduction to Human Services	HUS 101	F/S/SU	3	ENG 096 with a grade of "C" or higher; or approp place score
Semester 2				
The Helping Relationship: Delivering Human Services	HUS 121	F/S/SU	3	ENG 096 with a grade of "C" or higher; or approp place score
Group Process for Human Services	HUS 125	F/S/SU	3	HUS 101, HUS 121
Community Service: Delivering Human Services	HUS 141	F/S/SU	3	ENG 101, HUS 101, HUS 121
Introduction to Counseling	PSY 231	F/S/SU	3	PSY 101
Elective	---	F/S/SU	3	
Total Credits Required:			30	

Direct Support — DSC Certificate

Program Goals:

This program is designed for community support workers who work in programs funded by the Massachusetts Department of Developmental Services (DDS). It serves as a pathway for career development and advancement for non-degree workers in the field. Graduates are prepared to transfer into the Associate Degree Program.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Understand the past, present and future of human services.
- Demonstrate the ability to effectively perform empathic listening, observation and interactional skills with individuals, groups, families and community.
- Utilize knowledge of formal and informal networks for individuals, families and groups within the development disabilities (DD) community of care.
- Understand and apply a specific set of skills designed for effective interaction and treatment for individuals with developmental disabilities.
- Identify, explain and apply the 12 National Community Support Skill Standards for human service delivery.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

- Students applying for the DSC program are required to complete a program specific application in addition to the College admissions application.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.
- Must be employed in a DDS funded agency for six months or longer.
- Must meet with the Coordinator of Direct Support Program to complete additional application.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are required. Finger printing and drug testing are not required.

- Note: CORI/SORI checks are required for all students before fieldwork/practicum placement. Students should be aware that a court record, active or inactive, may prevent them from completing curriculum/fieldwork requirements.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Registration for the Practicum includes a fee for Liability/Malpractice Insurance.

Location:

- Some courses are offered at the Southbridge location.
- This program may be completed face-to-face.
- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

- For students attending QCC for career development and that have 5-7 years of prior experience in the field of human services, a portfolio may be a viable option for prior learning credit.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 44.0000.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

humanservices@qcc.mass.edu

Gainful Employment:

Visit www.QCC.edu/gainful-employment for more information.

Direct Support — Certificate — DSC

Course Title	Course #	Semester Offered	Credits	Prerequisites
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Introduction to Human Services	HUS 101	F/S/SU	3	ENG 096 with a grade of "C" or higher; or approp place score
The Helping Relationship: Delivering Human Services	HUS 121	F/S/SU	3	ENG 096 with a grade of "C" or higher; or approp place score
Introduction to Developmental Disabilities	HUS 131	F/S	3	HUS 101, Coreq: ENG 101
Direct Support Practicum	HUS 143	F/S	3	HUS 101
Special Topics in Developmental Disabilities	HUS 145	S	3	HUS 101, HUS 131
Introduction to Psychology	PSY 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Total Credits Required:			21	

Program Notes:

- Must obtain First Aid and CPR by completion of Certificate.

Interactive Media - Digital Design Option — IMDD

Associate in Science

Program Goals:

The Interactive Media - Digital Design Option is a multi-faceted computer based program designated for students seeking a design career in digital media in the Global marketplace. Students produce designs, symbols, typography, illustrations, photography, video, multimedia, motion graphics, sound, and animation for use in print, web and interactive media.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Achieve graphic art computer competencies to communicate ideas for promotion and sales of products for newspapers, magazines, web publications, multimedia and video content providers, ad agencies and manufacturers.
- Achieve graphic art computer competencies in electronic and digital design technologies for career opportunities in the industry.
- Achieve graphic art computer competencies in electronic and digital design technologies for career opportunities in the print and prepress industry.
- Achieve graphic art computer competencies in electronic and digital design technologies for career opportunities in Internet publishing industries as content providers using multimedia, video and animation.
- Produce a print, PDF, web/e-publishing presence, and interactive DVD portfolio of student work for presentation to future employers or for transfer to institutions of higher learning.
- Transfer to bachelor degree programs at colleges and universities with related fields of study.
- Provide a progressive framework of courses to meet general education core curriculum goals for measurable proficiencies in: Information Literacy, Quantitative Reasoning, Scientific Reasoning, Technical Literacy, Aesthetics, Multiple Perspectives, Ethics, Impact of Technology, and Civic Literacy.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some required courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.
- Note: The Interactive Media program is a high demand program and restricts day class offerings to 40 accepted full-time day students per academic year, beginning in the Fall semester. Accepted students must register simultaneously for all four IMD courses required in Semesters 1-3, and for both IMD courses required in Semester 4. Early application is recommended.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Students enrolled in the program are required to purchase a high quality digital camera for IMD 161.
- Students are encouraged to purchase a computer (preferably Mac) with related software.

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face.
- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 11.0803.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

interactivemedia@qcc.mass.edu

Interactive Media - Digital Design Option — Associate in Science — IMDD

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Digital Design Concepts I	IMD 114	F/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Graphic Design I	IMD 121	F	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Digital Imaging and Media	IMD 154	F/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Digital Photography	IMD 161	F	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 2				
Digital Design Concepts II	IMD 115	S/SU	3	IMD 114
Graphic Design II	IMD 122	S	3	IMD 121
Digital Illustration and Animation	IMD 155	S/SU	3	IMD 154
Fundamentals of 3D Digital Design	IMD 171	S	3	IMD 154, IMD 161
Art Theory Elective*	---	F/S/SU	3	
Composition II	ENG 102	F/S/SU	3	ENG 101
Semester 3				
Publication Design	IMD 222	F	3	IMD 115, IMD 122
Typography	IMD 271	F	3	IMD 115, IMD 121
Motion Graphics	IMD 275	F	3	IMD 154, IMD 155
Digital Video Fundamentals	IMD 263	F	3	
Art Theory Elective*	---	F/S/SU	3	
Semester 4				
Interactive Media Processes Portfolio	IMD 286	S	4	IMD 275
Graphic Design Processes Portfolio	IMD 287	S	4	IMD 222, IMD 271
Liberal Arts Elective**	---	F/S/SU	3	
Liberal Arts Elective**	---	F/S/SU	3	
Mathematics Elective or Science Elective	---	F/S/SU	3	
Total Credits Required:			65	

Program Notes:

*ART 101, ART 111, ART 112, ART 121, or ART 211.

**Cannot be an ART designation.

Interactive Media - Game Design

Option — IMGD

Associate in Science

Program Goals:

The Interactive Media - Game Design Option is a multi-faceted computer based program designated for students seeking a game design career in the Global marketplace. Game Design majors map out and develop the gameplay that defines a player's unique game experience. It is a complex science that combines artistic talent with high mathematics and computer programming ability. Students develop an extensive game-design portfolio of individual and collaborative work using state-of-the-art technology resources.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Demonstrate the skills necessary to compete for entry-level positions in the game industry: game-play tester, conceptual artist, texture artist, 3D modeler, and graphical user interface designer.
- Demonstrate the skills necessary upon graduation to transfer into a Bachelor Degree program in Game Design.
- Understand and apply theories of graphical environment design, character design, animation, and interface design to the development of interactive media and game design.
- Design and create 2D and 3D graphical environments for game design and create prototypes of computer games for a variety of environments.
- Develop skills in operating computer game development tools and assessing their advantages and disadvantages while understanding the ethical, legal, and professional responsibilities of a game design professional.
- Use theoretical concepts and perspectives to explain and evaluate the development of games in various settings and apply principles of game design and group work to project work.
- Learn to use professional-level application software for game design.
- Critically evaluate various approaches to game design and identify the elements that are likely to make for effective games and author game design documents.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some required courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.
- Three years of High School English with grades of "C" or higher; or ENG 091 with a grade of "C" or higher and ENG 096 with a grade of "C" or higher; or appropriate placement score.
- MAT 100 with a "C" or higher; or appropriate placement score.
- Note: The Interactive Media program is a high demand program. The Game Design Option restricts enrollment to 20 accepted full-time students per academic year, beginning each Fall semester. Accepted students must register simultaneously for all required courses in each semester. Early application is recommended.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Students are encouraged to purchase a computer (preferably Mac) with related software.

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face.
- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 50.0411.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

interactivemedia@qcc.mass.edu

Additional Information:

Required IMD and IMG courses in this option will only be available late afternoons, evenings, and weekends.

Interactive Media - Game Design Option — Associate in Science— IMGD

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Digital Design Concepts I	IMD 114	F/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Drawing the Human Form	IMG 100	F	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, Admission to Interactive Media - Game Design Option program
Digital Imaging and Media	IMD 154	F/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Fundamentals of Game Design and Development	IMG 101	F	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, Admission to Interactive Media - Game Design Option program
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 2				
Digital Design Concepts II	IMD 115	S/SU	3	IMD 114
Introduction to Game Design	IMG 102	S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, Admission to Interactive Media - Game Design Option program
Digital Illustration and Animation	IMD 155	S/SU	3	IMD 154
Introduction to Microcomputer Applications	CIS 111	F/S/SU	3	
Composition II	ENG 102	F/S/SU	3	ENG 101
Semester 3				
Intermediate Game Design	IMG 203	F	3	IMG 100, IMG 101, IMG 102, IMD 155
Introduction to Programming with C++	CIS 121	F/S	3	Coreq: CIS 111 or CIS 115
Motion Graphics	IMD 275	F	3	IMD 154, IMD 155
3D Modeling for Game Design	IMG 272	F	3	IMG 100, IMG 102, IMD 155
College Mathematics I: Pre-Calculus	MAT 123	F/S/SU	3	MAT 100 or approp place score
Semester 4				
Interactive Game Design Portfolio	IMG 288	S	4	IMG 203, IMG 272
Science Elective or Lab Science Elective	---	F/S/SU	3-4	
Liberal Arts Elective	---	F/S/SU	3	
Liberal Arts Elective	---	F/S/SU	3	
College Mathematics II: Trigonometry	MAT 124	F/S/SU	3	MAT 123 or approp place score
Total Credits Required:			61-62	

Liberal Arts — LA

Associate in Arts

Program Goals:

- Prepare students to transfer to a four-year college or university, or enter a job requiring communication and critical thinking skills.
- Provide a foundational education comprised of the humanities, social sciences, sciences, and mathematics.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Demonstrate a broad range of knowledge, skill, and abilities for interpreting the human experience via the arts and humanities, mathematics and natural sciences, and the social and behavioral sciences.
- Appreciate and contribute to the history of diverse human cultural experience and develop a global perspective for interpreting and evaluating it.
- Use rich, descriptive language and logical, coherent structure to convey ideas effectively in multiple modes of communication - speaking, reading, writing, and listening.
- Demonstrate proficiency in a foreign language.
- Acquire, analyze, organize, and utilize data to determine appropriate solutions to myriad work/life/personal challenges.
- Develop comprehensive scientific, mathematical, and computer/technological competencies.
- Develop a life path that develops self-actualization, adapts to change, and recognizes the value of lifelong learning.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.
- English: Three years of high school English with grade of "C" or higher; or ENG 091 (Intermediate Reading Skills) and ENG 096 (Intermediate Writing Skills) with grade of "C" or higher; or placement into ENG 101 on the college placement test.

- Math: One year of high school algebra with grade of "C" or higher; or MAT 095 (Beginning Algebra) with grade of "C" or higher; or placement into MAT 099 or higher on the Math Assessment Test.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

Location:

- This program may be completed at the QCC Worcester campus and at the Southbridge location.
- This program may be completed face-to-face.
- This program may be completed 80% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 24.0101

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

libarts@qcc.mass.edu

Liberal Arts —Associate in Arts — LA

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Introduction to Psychology or Introductory Sociology (Principles)	PSY 101 SOC 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Mathematics Elective ¹	---	F/S/SU	3	
Science Elective or Lab Science Elective ²	---	F/S/SU	3-4	
Elective ³	---	F/S/SU	3	
Semester 2				
Composition II	ENG 102	F/S/SU	3	ENG 101
Introduction to Humanities	HUM 105	F/S/SU	3	ENG 101
Mathematics Elective ¹	---	F/S/SU	3	
U.S. or World History Survey ⁴	---	F/S/SU	3	
Social Science Foundational Elective ⁵	---	F/S/SU	3	
Semester 3				
Science Elective or Lab Science Elective ²	---	F/S/SU	3-4	
Literature, Philosophy, or Language Elective ⁶	---	F/S/SU	3	
Multiple Perspectives Elective ⁷	---	F/S/SU	3	
Liberal Arts Elective ⁸	---	F/S/SU	3	
Liberal Arts Elective (200-Level)	---	F/S/SU	3	
Semester 4				
Creative Arts Elective ⁹	---	F/S/SU	3	
Liberal Arts Elective	---	F/S/SU	3	
Liberal Arts Elective (200-Level)	---	F/S/SU	3	
Liberal Arts Elective (200-Level)	---	F/S/SU	3	
Elective ³	---	F/S/SU	3	
Total Credits Required:			61-62	

Program Notes:

- Mathematics Elective: MAT 100, MAT 121, MAT 122, or higher.
- Science Elective or Lab Science Elective: One Science course must be a four-credit laboratory course.
- This Elective need not be in a Liberal Arts discipline but must be a college level course.
- U.S. or World History Survey courses: HST 104, HST 105, HST 106, HST 115, or HST 116.
- Social Science Foundational Elective: ANT 111 or ANT 221; ECO 215 or ECO 216; GEO 210; PSC 201. PSY 101 or SOC 101 can be taken to fulfill this requirement, only if not taken in Semester 1.
- Literature, Philosophy, or Language credits may be earned in one of the following ways:
 - Any HUM or PHI course, or ENG 200, ENG 212, ENG 215, ENG 231, ENG 232, ENG 241, ENG 242, ENG 251, ENG 252, ENG 255, ENG 259, or ENG 260.
 - Taking a foreign language (ASL, FRC, GER, or SPN); or successful completion of Advanced Placement Exam, CLEP, or Challenge Exam in a foreign language.
- Multiple Perspectives Elective: ANT 111 or ANT 221; ART 260; ASL 111, ASL 112, ASL 113, ASL 211, or ASL 212; CHC 151, CHC 250, or CHC 255; CRJ 110; ECE 133; ENG 231 or ENG 232; FRC 111, FRC 112, FRC 211, or FRC 212; GEO 210; GER 111, GER 112, GER 211, or GER 212; GRT 101; HST 104, HST 105, HST 106, HST 133, HST 152, HST 157, HST 203, HST 204, HST 206, HST 207, HST 215, HST 216, or HST 241; HUM 147 or HUM 211; HUS 221; IDS 101; MUS 121; PHA 102; PHI 121, PHI 123, or PHI 201; PSY 142; SOC 111, SOC 115, SOC 201, SOC 211, or SOC 220; SPN 111, SPN 112, SPN 211, or SPN 212.
- Liberal Arts Elective: Any Humanities, Social Science, Behavioral Science, Natural Science, or Mathematics course, or IDS 101.
- Creative Arts Elective: ENG 202, ENG 203, or ENG 204; or a course designated as ART, MUS, or THA.

Liberal Arts - Biology Option — LABI *Associate in Arts*

Program Goals:

This program provides a curriculum with an emphasis on courses that the student will need to transfer to a baccalaureate program in the biological sciences or a pre-professional field. This program also provides a well-rounded foundational education in the liberal arts disciplines while fostering and honing high-level communication and critical reasoning skills which are vital for success in a baccalaureate program or professional career.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Apply general chemistry principles to biological systems.
- Demonstrate a foundational understanding of general biology principles including evolution and organismal diversity, cell structure and function, metabolism and enzyme function, and genetics.
- Demonstrate a proficiency in mathematics to support future STEM courses in fields such as biology, chemistry, physics, and environmental science.
- Utilize critical thinking skills and the scientific method to investigate scientific principles and solve complex problems.
- Utilize the broad-based liberal arts curriculum in the fine arts, humanities, mathematics, natural sciences, and social and behavioral sciences to examine the role of biology in society.
- Demonstrate the multiple perspectives that derive from knowledge and awareness of cultures and cultural practices.
- Demonstrate high-level communication skills (verbal, written, graphic, and numerical) across the full span of the liberal arts disciplines.
- Utilize interlibrary catalog/loan systems and electronic databases and to distinguish between reliable and non-reliable sources, whether print, cinematic, televisual, or web.
- Demonstrate a technical proficiency in computer technology and in the various scientific instrumentation utilized in the curriculum.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu

qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some required courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face.
- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 26.0101.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

biology@qcc.mass.edu

Liberal Arts - Biology Option — Associate in Arts — LABI

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Principles of Biology I	BIO 107	F/S/SU	4	MAT 099 with a "C" or higher on the MAT 099 departmental final exam or approp place score, Coreq: ENG 101
General Chemistry I	CHM 105	F/S/SU	4	CHM 090 or one year of High School Chemistry, MAT 099 with a "C" or higher on the MAT 099 departmental final exam or approp place score
Statistics	MAT 122	F/S/SU	3	MAT 099 with a "C" or higher on the MAT 099 departmental final exam or approp place score
Semester 2				
Composition II	ENG 102	F/S/SU	3	ENG 101
Principles of Biology II	BIO 108	F/S/SU	4	BIO 107
General Chemistry II	CHM 106	F/S/SU	4	CHM 105
College Mathematics I: Pre-Calculus	MAT 123	F/S/SU	3	MAT 100 or approp place score
Introduction to Psychology or Introductory Sociology (Principles)	PSY 101 SOC 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 3				
Principles of Genetics	BIO 262	F/S	4	BIO 108, MAT 122
Organic Chemistry I or	CHM 201	F/S/SU	4	CHM 106 or CHM 124
Physics I or	PHY 101	F		Coreq: MAT 124
General Physics I	PHY 105	F/S/SU		MAT 233
College Mathematics II: Trigonometry	MAT 124	F/S/SU	3	MAT 123 or approp place score
Literature, Philosophy, or Language Elective ¹	---	F/S/SU	3	
U.S. or World History Survey ²	---	F/S/SU	3	
Semester 4				
General Microbiology or Cell Biology	BIO 231 BIO 259	F/S	4	BIO 107
Organic Chemistry II or	CHM 202	F/S/SU	4	CHM 201
Physics II or	PHY 102	S		PHY 101
General Physics II	PHY 106	F/S/SU		MAT 234, PHY 105
Creative Arts Elective ³	---	F/S/SU	3	
Multiple Perspectives in Humanities Elective ⁴	---	F/S/SU	3	
Social Science Foundational Elective ⁵	---	F/S/SU	3	
Total Credits Required:			65	

Program Notes:

- Literature, Philosophy, or Language credits may be earned in one of the following ways:
 - ENG 200, ENG 212, ENG 215, ENG 231, ENG 232, ENG 241, ENG 242, ENG 251, ENG 252, ENG 255, ENG 259, or ENG 260; or a course designated as HUM or PHI.
 - Taking a foreign language (ASL, FRC, GER, or SPN); or successful completion of Advanced Placement Exam, CLEP, or Challenge Exam in a foreign language.
- U.S. or World History Survey courses: HST 104, HST 105, HST 106, HST 115, or HST 116.
- Creative Arts Elective: ENG 202, ENG 203, or ENG 204; or a course designated as ART, MUS, or THA.
- Multiple Perspectives in Humanities Elective: In order to meet MassTransfer, the following courses may be used: ART 260; ASL 111, ASL 112, ASL 113, ASL 211, or ASL 212; ENG 231 or ENG 232; FRC 111, FRC 112, FRC 211, or FRC 212; GER 111, GER 112, GER 211, or GER 212; HUM 147 or HUM 211; MUS 121; PHI 121, PHI 123, or PHI 201; SPN 111, SPN 112, SPN 211, or SPN 212.
- Social Science Foundational Elective: ANT 111 or ANT 221; ECO 215 or ECO 216; GEO 210; PSC 201. PSY 101 or SOC 101 can be taken to fulfill this requirement, only if not taken in Semester 2.

Liberal Arts - Chemistry Option — LACH

Associate in Arts

Program Goals:

- Provide a curriculum with an emphasis on courses that the student will need to seamlessly transfer to a baccalaureate program in chemistry or a pre-professional field.
- Provide a well-rounded foundational education in the liberal arts disciplines, defined as fine arts, humanities, mathematics, natural sciences, and social and behavioral sciences.
- Foster and hone high-level communication and critical reasoning skills, vital for success in a baccalaureate program or professional career.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Apply general chemistry principles, and understand basic principles of physics along with understanding of general biology principles.
- Demonstrate a foundational understanding of chemistry principles.
- Understand the chemistry of carbon and carbon compounds.
- Demonstrate skill to synthesize intermediates, pharmaceuticals, polymers and bio molecules in lab.
- Demonstrate skill of organic analysis using NMR, GC and IR spectroscopy.
- Demonstrate a proficiency in mathematics to support future STEM courses in fields such as chemistry, biology, physics, and environmental science. Apply this skill for solving the problems related to chemistry and physics.
- Utilize critical thinking skills and the scientific method to investigate scientific principles and solve complex problems.
- Utilize the broad-based liberal arts curriculum in the fine arts, humanities, mathematics, natural sciences, and social and behavioral sciences to examine the role of chemistry in society.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some required courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 40.0501.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

chemistry@qcc.mass.edu

Liberal Arts - Chemistry Option — Associate in Arts — LACH

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Principles of Biology I	BIO 107	F/S/SU	4	MAT 099 with a "C" or higher on the MAT 099 departmental final exam or approp place score, Coreq: ENG 101
General Chemistry I	CHM 105	F/S/SU	4	CHM 090 or one year of High School Chemistry, MAT 099 with a "C" or higher on the MAT 099 departmental final exam or approp place score
Calculus I	MAT 233	F/S/SU	4	MAT 124
Semester 2				
Composition II	ENG 102	F/S/SU	3	ENG 101
Principles of Biology II	BIO 108	F/S/SU	4	BIO 107
General Chemistry II	CHM 106	F/S/SU	4	CHM 105
Calculus II	MAT 234	F/S/SU	4	MAT 233
Semester 3				
Creative Arts Elective ¹	---	F/S/SU	3	
Multiple Perspectives in Humanities Elective ²	---	F/S/SU	3	
Semester 4				
Organic Chemistry I	CHM 201	F/S/SU	4	CHM 106 or CHM 124
General Physics I	PHY 105	F/S/SU	4	MAT 233
Introduction to Psychology or Introductory Sociology (Principles)	PSY 101 SOC 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Literature, Philosophy, or Language Elective ³	---	F/S/SU	3	
Semester 5				
Organic Chemistry II	CHM 202	F/S/SU	4	CHM 201
General Physics II	PHY 106	F/S/SU	4	MAT 234, PHY 105
Social Science Foundational Elective ⁴	---	F/S/SU	3	
U.S. or World History Survey ⁵	---	F/S/SU	3	
Total Credits Required:			64	

Program Notes:

- Creative Arts Elective: ENG 202, ENG 203, or ENG 204; or a course designated as ART, MUS, or THA.
- Multiple Perspectives in Humanities Elective: In order to meet MassTransfer, the following courses may be used: ART 260; ASL 111, ASL 112, ASL 113, ASL 211, or ASL 212; ENG 231 or ENG 232; FRC 111, FRC 112, FRC 211, or FRC 212; GER 111, GER 112, GER 211, or GER 212; HUM 147 or HUM 211; MUS 121; PHI 121, PHI 123, or PHI 201; SPN 111, SPN 112, SPN 211, or SPN 212.
- Literature, Philosophy, or Language credits may be earned in one of the following ways:
 - ENG 200, ENG 212, ENG 215, ENG 231, ENG 232, ENG 241, ENG 242, ENG 251, ENG 252, ENG 255, ENG 259, or ENG 260; or a course designated as HUM or PHI.
 - Taking a foreign language (ASL, FRC, GER, or SPN); or successful completion of Advanced Placement Exam, CLEP, or Challenge Exam in a foreign language.
- Social Science Foundational Elective: ANT 111 or ANT 221; ECO 215 or ECO 216; GEO 210; PSC 201. PSY 101 or SOC 101 can be taken to fulfill this requirement, only if not taken in Semester 4.
- U.S. or World History Survey courses: HST 104, HST 105, HST 106, HST 115, or HST 116.

Liberal Arts - Environmental Science

Option — LAES

Associate in Arts

Program Goals:

This program provides students with a strong academic foundation in the environmental, natural, and physical sciences. Graduates are prepared to transfer to a Bachelor degree program in the environmental field.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Demonstrate scientific literacy by explaining the process of scientific reasoning and applying scientific principles in both laboratory and field settings.
- Develop critical thinking and/or observation skills, and apply them to the analysis of a problem or question related to the environment.
- Utilize the English language to communicate and interact effectively, in both written and oral formats, to a variety of individuals and diverse groups of human beings.
- Apply mathematical concepts, including statistical methods, to study environmental phenomena (including field and laboratory data).
- Understand the natural environment and its relationships with human activities.
- Demonstrate an ability to integrate the many disciplines and fields that intersect with environmental concerns.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some required courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face.
- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 03.0104.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

For the purpose of the articulation agreement with UMass Lowell:

- It is recommended that students intending to transfer as an Environmental Science major to UMass Lowell complete Physics II (PHY 102).
- If the student intends to pursue the Environmental Geoscience option at UMass Lowell, it is recommended that the student also complete Calculus II (MAT 234).
- Students must receive a minimum grade of "C-" in all courses within the program for transferability to UMass Lowell.

Program Contact Email:

envscience@qcc.mass.edu

Liberal Arts - Environmental Science Option — Associate in Arts— LAES

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Principles of Biology I	BIO 107	F/S/SU	4	MAT 099 with a "C" or higher on the MAT 099 departmental final exam or approp place score, Coreq: ENG 101
General Chemistry I	CHM 105	F/S/SU	4	CHM 090 or one year of High School Chemistry, MAT 099 with a "C" or higher on the MAT 099 departmental final exam or approp place score
College Mathematics I: Pre-Calculus	MAT 123	F/S/SU	3	MAT 100 or approp place score
Semester 2				
Composition II	ENG 102	F/S/SU	3	ENG 101
Principles of Biology II	BIO 108	F/S/SU	4	BIO 107
General Chemistry II	CHM 106	F/S/SU	4	CHM 105
College Mathematics II: Trigonometry	MAT 124	F/S/SU	3	MAT 123 or approp place score
Semester 3				
Introductory Sociology (Principles)	SOC 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Speech Communication Skills	SPH 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 4				
Physics I	PHY 101	F	4	Coreq: MAT 124
Calculus I	MAT 233	F/S/SU	4	MAT 124
Climate and Weather: Causes and Effects	SCI 104	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, MAT 095 with a "C" or higher on the MAT 095 departmental final exam or approp place score
Integrated Science: Earth and Space	SCI 105	F/S/SU	4	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, MAT 095 with a "C" or higher on the MAT 095 departmental final exam or approp place score
Creative Arts Elective ¹	---	F/S/SU	3	
Semester 5				
Sustaining Earth's Environment	SCI 110	F/S	4	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, MAT 095 with a "C" or higher on the MAT 095 departmental final exam or approp place score
Statistics	MAT 122	F/S/SU	3	MAT 099 with a "C" or higher on the MAT 099 departmental final exam or approp place score
Introduction to Ethics	PHI 131	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
World History Survey ²	---	F/S/SU	3	
Economics Elective ³	---	F/S/SU	3	
Total Credits Required:			68	

Program Notes:

1. Creative Arts Elective: ENG 202, ENG 203, or ENG 204; or a course designated as ART, MUS, or THA.
2. World History Survey courses: HST 104, HST 105, or HST 106.
3. Economics Elective: Must be a 200-level course (ECO 215 or ECO 216).

Liberal Arts - Music Option — LAMU

Associate in Arts

Program Goals:

- Prepare students to transfer to a four-year college or university, or entry-level work requiring communication and critical thinking skills.
- Provide a foundational education comprised of the humanities, social sciences, and mathematics, with a concentration in music knowledge, skill, and a solid base of musical proficiency.
- To attract students with a strong interest in music, whom might otherwise never attend, to the college experience.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Demonstrate fundamental musicianship.
- Demonstrate and apply music theory and composition.
- Identify historical perspectives of music, including styles and nationality, and interpret the underlying meanings of music from historical perspectives.
- Distinguish melodic and rhythmic intervals and demonstrate this through musical dictation.
- Create, analyze, and understand the aesthetic value of musical works.
- Demonstrate musical proficiency in his/her chosen instrument.
- Demonstrate a broad range of knowledge, skill, and abilities for interpreting the human experience via the arts and humanities, mathematics and natural sciences, and the social and behavioral sciences.
- Appreciate and contribute to the history of diverse human cultural experience and develop a global perspective for interpreting and evaluating it.
- Use rich, descriptive language and logical, coherent structure to convey ideas effectively in multiple modes of communication - speaking, reading, writing, and listening.
- Acquire, analyze, organize, and utilize data to determine appropriate solutions to myriad work/life/personal challenges.
- Develop a life path that develops self-actualization, adapts to change, and recognizes the value of lifelong learning.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 50.0901.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

music@qcc.mass.edu

Liberal Arts - Music Option — Associate in Arts — LAMU

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Mathematics Elective ¹	---	F/S/SU	3	
Music Theory I	MUS 151	F/S/SU	4	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Speech Communication Skills	SPH 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Introduction to Humanities	HUM 105	F/S/SU	3	ENG 101
Semester 2				
Composition II	ENG 102	F/S/SU	3	ENG 101
Mathematics Elective ¹	---	F/S/SU	3	
Music Theory II	MUS 152	F/S/SU	4	MUS 151
Music Ensemble I	MUS 135	F/S	1	MUS 151
Introduction to Psychology or Introductory Sociology (Principles)	PSY 101 SOC 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 3				
Music History I	MUS 261	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Music Ensemble II	MUS 136	F/S	1	MUS 135
Literature, Philosophy, or Language Elective ²	---	F/S/SU	3	
Science Elective or Lab Science Elective ³	---	F/S/SU	3-4	
Social Science Foundational Elective ⁴	---	F/S/SU	3	
U.S. or World History Survey ⁵	---	F/S/SU	3	
Semester 4				
Music History II	MUS 262	F/S/SU	3	MUS 261
Music Ensemble III	MUS 137	F/S	1	MUS 136
Science Elective or Lab Science Elective ³	---	F/S/SU	3-4	
Multiple Perspectives Elective ⁶	---	F/S/SU	3	
Elective ⁷	---	F/S/SU	3	
Total Credits Required:			60-61	

Program Notes:

1. Mathematics Elective: MAT 100, MAT 121, MAT 122, or higher.
2. Literature, Philosophy, or Language Elective credits may be earned in one of the following ways:
 - Any HUM or PHI course, or ENG 200, ENG 212, ENG 215, ENG 231, ENG 232, ENG 241, ENG 242, ENG 251, ENG 252, ENG 255, ENG 259, or ENG 260.
 - Taking a foreign language (ASL, FRC, GER, or SPN); or successful completion of Advanced Placement Exam, CLEP, or Challenge Exam in a foreign language.
3. Science Elective or Lab Science Elective: One Science course must be a four-credit laboratory course.
4. Social Science Foundational Elective: ANT 111 or ANT 221; ECO 215 or ECO 216; GEO 210; PSC 201. PSY 101 or SOC 101 can be taken to fulfill this requirement, only if not taken in Semester 2.
5. U.S. or World History Survey courses: HST 104, HST 105, HST 106, HST 115, or HST 116.
6. Multiple Perspectives Elective: ANT 111 or ANT 221; ART 260; ASL 111, ASL 112, ASL 113, ASL 211, or ASL 212; CHC 151, CHC 250, or CHC 255; CRJ 110; ECE 133; ENG 231 or ENG 232; FRC 111, FRC 112, FRC 211, or FRC 212; GEO 210; GER 111, GER 112, GER 211, or GER 212; GRT 101; HST 104, HST 105, HST 106, HST 133, HST 152, HST 157, HST 203, HST 204, HST 215, HST 216, or HST 241; HUM 147 or HUM 211; HUS 221; IDS 101; MUS 121; PHA 102; PHI 121, PHI 123, or PHI 201; PSY 142; SOC 111, SOC 115, SOC 201, SOC 211, or SOC 220; SPN 111, SPN 112, SPN 211, or SPN 212.
7. This Elective need not be in a Liberal Arts discipline but must be a college level course.

Liberal Arts - Psychology Option — LAPY *Associate in Arts*

Program Goals:

The Psychology option in Liberal Arts prepares students for transfer to four-year colleges and universities at which they can continue their education in the field of psychology.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Demonstrate familiarity with the major concepts, theoretical perspectives, empirical findings, and historical trends in psychology.
- Understand and apply basic research methods in psychology, including research design, data analysis and interpretation.
- Respect and use critical and creative thinking, skeptical inquiry, and, when possible, the scientific approach to solve problems related to behavior and mental processes.
- Understand and apply psychological principles to personal, social, and organizational issues.
- Weigh evidence, tolerate ambiguity, act ethically and reflect other values that are the underpinnings of psychology as a discipline.
- Acquire, analyze, organize, and utilize data to determine appropriate solutions to myriad work/life/personal challenges.
- Demonstrate comprehensive scientific, mathematical and computer/technological competencies.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 42.0101.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

psychology@qcc.mass.edu

Liberal Arts - Psychology Option — Associate in Arts — LAPY

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Statistics	MAT 122	F/S/SU	3	MAT 099 with a "C" or higher on the MAT 099 departmental final exam or approp place score
Critical Thinking and Problem Solving	HUM 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Introduction to Psychology	PSY 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Speech Communication Skills	SPH 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 2				
Composition II	ENG 102	F/S/SU	3	ENG 101
Psychological Statistics	PSY 250	F/S/SU	3	ENG 101, MAT 122, PSY 101
Introductory Sociology (Principles)	SOC 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
U.S. or World History Survey ¹	---	F/S/SU	3	
Program Elective ²	---	F/S/SU	3	
Semester 3				
General Biology: Core Concepts	BIO 101	F/S/SU	4	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, MAT 095 with a "C" or higher on the MAT 095 departmental final exam or approp place score
Research Methods in Psychology	PSY 251	F/S/SU	3	PSY 250
Foreign Language Elective ³	---	F/S/SU	3	
Creative Arts Elective ⁴	---	F/S/SU	3	
Multiple Perspectives Elective ⁵	---	F/S/SU	3	
Semester 4				
Anatomy & Physiology I	BIO 111	F/S/SU	4	BIO 101 or High School Advanced Placement Biology, Coreq: ENG 101
Foreign Language Elective ³	---	F/S/SU	3	
Program Elective ²	---	F/S/SU	3	
Program Elective ²	---	F/S/SU	3	
Elective	---	F/S/SU	3	
Total Credits Required:			62	

Program Notes:

- U.S. or World History Survey courses: HST 104, HST 105, HST 106, HST 115, or HST 116.
- Program Electives: PSY 123, PSY 124, PSY 252, PSY 253, PSY 261, or PSY 262.
- Foreign Language credits may be earned in one of the following ways (students are strongly encouraged to discuss this requirement with their Academic Advisor):
 - Completion of six college level credits in one foreign language.
 - Successful completion of Advanced Placement Exam, CLEP, or Challenge Exam.
- Creative Arts Elective: ENG 202, ENG 203, or ENG 204; or a course designated as ART, MUS, or THA.
- Multiple Perspectives Elective: ANT 111 or ANT 221; ART 260; ASL 111, ASL 112, ASL 113, ASL 211, or ASL 212; CHC 151, CHC 250, or CHC 255; CRJ 110; ECE 133; ENG 231 or ENG 232; FRC 111, FRC 112, FRC 211, or FRC 212; GEO 210; GER 111, GER 112, GER 211, or GER 212; GRT 101; HST 104, HST 105, HST 106, HST 133, HST 152, HST 157, HST 203, HST 204, HST 215, HST 216, or HST 241; HUM 147 or HUM 211; HUS 221; IDS 101; MUS 121; PHA 102; PHI 121, PHI 123, or PHI 201; PSY 142; SOC 111, SOC 115, SOC 201, SOC 211, or SOC 220; SPN 111, SPN 112, SPN 211, or SPN 212.

Liberal Arts - Theater Option — LATH

Associate in Arts

Program Goals:

Theater at Quinsigamond Community College serves the Liberal Arts by providing a rigorous aesthetic, intellectual, and practical opportunity to explore the frontiers of learning and the formation of collaborative communities. The primary mode of study is the practice of theater, involving theoretical, historical, aesthetic and technical elements. The program is comprehensive in nature, and is designed to maximize opportunities for training that would transfer to four-year institutions for students interested in theater arts, or provide our students with enough knowledge to enter the visual or performing arts workforce.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Obtain a fundamental understanding of the production process, including ticket sales, set design/construction, lights/sound, and marketing, front of house, props, costumes, and make-up/hair.
- Learn how to use their bodies as vessels for more complete and creative acting and character development; students will also learn tumbling, mask utilization, breathing techniques, and script analysis as it serves the physical life of the characters, as well as balance, physical/psychological extension, flexibility, stress/adaptive strategies, sensory acuity, and hand-to-hand combat.
- Learn the importance of breathing, alignment, dynamic tension, warm-up, range extension, pitch and stress work, resonance, vocal care and stamina, acting through the emotion, improving speech detail, International Phonetic Alphabet notation/pronunciation in varying contemporary and classical styles, and text analysis; students will study how "voice" can influence characterization and will also learn dialects.
- Gain familiarity with the art and practice of acting, both as an observer and a participant, including an introduction to the language, terms, and concepts of theater, as well as to the specific craft and technique work of the actor and the process by which actors work; students will learn to critically observe and evaluate theater performance: text and subtext, stage business, blocking, character analysis, analyzing a script - dramaturgy, beats of action, methods of acting - want/objective-obstacle-action-conclusion,

auditioning skills, play reports, post 1930 full-length plays (non-musicals, one-acts, or ten-minute plays), urgency scene (no speaking), oral history, as well as other skills.

- Learn how to manage a production from rehearsal to performance to striking the production on closing night, including pre-show techniques and efficiencies, call times, sound and light cues, costume changes, front of house coordination, recording blocking, and managing backstage; students will also learn Actors Equity Association rules of stage management.
- Learn to develop artistic perception, creative expression, and aesthetic valuing of the writer's Creative Intent, and develop the ability to connect and apply what is learned in drama to other art forms, subjects, and careers; students will continue to learn theater terminology for the stage, acting, directing, and technical aspects of production through the literary management of the text, will learn writing/acting/script analysis, and will use personally-inspired stories to create scenes and possibly one-act plays, as well as cultural implications, staging effects, and oral interpretation.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 50.0507.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

theater@qcc.mass.edu

Liberal Arts - Theater Option — Associate in Arts — LATH

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Mathematics Elective ¹	---	F/S/SU	3	
Introduction to Humanities	HUM 105	F/S/SU	3	ENG 101
Theater Production	THA 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Speech Communication Skills	SPH 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 2				
Composition II	ENG 102	F/S/SU	3	ENG 101
Mathematics Elective ¹	---	F/S/SU	3	
Introduction to Psychology or Introductory Sociology (Principles)	PSY 101 SOC 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Stage Movement	THA 102	F/S/SU	3	THA 101
Stage Voice	THA 103	F/S/SU	3	THA 101
Semester 3				
Literature, Philosophy, or Language Elective ²	---	F/S/SU	3	
Science Elective or Lab Science Elective ³	---	F/S/SU	3-4	
Acting	THA 201	F/S/SU	3	THA 102, THA 103
Stage Management	THA 202	F/S/SU	3	THA 102, THA 103
Social Science Foundational Elective ⁴	---	F/S/SU	3	
Semester 4				
Science Elective or Lab Science Elective ³	---	F/S/SU	3-4	
Playwriting	THA 203	F/S/SU	3	ENG 101, THA 201, THA 202
U.S. or World History Survey ⁵	---	F/S/SU	3	
Multiple Perspectives Elective ⁶	---	F/S/SU	3	
Liberal Arts Elective ⁷	---	F/S/SU	3	
Total Credits Required:			61-62	

Program Notes:

1. Mathematics Elective: MAT 100, MAT 121, MAT 122, or higher.
2. Literature, Philosophy, or Language Elective credits may be earned in one of the following ways:
 - Any HUM or PHI course, or ENG 200, ENG 212, ENG 215, ENG 231, ENG 232, ENG 241, ENG 242, ENG 251, ENG 252, ENG 255, ENG 259, or ENG 260.
 - Taking a foreign language (ASL, FRC, GER, or SPN); or successful completion of Advanced Placement Exam, CLEP, or Challenge Exam in a foreign language.
3. Science Elective or Lab Science Elective: One Science course must be a four-credit laboratory course.
4. Social Science Foundational Elective: ANT 111 or ANT 221; ECO 215 or ECO 216; GEO 210; PSC 201. PSY 101 or SOC 101 can be taken to fulfill this requirement, only if not taken in Semester 2.
5. U.S. or World History Survey courses: HST 104, HST 105, HST 106, HST 115, or HST 116.
6. Multiple Perspectives Elective: ANT 111 or ANT 221; ART 260; ASL 111, ASL 112, ASL 113, ASL 211, or ASL 212; CHC 151, CHC 250, or CHC 255; CRJ 110; ECE 133; ENG 231 or ENG 232; FRC 111, FRC 112, FRC 211, or FRC 212; GEO 210; GER 111, GER 112, GER 211, or GER 212; GRT 101; HST 104, HST 105, HST 106, HST 133, HST 152, HST 157, HST 203, HST 204, HST 215, HST 216, or HST 241; HUM 147 or HUM 211; HUS 221; IDS 101; MUS 121; PHA 102; PHI 121, PHI 123, or PHI 201; PSY 142; SOC 111, SOC 115, SOC 201, SOC 211, or SOC 220; SPN 111, SPN 112, SPN 211, or SPN 212.
7. Liberal Arts Elective: Any Humanities, Social Science, Behavioral Science, Natural Science, or Mathematics course, or IDS 101.

Manufacturing Technology — MP

Associate in Science

Program Goals:

The Manufacturing Technology program is designed to prepare graduates to enter the field of advanced manufacturing. Students will gain an understanding of materials and manufacturing processes as well as the quality systems in place in modern industry. Using safe working practices, students will learn to operate and maintain a variety of production equipment. Since there is a strong focus on applied mathematical and scientific knowledge in advanced manufacturing, students will obtain an advanced understanding of electrical, pneumatic, and hydraulic systems. Use of PC's, communication skills, CNC machine tools, and CAD/CAM software will allow successful graduates to enhance their ability to add value to any manufacturing environment. Graduates will be able to apply lean principles and automation techniques to improve process and product efficiency and quality.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Apply mathematical and scientific concepts to solve manufacturing problems.
 - Understand the process of product development through design and experimentation.
 - Supervise and manage a variety of manufacturing systems.
 - Work in multicultural and multidisciplinary teams to assess and improve system performance.
 - Practice safe working protocols to nurture ethical responsibilities.
 - Communicate technical information both verbally and in written form.
 - Use modern tooling, skills, and techniques for effective manufacturing systems practice.
 - Understand the behavior of a variety of material properties as they relate to manufacturing processing.
 - Apply accurate design methodology and use industry standard CAD/CAM software to improve quality and production.
 - Identify problems before they occur and design a solution.
 - Understand and manage product variability as defined by quality systems.
- Apply advanced methods of analysis, synthesis, and control of manufacturing systems.
 - Safely operate, program, and setup a variety of CNC equipment.
 - Measure manufacturing process variables and draw credible technical conclusions.
 - Apply lean principles in the operation and development of production systems.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

- CORI/SORI checks, finger printing, and drug testing may be required of students enrolled in MNT 299.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Graduates may be required to meet at locations off campus and are expected to provide their own transportation to these venues. Types of venues used vary each semester, but may include company tours outside of class and/or training at other local educational facilities.
- Students should anticipate additional expenses for professional certification examinations.

Location:

- This program may be completed at the QCC Worcester campus. Please note that other local locations may be used to enhance the educational experience of the student.
- This program may be completed face-to-face.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

- To evaluate technical prior learning credit, students should contact the Program Coordinator.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 15.0613.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

Manufacturing@qcc.mass.edu

Additional Information:

- The courses in this program are aligned with national standards as set by National Association of Manufacturers (NAM), Manufacturing Skills Standards Council (MSSC), and the statewide standards as defined by the Massachusetts Advancement Center Workforce Innovation Collaborative (MACWIC).
 - Students that successfully complete curriculum requirements may elect to register for the following certification examinations: MACWIC Level 1 and Level 2; SME - CMfgT exam.
 - Students will take the SolidWorks CSWA certification exam as part of curricular requirements in MNT 103.
- Certifications:
 - Manufacturing Skills Standards Council - Certified Production Technician (MSSC - CPT). www.msscusa.org/production-certification-cpt/
 - National Association of Manufacturers (NAM). www.nam.org/

- Massachusetts Advancement Center Workforce Innovation Collaborative (MACWIC). www.macwic.org/
- Society of Manufacturing Engineers - Certified Manufacturing Technologist (SME - CMfgT). www.sme.org/certified-manufacturing-technologist-certification.aspx
- Certified SolidWorks Associate - (CSWA). www.solidworks.com/sw/support/796_ENU_HTML.htm?pid=446

Manufacturing Technology — Associate in Science — MP

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Introduction to Microcomputer Applications	CIS 111	F/S/SU	3	
College Mathematics I: Pre-Calculus	MAT 123	F/S/SU	3	MAT 100 or approp place score
Maintenance and Instrumentation in Manufacturing	MNT 115	F/S	3	
Manufacturing Processes I	MNT 110	F/S	3	
Basic Machine Operation*	MNT 108	F/S	3	MAT 095 with a "C" or higher on the MAT 095 departmental final exam or approp place score
Semester 2				
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
College Mathematics II: Trigonometry	MAT 124	F/S/SU	3	MAT 123 or approp place score
Manufacturing Quality Assurance & Control Techniques	MNT 106	S	4	
Mechanical CAD I	MNT 101	F/S	3	MAT 095 with a "C" or higher on the MAT 095 departmental final exam or approp place score
Manufacturing Safety*	MNT 100	F/S	3	ENG 095 with a grade of "C" or higher; or approp place score, MAT 095 with a "C" or higher on the MAT 095 departmental final exam or approp place score
Semester 3				
Composition II or Technical Writing	ENG 102 ENG 105	F/S/SU	3	ENG 101
Solid Modeling*	MNT 103	F/S	3	ERG 101 or MNT 101
Process Automation & Robotics	MNT 217	F	3	CIS 111, Coreq: MNT 115
Physics I	PHY 101	F	4	Coreq: MAT 124
CNC Programming*	MNT 210	F	4	Coreq: MNT 101, MNT 108
Semester 4				
Computer-Aided Manufacturing	MNT 215	S	4	MNT 101, MNT 210
Manufacturing Processes II	MNT 216	S	4	MNT 102 or MNT 103, MNT 210
Lean Manufacturing and Six Sigma*	MNT 218	S	3	MNT 106
Cooperative Work Experience & Seminar	MNT 299	F/S/SU	3	Approval of Program Coordinator
Physics II	PHY 102	S	4	PHY 101
Total Credits Required:			66	

Program Notes:

*Course includes a certification exam.

Manufacturing Technology - Applied Manufacturing Option — MPA

Associate in Science

Program Goals:

The goal of the Manufacturing Technology Applied Manufacturing Option is to prepare highly skilled technicians and front-line supervisory personnel for the advanced manufacturing workforce. This option is specifically designed to serve as an associate degree completion program for applicants who meet the criteria for admission to the program and can demonstrate successful completion of all aspects of the MA Manufacturing Extension Partnership CNC Machine Operator Skills Training & Advanced CNC Machine Operator Skills Training.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Apply mathematical and scientific concepts to solve manufacturing problems.
- Use their knowledge of engineering principles to operate, troubleshoot, and maintain highly technical manufacturing equipment and integrated systems.
- Program, set up and operate sophisticated CNC machinery while maintaining safe working conditions and a structured approach to CNC programming methodology.
- Use industry recognized CAD/CAM software to prepare engineering drawings and build complex CNC programs.
- Apply advanced methods of analysis, synthesis, and control of production systems as they relate to lean production and automated process techniques.
- Integrate advanced methods of communication and maintain a professional approach to add value to a variety of manufacturing organizations through contextualized experience and applied technical knowledge.
- Understand and analyze modern quality systems to maintain and improve the production of goods and the processes that drive them.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.
- In addition, applicants must submit the following certificate of completion:
 - MACWIC Level 4 Certificate of Applied Manufacturing Technology. This certificate documents successful completion of all classroom-based and on-the-job training hours related to content addressed in the following QCC courses: MNT 101, MNT 110, MNT 115, MNT 210 and MNT 215 as well as successful completion of a minimum of 600 additional apprentice hours (beyond the hours utilized to fulfill the requirements of the MNT course articulations).
- Prospective applicants will work through QCC's Career Placement Services Office to credential the MMEP CNC Machine Operator Skills Training & Advanced CNC Machine Operator Skills Training. Please see the Additional Cost section for information regarding credentialing fees.
- Learn more about MACWIC at <http://amrpa.wordpress.com/research/best-practices/>.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Students are required to pay the current QCC credentialing fee for the 26 college credits granted through this agreement. Please see www.qcc.edu/services/experience-based-education/credentialing.
- Students should anticipate additional expenses for professional certification examinations.

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face.
- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

- Note: Applicants should note that 26 credits are being granted through articulation as per the terms of the agreement between MA Manufacturing Extension Partnership and QCC for this associate degree completion option.
- While students enrolled in this program may be able to earn additional academic credit for prior learning, it should be noted that a minimum of 15 credits must be completed at QCC in order to meet the residency requirement.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 15.0613.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

- Note: Applicants should note that credits granted through articulation as per the terms of the agreement between MA Manufacturing Extension Partnership and QCC may not be eligible for transfer to four-year colleges or universities. Applicants are advised to check with their transfer institution of choice regarding relevant transfer policies.

Program Contact Email:

Manufacturing@qcc.mass.edu

Manufacturing Technology - Applied Manufacturing Option — Associate in Science — MPA

Course Title	Course #	Semester Offered	Credits	Prerequisites
Credentialing of MassMEP CNC Machine Operator Skills Training & Advanced CNC Machine Operator Skills Training as per articulation agreement			26	
Semester 1				
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Process Automation & Robotics	MNT 217	F	3	CIS 111, Coreq: MNT 115
Mathematics Elective	---	F/S/SU	3	
Social Science Elective	---	F/S/SU	3	
Elective*	---	F/S/SU	3-4	
Semester 2				
Composition II	ENG 102	F/S/SU	3	ENG 101
Introduction to Business	MGT 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Humanities Elective	---	F/S/SU	3	
Mathematics Elective	---	F/S/SU	3	
Science Elective	---	F/S/SU	4	
Elective*	---	F/S/SU	3-4	
Total Credits Required:			60-62	

Program Notes:

- MAT 108 is designed to teach students how to apply mathematics to specific technical disciplines and is offered for credit toward the Certificate in Manufacturing Technology. MAT 108 may not be considered equivalent to college level mathematics for the purpose of transfer of credit to some baccalaureate institutions. Students who plan to pursue QCC's Associate in Science in Manufacturing Technology are advised to take MAT 100.

*For the Elective, students must select from the following courses: BUS 205 (3 credits); ENG 205 (3 credits); MGT 211 (3 credits); MNT 103 (3 credits); MNT 106 (4 credits); MNT 216 (4 credits); MNT 218 (3 credits).

CNC Technologies — CNC Certificate

Program Goals:

The CNC or Computer Numerical Control program is designed to prepare graduates to enter the field of advanced manufacturing specifically as a CNC operator/programmer. Students will gain an understanding of CAD/CAM systems and the conventions of blueprint reading, safety, metrology, quality, and machine operations. Using safe working practices, students will learn to operate, set-up, and program Haas CNC equipment along with other production machines. Graduates will be able to apply sound mathematical principles to solve manufacturing problems.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Apply mathematical and scientific concepts to solve manufacturing problems.
- Supervise and manage a variety of manufacturing systems.
- Practice safe working protocols to nurture ethical responsibilities.
- Communicate technical information both verbally and in written form.
- Use modern tooling, skills, and techniques for effective manufacturing systems practice.
- Apply accurate design methodology and use industry standard CAD/CAM software to improve quality and production.
- Identify problems before they occur and design a solution.
- Understand and manage product variability as defined by quality systems.
- Apply advanced methods of analysis, synthesis, and control of manufacturing systems.
- Safely operate, program, and setup a variety of CNC equipment.
- Measure manufacturing process variables and draw credible technical conclusions.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some required courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Lab fees will be charged for specific courses.
- Books and online LMS charges may apply to specific courses.
- Examination fees for 3rd party certification exams.

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

- Credit may be applied for students that have a nationally recognized credential listed below:
 - MACWIC Level 1 and Level 2 (Manufacturing Advancement Center Workforce Innovation Collaborative).
 - OSHA 30 (Occupational Safety & Health Administration).
 - NIMS Level 1 and Level 2 (National Institute for Metal Working Skills).

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 48.0510.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

- The courses of this certificate can be transferred to the Associate degree in Manufacturing Technology. Upon graduation they can be transferred to Fitchburg State University.

Program Contact Email:

Manufacturing@qcc.mass.edu

Additional Information:

- This certificate is designed for full-time enrollment.
- The courses in this program are aligned with national standards as set by the National Association of Manufacturers (NAM), and statewide standards as defined by the Massachusetts Advancement Center Workforce Innovation Collaborative (MACWIC).
- Certifications:
 - MACWIC Level 1 (www.macwic.org)
 - MACWIC Level 2 (www.macwic.org)
 - OSHA 30 (www.osha.gov/dte/outreach/generalindustry/index.html)

CNC Technologies — Certificate — CNC

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Manufacturing Safety*	MNT 100	F/S	3	ENG 095 with a grade of "C" or higher; or approp place score, MAT 095 with a "C" or higher on the MAT 095 departmental final exam or approp place score
Mechanical CAD I	MNT 101	F/S	3	MAT 095 with a "C" or higher on the MAT 095 departmental final exam or approp place score
CNC Programming*	MNT 210	F	4	Coreq: MNT 101, MNT 108
Basic Machine Operation*	MNT 108	F/S	3	MAT 095 with a "C" or higher on the MAT 095 departmental final exam or approp place score
Semester 2				
Manufacturing Quality Assurance & Control Techniques	MNT 106	S	4	
Computer-Aided Manufacturing	MNT 215	S	4	MNT 101, MNT 210
Cooperative Work Experience & Seminar	MNT 299	F/S/SU	3	Approval of Program Coordinator
Total Credits Required:			24	

Program Notes:

- This Certificate is intended for full-time enrollment.

*Course includes a certification exam.

Computer Aided Design — CAD

Certificate

Program Goals:

The certificate in Computer Aided Design is intended to prepare successful graduates to apply technical knowledge and skills to develop working engineering drawings and in support of mechanical and industrial engineers, and related professionals. Students gain knowledge in manufacturing materials and processes, mechanical drafting, electro-mechanical drafting, basic metallurgy, geometric dimensioning and tolerancing, blueprint reading, and technical communication. Upon completion the student will be able to use a variety of industry standard CAD programs and apply quality practices to perform as a CAD technician.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Understand the power and effectiveness of modern CAD software.
- Be able to apply mathematical and scientific concepts to solve design problems.
- Understand the principles of product development through design.
- Communicate technical information both verbally and in written form.
- Understand the behavior of a variety of material properties as they relate to manufacturing processing.
- Apply accurate design methodology and use industry standard CAD software to improve quality and production.
- Understand and manage product variability as defined by quality systems.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs

have program fees).

- Students should anticipate additional expenses for professional certification examinations.

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face.
- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 15.1302.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

Manufacturing@qcc.mass.edu

Additional Information:

- If a successful graduate wishes to continue his/her education, the courses required for the certificate in Computer Aided Design apply to the Associate Degree in Manufacturing Technology.
- Certifications:
 - Manufacturing Skills Standards Council - Certified Production Technician (MSSC - CPT). www.msscusa.org/production-certification-cpt/
 - Massachusetts Advancement Center Workforce Innovation Collaborative (MACWIC). www.macwic.org/
 - Certified SolidWorks Associate - (CSWA). www.solidworks.com/sw/support/796_ENU_HTML.htm?pid=446

Gainful Employment:

Visit www.QCC.edu/gainful-employment for more information.

Computer Aided Design — Certificate — CAD

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Introduction to Microcomputer Applications or	CIS 111	F/S/SU	3	
Introduction to Computer Applications in Telecommunications	CIS 115	F/S		
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Mechanical CAD I	MNT 101	F/S	3	MAT 095 with a "C" or higher on the MAT 095 departmental final exam or approp place score
Manufacturing Processes I	MNT 110	F/S	3	
Semester 2				
Mechanical CAD II	MNT 102	S	3	MNT 101
Solid Modeling	MNT 103	F/S	3	ERG 101 or MNT 101
Manufacturing Quality Assurance & Control Techniques	MNT 106	S	4	
Program Elective*	---	F/S/SU	3	
Total Credits Required:			25	

Program Notes:

- Students should note that many required courses have ENG and/or MAT prerequisites.

*Suggested Program Electives: With prefixes BIO, CHM, MAT, MNT, PHY, PSY, or SPH; or the following suggested courses: MGT 211, MGT 221, MRK 201, MRK 221; or a course approved by the Program Coordinator.

Manufacturing Technology — MPC Certificate

Program Goals:

The Manufacturing Technology Certificate is designed to introduce the principles of engineering and manufacturing. The program prepares students to apply basic engineering principles and technical skills to the identification and resolution of production problems in the manufacture of products. The student will gain basic knowledge of material properties and identify a variety of production processes to assist in a production environment. Along with enhanced computer skills, the student will be able to communicate effectively in a manufacturing environment and use industry standard software to operate as an entry-level manufacturing/engineering technician.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Apply mathematical and scientific concepts to solve manufacturing problems.
- Practice safe working protocols to nurture ethical responsibilities.
- Communicate technical information both verbally and in written form.
- Use modern tooling, skills, and techniques for effective manufacturing systems practice.
- Understand the behavior of a variety of material properties as they relate to manufacturing processing.
- Apply accurate design methodology and use industry standard CAD software to improve quality and production.
- Identify problems before they occur and design a solution.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex

Offender Registry Information (SORI) checks are not required. Finger printing and drug testing are not required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Students should anticipate additional expenses for professional certification examinations.

Location:

- This program may be completed at the QCC Worcester campus.
- This program may be completed face-to-face.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 15.0613.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

Manufacturing@qcc.mass.edu

Additional Information:

- QCC's Manufacturing Technology Certificate is endorsed by the Manufacturing Institute, a non-partisan affiliate of the National Association of Manufacturers. The M-List distinguishes quality manufacturing education and training programs that are a preferred source of talent for manufacturing employers. For more information, visit the Manufacturing Institute at www.manufacturinginstitute.org.

themanufacturinginstitute.org/ or the M-List at www.themanufacturinginstitute.org/Skills-Certification/M-List/M-List.aspx.

- If a successful graduate wishes to continue his/her education, the courses required for the certificate in Manufacturing Technology apply to the Associate Degree in Manufacturing Technology.
- The courses in this program are aligned with national standards as set by the National Association of Manufacturers (NAM), Manufacturing Skills Standards Council (MSSC), and statewide standards as defined by the Massachusetts Advancement Center Workforce Innovation Collaborative (MACWIC).
 - Students that successfully complete curriculum requirements may elect to register for the following certification examination: MACWIC Level 1.
- Certifications:
 - Manufacturing Skills Standards Council - Certified Production Technician (MSSC - CPT). www.msscusa.org/production-certification-cpt/
 - National Association of Manufacturers (NAM). www.nam.org/
 - Massachusetts Advancement Center Workforce Innovation Collaborative (MACWIC). www.macwic.org/

Gainful Employment:

Visit www.QCC.edu/gainful-employment for more information.

Manufacturing Technology — Certificate — MPC

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Manufacturing Safety	MNT 100	F/S	3	ENG 095 with a "C" or higher; or approp place score, MAT 095 with a "C" or higher on the MAT 095 departmental final exam or approp place score
Mechanical CAD I	MNT 101	F/S	3	MAT 095 with a "C" or higher on the MAT 095 departmental final exam or approp place score
Manufacturing Processes I	MNT 110	F/S	3	
Basic Machine Operation	MNT 108	F/S	3	MAT 095 with a "C" or higher on the MAT 095 departmental final exam or approp place score
Semester 2				
Introduction to Microcomputer Applications	CIS 111	F/S/SU	3	
College Algebra or	MAT 100	F/S/SU	3-4	MAT 099 with a "C" or higher on the MAT 099 departmental final exam or approp place score
Applied Technical Mathematics I	MAT 108	F/S		MAT 095 with a "C" or higher on the MAT 095 departmental final exam or approp place score
Manufacturing Quality Assurance & Control Techniques	MNT 106	S	4	
Maintenance and Instrumentation in Manufacturing	MNT 115	F/S	3	
Total Credits Required:			25-26	

Medical Assisting — ME Certificate

Program Goals:

To prepare competent entry-level medical assistants in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Demonstrate proficiency in performing entry-level clinical and administrative procedures of the medical assistant profession.
- Work under the direction of a physician in an ethical, legal and safe manner.
- Achieve employment as an entry-level medical assistant.
- Demonstrate appropriate critical thinking skills including written, verbal and nonverbal communication.
- Work effectively as part of a team.
- Recognize the importance of continued professional development.
- Apply principles of teaching and learning into the delivery of care to patients and families.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.
- Must take the college placement test to demonstrate Math and English competency at the appropriate level.
- Applicants must place into MAT 099 and ENG 101 on the college placement test; mathematics must be taken within five years.
- Attend a Health Information Session.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI), Sex Offender Registry Information (SORI), and National Background checks are required in the program, either annually or every semester. Finger printing and drug testing may be required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Students should anticipate additional expenses for uniforms/clinical wear, textbooks, professional liability insurance, licensing exams, and parking fees at clinical sites.

Location:

- This program may be completed at the QCC Healthcare and Workforce Development Center in downtown Worcester.
- This program will require students to travel to clinical sites within the Worcester County area.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 51.0801.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

medicalsupport@qcc.mass.edu

Additional Information:

- The QCC Medical Assisting Certificate Program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), 1361 Park Street, Clearwater, FL 33756, (727) 210-2350, www.caahep.org, on recommendation of the Medical Assisting Education Review Board.
- Students accepted to the Medical Assistant program must:
 - Obtain CPR certification, Healthcare Provider (Red Cross) or BLS for Healthcare Provider (American Heart Association), prior to beginning the fieldwork experience (externship).
 - Provide documentation of immunization currency and satisfactory health status and be cleared by the Health Compliance Officer by September 15th or January 15th of Fieldwork Experience.

Gainful Employment:

Visit www.QCC.edu/gainful-employment for more information.

Medical Assisting — Certificate — ME

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Introduction to Medical Terminology	ALH 102	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 2				
Medical Office Administration I	ALH 151	F	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, Coreq: ALH 102, BSS 101
Introduction to Microcomputer Applications	CIS 111	F/S/SU	3	
Introduction to Psychology	PSY 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Clinical Procedures I	MSS 151	F	4	Coreq: ALH 151
Principles of Pharmacology for Medical Assistants	MSS 252	F	3	Coreq: MSS 151
Semester 3				
Medical Office Administration II	ALH 152	S	3	ALH 151
Medical Coding and Billing	ALH 107	S	3	ENG 096 with a grade of "C" or higher; or approp place score, Coreq: ALH 102
Principles of Human Biology*	BIO 100	F/S/SU	4	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Clinical Procedures II	MSS 251	S	4	MSS 151
Semester 4				
Fieldwork Experience	MSS 299	F/S	4	BIO 100 or BIO 140, ENG 101, MSS 151, MSS 251, PSY 101
Total Credits Required:			40	

Program Notes:

- A grade of "C" or higher is required for BIO 100 and all MSS courses in order to remain in and advance through the program.

*BIO 111, BIO 112 acceptable for BIO 100; BIO 140 can be accepted in place of BIO 100, if previously taken (BIO 140 no longer offered).

Medical Support Specialist - Medical Assisting Option — MSMA

Associate in Science

Program Goals:

To prepare competent entry-level medical assistants in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Demonstrate proficiency in performing entry-level clinical and administrative procedures of the medical assistant profession.
- Work under the direction of a physician in an ethical, legal and safe manner.
- Achieve employment as an entry-level medical assistant.
- Demonstrate appropriate critical thinking skills including written, verbal and nonverbal communication.
- Work effectively as part of a team.
- Recognize the importance of continued professional development.
- Apply principles of teaching and learning into the delivery of care to patients and families.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.
- Must take the college placement test to demonstrate Math and English competency at the appropriate level.
- Applicants must place into MAT 099 and ENG 101 on the college placement test; mathematics must be taken within five years.
- Attend a Health Information Session.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI), Sex Offender Registry Information (SORI), and National Background checks are required in the program, either annually or every semester. Finger printing and drug testing may be required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Students should anticipate additional expenses for uniforms/clinical wear, textbooks, professional liability insurance, licensing examinations, and parking fees at clinical sites.

Location:

- This program may be completed at the QCC Healthcare and Workforce Development Center in downtown Worcester.
- This program will require students to travel to clinical sites within the Worcester County area.
- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 51.0716.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

medicalsupport@qcc.mass.edu

Additional Information:

Students accepted to the Medical Assistant program must:

- Obtain CPR certification, Healthcare Provider (Red Cross) or BLS for Healthcare Provider (American Heart Association), prior to beginning the fieldwork experience (externship).
- Provide documentation of immunization currency and satisfactory health status and be cleared by the Health Compliance Officer by September 15th or January 15th of Fieldwork Experience.

Medical Support Specialist - Medical Assisting Option — Associate in Science — MSMA

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Introduction to Medical Terminology	ALH 102	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 2				
Medical Office Administration I	ALH 151	F	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, Coreq: ALH 102, BSS 101
Introduction to Microcomputer Applications	CIS 111	F/S/SU	3	
Introduction to Psychology	PSY 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Clinical Procedures I	MSS 151	F	4	Coreq: ALH 151
Principles of Pharmacology for Medical Assistants	MSS 252	F	3	Coreq: MSS 151
Semester 3				
Medical Office Administration II	ALH 152	S	3	ALH 151
Medical Coding and Billing	ALH 107	S	3	ENG 096 with a grade of "C" or higher; or approp place score, Coreq: ALH 102
Principles of Human Biology*	BIO 100	F/S/SU	4	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Clinical Procedures II	MSS 251	S	4	MSS 151
Semester 4				
Financial Accounting I	ACC 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score, MAT 090 with a "C" or higher on the MAT 090 departmental final exam or approp place score
Composition II	ENG 102	F/S/SU	3	ENG 101
Liberal Arts Elective	---	F/S/SU	3	
Statistics	MAT 122	F/S/SU	3	MAT 099 with a "C" or higher on the MAT 099 departmental final exam or approp place score
Fieldwork Experience	MSS 299	F/S	4	BIO 100 or BIO 140, ENG 101, MSS 151, MSS 251, PSY 101
Semester 5				
Introductory Sociology (Principles)	SOC 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Technical and Workplace Writing	ENG 205	F/S/SU	3	ENG 102, Computer Literacy
Advanced Microcomputer Applications	CIS 112	F/S/SU	3	CIS 111
Death & Dying	SOS 211	F/S	3	ENG 101
Program Elective	---	F/S/SU	3	
Total Credits Required:			67	

Program Notes:

- A grade of "C" or higher is required for BIO 100 and all MSS courses in order to remain in and advance through the program.

*BIO 111, BIO 112 acceptable for BIO 100; BIO 140 can be accepted in place of BIO 100, if previously taken (BIO 140 no longer offered).

Nurse Education — NUR

Associate in Science

Program Goals:

The Nurse Education program prepares students for a career as a Registered Nurse. Graduates of the program assume responsibilities related to direct patient care in a variety of settings, including, but not limited to, hospitals, clinics, extended care facilities, home and community health agencies. Upon successful completion of this program, students are eligible to take the National Council Licensure Examination for Registered Nurses (NCLEX-RN). The Quinsigamond Community College Nurse Education Program is approved by the Massachusetts Board of Registration in Nursing (MBORN) and accredited by the Accreditation Commission for Education in Nursing (ACEN), 3343 Peachtree Road, NE, Suite 850, Atlanta, GA 30326, 1.404.975.5000, www.acenursing.org. The program will also prepare students for further study at four-year colleges and universities.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Relate Orem's self-care model to the nursing management of individuals, families and groups throughout the life cycle.
- Relate Erikson's developmental stages when planning for and delivering nursing care.
- Assume the role of the nurse in ways that reflect integrity, responsibility, ethical practice and an evolving identity as a professional nurse committed to evidence-based practice, caring, patient advocacy, and safe quality care for diverse patients in various settings.
- Effectively communicate verbally, nonverbally, in writing or with computer based technology with the patient, family and other health professionals with a patient-centered focus.
- Use the nursing process and other theoretical concepts in the comprehensive delivery of care.
- Make judgments in nursing practice, based on evidence, that integrate nursing science in the provision of safe, quality care and promote the health of patients, families and communities.
- Employ relationship-centered interventions that are caring, compassionate, nurturing, protective, therapeutic and respectful of human differences.
- Participate in a spirit of inquiry to help promote and maintain health and reduce risks for patients, families and communities by challenging the status quo, questioning underlying assumptions and offering new insights to improve quality of care.
- Collaborate within the nursing and inter-professional teams to foster open communication, mutual respect,

and shared decision-making in order to achieve quality patient care.

- Manage patient care through planning, organizing, directing and delegating with an emphasis on system effectiveness to provide quality health care and a safe environment for patients and workers.
- Advocate for patients, families and oneself to retain or develop new pathways which encompass one's uniqueness, dignity, diversity and freedom toward a holistic well-being.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.
- Must take the college placement test to determine Math and English levels if no college level courses were previously completed.
- Math: minimum grade of "B" in MAT 098 or MAT 099 or take Math Placement Test and test into MAT 100.
- Biology: minimum grade of "B" in high school biology or "B" in BIO 100 (recommended) or other college biology class.
- Qualifying mathematics and one biology course must be taken within five years of application and a grade of "B" or higher must be achieved.
- English: ENG 091 with a grade of "B" or higher, ENG 096 with a grade of "B" or higher; or appropriate placement score.
- Required TEAS V composite score of 65% must be achieved in one test (cannot be a combination of two tests).
- Required grades as listed above must be earned within two attempts of taking and completing the course.
- BA/BS or MA/MS degree for Associate of Science Degree Evening program only.
- Attendance at a Health information Session.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI), Sex Offender Registry Information (SORI), and National Background checks are required in the program every semester. Finger printing may be required and drug testing is required.

- Students should be aware that a court record may prevent them from taking the NCLEX-RN examination and may prevent participation in clinical sites.

- Applicants should understand that the Massachusetts Board of Registration in Nursing (MBORN) reserves the right to refuse an applicant the privilege of sitting for the NCLEX-RN examination based on a Good Moral Character Licensure requirement.
- More information is available from the Massachusetts Board of Registration in Nursing (MBORN).

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Nurse Education students should anticipate additional expenses for professional uniforms, standardized testing, CPR certification, health immunizations and physical exams. Also, there may be additional costs associated with the purchase of textbooks, professional liability insurance, licensing examinations applications, mandatory clinical make-up and any required skills for remediation.

Location:

- This program may be completed at the QCC Healthcare and Workforce Development Center in downtown Worcester.
- This program will require students to travel to clinical sites within the Worcester County area.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 51.3801.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

Nurseeducation@qcc.mass.edu

Additional Information:

- The program also prepares students for further study at four-year colleges and universities, as well as to provide a broad background for employment in healthcare facilities.
- Courses in both Nurse Education and Liberal Arts are required in the program curriculum. Nursing courses include clinical experiences in area hospitals, rehabilitation, long term care and community agencies, as well as classroom study and laboratory practice on campus.
- All clinical experiences are under the supervision of QCC Nurse Education faculty and entrance into most clinical agencies will require the wearing of a standardized school uniform.
- To be eligible to continue in the program, students must achieve a grade of "C+" or higher in all nursing (NUR) courses.
- To be eligible to continue in the program, students must achieve a grade of "C" or higher in BIO 111, BIO 112, and BIO 232; students who have received a grade below a "C" in BIO 111, BIO 112, or BIO 232 are required to repeat the course and obtain a grade of "C" or higher by the end of the semester in which they are required or required as a prerequisite.
- In addition, students must demonstrate satisfactory performance in the nursing laboratory and in the clinical settings.
- Students must also satisfy all course and program requirements, including regulations on attendance and conduct, in order to be eligible for certification for licensure; students who do not have completed health files (including titres and immunizations) submitted to the Nurse Education Department and cleared by the Health Compliance Officer by July 15th, April 1st (Evening Students only for summer rotations), and January 5th of the respective semester will be removed from their nursing courses and will have to file for readmission to the next available semester.
- Readmission is not guaranteed and is always based upon space availability. Please review the readmission policy outlined in the QCC Handbook.
- All students accepted in the NUR, NUL, NUP and NUE programs must obtain Healthcare Provider (Red Cross) or BLS for Healthcare Providers (American Heart Association) CPR certification and provide documentation of immunization currency and satisfactory health status prior to beginning clinical experiences.
- A Social Security Number is mandatory for NCLEX Application (Licensure) with the Massachusetts Board of Registration in Nursing (MBORN).

Nurse Education — Associate in Science — NUR

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Anatomy & Physiology I	BIO 111	F/S/SU	4	BIO 101 or High School Advanced Placement Biology, Coreq: ENG 101
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 2				
Anatomy & Physiology II	BIO 112	F/S/SU	4	BIO 111
Fundamentals of Nursing	NUR 104	F/S	7	Passing BIO 111 with a "C" or higher, ENG 101, Coreq: BIO 112, PSY 101, NUR 103
Current Concepts in Nursing & Health Care I	NUR 103	F/S	1	Passing BIO 111 with a "C" or higher, ENG 101, Coreq: BIO 112, PSY 101, NUR 104
Introduction to Psychology	PSY 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 3				
Medical Microbiology	BIO 232	F/S/SU	4	BIO 112 or CHM 123 or CHM 105
Medical Surgical Nursing I/ Maternal Newborn	NUR 105	F/S	8	NUR 101 with a grade of "C+" or higher; or NUR 103 and NUR 104 with a grade of "C+" or higher, Coreq: BIO 232, PSY 121
A Survey of Life Span Development: Conception to Death	PSY 121	F/S/SU	3	PSY 101
Semester 4				
Composition II	ENG 102	F/S/SU	3	ENG 101
History Elective*	---	F/S/SU	3	
Medical Surgical Nursing II/ Pediatric	NUR 201	F/S/SU	10	BIO 112, BIO 232, PSY 121, a grade of "C+" or higher is required in NUR 105, Coreq: ENG 102, any HST, SOC 101 or SOC 111
Introductory Sociology (Principles) or	SOC 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Social Problems & Social Change	SOC 111			Coreq: ENG 101
Semester 5				
Humanities Elective*	---	F/S/SU	3	
Advanced Medical Surgical Nursing III/Mental Health	NUR 202	F/S	10	ENG 102, any HST, SOC 101 or SOC 111, a grade of "C+" or higher is required in NUR 201, Coreq: NUR 203, Humanities Elective
Current Concepts in Nursing & Health Care II	NUR 203	F/S	2	A grade of "C+" or higher is required in NUR 201, Coreq: NUR 202
Total Credits Required:			71	

Program Notes:

- To be eligible to continue in the program, students must achieve a grade of "C+" or higher in all nursing (NUR) courses.
- To be eligible to continue in the program, students must achieve a grade of "C" or higher in BIO 111, BIO 112, and BIO 232; students who have received a grade below a "C" in BIO 111, BIO 112, or BIO 232 are required to repeat the course and obtain a grade of "C" or higher by the end of the semester in which they are required or required as a prerequisite.
- In addition, students must demonstrate satisfactory performance in the nursing laboratory and in the clinical settings.
- Students must also satisfy all course and program requirements, including regulations on attendance and conduct, in order to be eligible for certification for licensure; students who do not have completed health files (including titres and immunizations) submitted to the Nurse Education Department and cleared by the Health Compliance Officer by July 15th, April 1st (Evening Students only for summer rotations), and January 5th of the respective semester will be removed from their nursing courses and will have to file for readmission to the next available semester.

*May be taken in either the first or second semester of the second year.

Nurse Education - Evening — NUE

Associate in Science

Program Goals:

The Nurse Education program prepares students for a career as a Registered Nurse. Graduates of the program assume responsibilities related to direct patient care in a variety of settings, including, but not limited to, hospitals, clinics, extended care facilities, home and community health agencies. Upon successful completion of this program, students are eligible to take the National Council Licensure Examination for Registered Nurses (NCLEX-RN). The Quinsigamond Community College Nurse Education Program is approved by the Massachusetts Board of Registration in Nursing (MBORN) and accredited by the Accreditation Commission for Education in Nursing (ACEN), 3343 Peachtree Road, NE, Suite 850, Atlanta, GA 30326, 1.404.975.5000, www.acenursing.org. The program also prepares students for further study at four-year colleges and universities.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Relate Orem's self-care model to the nursing management of individuals, families and groups throughout the life cycle.
- Relate Erikson's developmental stages when planning for and delivering nursing care.
- Assume the role of the nurse in ways that reflect integrity, responsibility, ethical practice and an evolving identity as a professional nurse committed to evidence-based practice, caring, patient advocacy, and safe quality care for diverse patients in various settings.
- Effectively communicate verbally, nonverbally, in writing or with computer based technology with the patient, family and other health professionals with a patient-centered focus.
- Use the nursing process and other theoretical concepts in the comprehensive delivery of care.
- Make judgments in nursing practice, based on evidence, that integrate nursing science in the provision of safe, quality care and promote the health of patients, families and communities.
- Employ relationship-centered interventions that are caring, compassionate, nurturing, protective, therapeutic and respectful of human differences.
- Participate in a spirit of inquiry to help promote and maintain health and reduce risks for patients, families and communities by challenging the status quo, questioning underlying assumptions and offering new insights to improve quality of care.
- Collaborate within the nursing and inter-professional teams to foster open communication, mutual respect, and shared

decision-making in order to achieve quality patient care.

- Manage patient care through planning, organizing, directing and delegating with an emphasis on system effectiveness to provide quality health care and a safe environment for patients and workers.
- Advocate for patients, families and oneself to retain or develop new pathways which encompass one's uniqueness, dignity, diversity and freedom toward a holistic well-being.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.
- Must take the college placement test to determine Math and English levels if no college level courses were previously completed.
- Math: minimum grade of "B" in MAT 098 or MAT 099 or take Math Placement Test and test into MAT 100.
- Biology: minimum grade of "B" in high school biology or "B" in BIO 100 (recommended) or other college biology class.
- Qualifying mathematics and one biology course must be taken within five years of application and a grade of "B" or higher must be achieved.
- English: ENG 091 with a grade of "B" or higher, ENG 096 with a grade of "B" or higher; or appropriate placement score.
- Required TEAS V composite score of 65% must be achieved in one test (cannot be a combination of two tests).
- Required grades as listed above must be earned within two attempts of taking and completing the course.
- BA/BS or MA/MS degree for Associate of Science Degree Evening program only.
- Attendance at a Health information Session.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI), Sex Offender Registry Information (SORI), and National Background checks are required in the program every semester. Finger printing may be required and drug testing is required.

- Students should be aware that a court record may prevent them from taking the NCLEX-RN examination and may prevent participation in clinical sites.
- Applicants should understand that the Massachusetts Board of Registration in Nursing (MBORN) reserves the

right to refuse an applicant the privilege of sitting for the NCLEX-RN examination based on a Good Moral Character Licensure requirement.

- More information is available from the Massachusetts Board of Registration in Nursing (MBORN).

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Nurse Education students should anticipate additional expenses for professional uniforms, standardized testing, CPR certification, health immunizations and physical exams. Also, there may be additional costs associated with the purchase of textbooks, professional liability insurance, licensing examinations applications, mandatory clinical make-up, parking at clinical sites, and any required skills for remediation.

Location:

- This program may be completed at the QCC Healthcare and Workforce Development Center in downtown Worcester.
- This program will require students to travel to clinical sites within the Worcester County area.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 51.3801.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

NurseeducationeveningsNULNUP@qcc.mass.edu

Additional Information:

- The program also prepares students for further study at four-year colleges and universities as well as provides

a broad background for employment in healthcare facilities.

- Courses in both Nurse Education and Liberal Arts are required in the program curriculum. Nursing courses include clinical experiences in area hospitals, rehabilitation, long term care and community agencies, as well as classroom study and laboratory practice on campus.
- All clinical experiences are under the supervision of QCC Nurse Education faculty and entrance into most clinical agencies will require the wearing of a standardized school uniform.
- To be eligible to continue in the program, students must achieve a grade of "C+" or higher in all nursing (NUR) courses.
- To be eligible to continue in the program, students must achieve a grade of "C" or higher in BIO 111, BIO 112, and BIO 232; students who have received a grade below a "C" in BIO 111, BIO 112, or BIO 232 are required to repeat the course and obtain a grade of "C" or higher by the end of the semester in which they are required or required as a prerequisite.
- In addition, students must demonstrate satisfactory performance in the nursing laboratory and in the clinical settings.
- Students must also satisfy all course and program requirements, including regulations on attendance and conduct, in order to be eligible for certification for licensure; students who do not have completed health files (including titres and immunizations) submitted to the Nurse Education Department and cleared by the Health Compliance Officer by April 1st (Evening Students only for summer rotations), July 15th, and January 5th of the respective semester will be removed from their nursing courses and will have to file for readmission to the next available semester.
- Readmission is not guaranteed and is always based upon space availability. Please review the readmission policy outlined in the QCC Handbook.
- All students accepted in the NUR, NUL, NUP and NUE programs must obtain Healthcare Provider (Red Cross) or BLS for Healthcare Providers (American Heart Association) CPR certification and provide documentation of immunization currency and satisfactory health status prior to beginning clinical experiences.
- A Social Security Number is mandatory for NCLEX Application (Licensure).
- All Clinical Experiences will start before 3:00 PM. Some Clinical Experiences will be held during the daytime.
- Students must provide their own transportation to the clinical sites.

Nurse Education - Evening — Associate in Science — NUE

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1 (Summer I or Summer II)				
Anatomy & Physiology I	BIO 111	F/S/SU	4	BIO 101 or High School Advanced Placement Biology, Coreq: ENG 101
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 2 (Fall)				
Anatomy & Physiology II	BIO 112	F/S/SU	4	BIO 111
Fundamentals of Nursing	NUR 104	F/S	7	Passing BIO 111 with a "C" or higher, ENG 101, Coreq: BIO 112, PSY 101, NUR 103
Current Concepts in Nursing & Health Care I	NUR 103	F/S	1	Passing BIO 111 with a "C" or higher, ENG 101, Coreq: BIO 112, PSY 101, NUR 104
Introduction to Psychology	PSY 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 3 (Spring)				
Medical Microbiology	BIO 232	F/S/SU	4	BIO 112 or CHM 123 or CHM 105
Medical Surgical Nursing I/ Maternal Newborn (Jan-April)	NUR 105	F/S	8	NUR 101 with a grade of "C+" or higher; or NUR 103 and NUR 104 with a grade of "C+" or higher, Coreq: BIO 232, PSY 121
A Survey of Life Span Development: Conception to Death	PSY 121	F/S/SU	3	PSY 101
Semester 4 (Summer I & Summer II)				
Composition II	ENG 102	F/S/SU	3	ENG 101
History Elective*	---	F/S/SU	3	
Medical Surgical Nursing II/ Pediatric** (May-July)	NUR 201	F/S/SU	10	BIO 112, BIO 232, PSY 121, a grade of "C+" or higher is required in NUR 105, Coreq: ENG 102, any HST, SOC 101 or SOC 111
Introductory Sociology (Principles) or	SOC 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Social Problems & Social Change	SOC 111			Coreq: ENG 101
Semester 5 (Fall)				
Humanities Elective*	---	F/S/SU	3	
Advanced Medical Surgical Nursing III/Mental Health	NUR 202	F/S	10	ENG 102, any HST, SOC 101 or SOC 111, a grade of "C+" or higher is required in NUR 201, Coreq: NUR 203, Humanities Elective
Current Concepts in Nursing & Health Care II	NUR 203	F/S	2	A grade of "C+" or higher is required in NUR 201, Coreq: NUR 202
Total Credits Required:			71	

Program Notes:

- To be eligible to continue in the program, students must achieve a grade of "C+" or higher in all nursing (NUR) courses.
- To be eligible to continue in the program, students must achieve a grade of "C" or higher in BIO 111, BIO 112, and BIO 232; students who have received a grade below a "C" in BIO 111, BIO 112, or BIO 232 are required to repeat the course and obtain a grade of "C" or higher by the end of the semester in which they are required or required as a prerequisite.

*May be taken in either the summer or fall semester.

**Class may be held during the daytime.

Advanced Placement Nurse Education LPN — NUL

Associate in Science

Program Goals:

This one year program is for LPN's seeking advanced placement into the Evening Associate of Science Degree Program to prepare the LPN for a career as a Registered Nurse. Graduates of the program assume responsibilities related to direct patient care in a variety of settings, including, but not limited to, hospitals, clinics, extended care facilities, home and community health agencies. Upon successful completion of this program, students are eligible to take the National Council Licensure Examination for Registered Nurses (NCLEX-RN). The Quinsigamond Community College Nurse Education Program is approved by the Massachusetts Board of Registration in Nursing (MBORN) and accredited by the Accreditation Commission for Education in Nursing (ACEN), 3343 Peachtree Road, NE, Suite 850, Atlanta, GA 30326, 1.404.975.5000, www.acenursing.org. The program also prepares students for further study at four-year colleges and universities.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Relate Orem's self-care model to the nursing management of individuals, families and groups throughout the life cycle.
- Relate Erikson's developmental stages when planning for and delivering nursing care.
- Assume the role of the nurse in ways that reflect integrity, responsibility, ethical practice and an evolving identity as a professional nurse committed to evidence-based practice, caring, patient advocacy, and safe quality care for diverse patients in various settings.
- Effectively communicate verbally, nonverbally, in writing or with computer based technology with the patient, family and other health professionals with a patient-centered focus.
- Use the nursing process and other theoretical concepts in the comprehensive delivery of care.
- Make judgments in nursing practice, based on evidence, that integrate nursing science in the provision of safe, quality care and promote the health of patients, families and communities.
- Employ relationship-centered interventions that are caring, compassionate, nurturing, protective, therapeutic and respectful of human differences.
- Participate in a spirit of inquiry to help promote and maintain health and reduce risks for patients, families and communities by challenging the status quo, questioning underlying assumptions and offering new insights to

improve quality of care.

- Collaborate within the nursing and inter-professional teams to foster open communication, mutual respect, and shared decision-making in order to achieve quality patient care.
- Manage patient care through planning, organizing, directing and delegating with an emphasis on system effectiveness to provide quality health care and a safe environment for patients and workers.
- Advocate for patients, families and oneself to retain or develop new pathways which encompass one's uniqueness, dignity, diversity and freedom toward a holistic well-being.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.
- Must take the college placement test to determine Math and English levels if no college level courses were previously completed.
- Math: minimum grade of "B" in MAT 098 or MAT 099 or take Math Placement Test and test into MAT 100.
- Biology: minimum grade of "B" in high school biology or "B" in BIO 100 (recommended) or other college biology class.
- English: ENG 091 with a grade of "B" or higher, ENG 096 with a grade of "B" or higher; or appropriate placement score.
- Qualifying mathematics and one biology course must be taken within five years of application and a grade of "B" or higher must be achieved.
- Required TEAS V composite score of 65% must be achieved in one test (cannot be a combination of two tests).
- Required grade must be earned within two attempts of taking and completing the course.
- Attendance at a Health information Session.
- Current LPN license in the state of Massachusetts.
- Satisfy admissions requirements to the Associate of Science Degree Nursing Program.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI), Sex Offender Registry Information (SORI), and National Background checks are required in the program, either annually or every semester. Finger printing and drug testing are required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Nurse Education students should anticipate additional expenses for professional uniforms, standardized testing, CPR certification, health immunizations and physical exams. Also, there may be additional costs associated with the purchase of textbooks, professional liability insurance, licensing examinations applications, mandatory clinical make-up and any required skills for remediation.

Location:

- This program may be completed at the QCC Healthcare and Workforce Development Center in downtown Worcester.
- This program will require students to travel to clinical sites within the Worcester County area.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 51.3801.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

NurseeducationeveningsNULNUP@qcc.mass.edu

Additional Information:

- The program also prepares students for further study at four-year colleges and universities, as well as to provide a broad background for employment in healthcare facilities.
- Courses in both Nurse Education and Liberal Arts are required in the program curriculum. Nursing courses include clinical experiences in area hospitals, rehabilitation, long term care and community agencies, as well as classroom study and laboratory practice on campus.

- All clinical experiences are under the supervision of QCC Nurse Education faculty and entrance into most clinical agencies will require the wearing of a standardized school uniform.
- To be eligible to continue in the program, the student must achieve a grade of "C" or higher in all nursing (NUR) courses and in BIO 111, BIO 112 and BIO 232. Students who have received a grade below a "C" in BIO 111, BIO 112 or BIO 232 are required to repeat the course and obtain a grade of "C" or higher by the end of the semester in which they are required or required as a prerequisite.
- In addition, the student must demonstrate satisfactory performance in the nursing laboratory and in the clinical settings.
- The student must also satisfy all course and program requirements, including regulations on attendance and conduct, in order to be eligible for certification for licensure. Students who do not have completed health files (including titres and immunizations) submitted to the Nurse Education Department and cleared by the Health Compliance Officer by April 1st (summer Evening students only), July 15th, and January 5th of the respective semester will be removed from their nursing courses and will have to file for readmission to the next available semester.
- Readmission is not guaranteed and is always based upon space availability. Please review the readmission policy outlined in the QCC Handbook.
- All students accepted in the NUR, NUL, NUP and NUE programs must obtain Healthcare Provider (Red Cross) or BLS for Healthcare Providers (American Heart Association) CPR certification and provide documentation of immunization currency and satisfactory health status prior to beginning clinical experiences.
- A Social Security Number is mandatory for NCLEX Application (Licensure).
- All Clinical Experiences will start before 3:00 PM. Some Clinical Experiences will be held during the daytime.
- A student seeking readmission from the NUL to NUR program must first apply for readmission (see QCC Student Handbook), as this is dependent upon space availability (and other criteria). Once the student *completes the readmission process with the appropriate Program Coordinator*, the student is responsible for the following:
 - *Either* complete a petition form (if previous QCC PN or other community college graduate) to grant credits for the NUR 103 and NUR 104 courses.
 - *Or* complete a Credit for Prior Learning application (if vocational LPN school graduate) with Experience Based Education (Room 272, the SETC Office, Administration Building, Main Worcester Campus).

Advanced Placement Nurse Education LPN — Associate in Science — NUL

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1 (Summer I)				
Anatomy & Physiology I	BIO 111	F/S/SU	4	BIO 101 or High School Advanced Placement Biology, Coreq: ENG 101
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 2 (Summer II)				
Anatomy & Physiology II	BIO 112	F/S/SU	4	BIO 111
Introduction to Psychology	PSY 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 3 (Fall)				
Advanced Placement Nursing I (Dec-Jan)	NUR 101	F	1	Passing BIO 112 with a "C" or higher, PSY 101, NUR 100 or Admission to Advanced Placement Nurse Education LPN to ADN Program
Semester 4 (Spring)				
Medical Microbiology	BIO 232	F/S/SU	4	BIO 112 or CHM 123 or CHM 105
Medical Surgical Nursing I/ Maternal Newborn (Jan-April)	NUR 105	F/S	8	NUR 101 with a grade of "C+" or higher; or NUR 103 and NUR 104 with a grade of C+ or higher, Coreq: BIO 232, PSY 121
A Survey of Life Span Development: Conception to Death	PSY 121	F/S/SU	3	PSY 101
Semester 5 (Summer I & Summer II)				
Composition II	ENG 102	F/S/SU	3	ENG 101
History Elective*	---	F/S/SU	3	
Medical Surgical Nursing II/ Pediatric** (May-July)	NUR 201	F/S/SU	10	BIO 112, BIO 232, PSY 121, a grade of "C+" or higher is required in NUR 105, Coreq: ENG 102, any HST, SOC 101 or SOC 111
Introductory Sociology (Principles) or	SOC 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Social Problems & Social Change	SOC 111			
Semester 6 (Fall)				
Humanities Elective*	---	F/S/SU	3	
Advanced Medical Surgical Nursing III/Mental Health	NUR 202	F/S	10	ENG 102, any HST, SOC 101 or SOC 111, a grade of "C+" or higher is required in NUR 201, Coreq: NUR 203, Humanities Elective
Current Concepts in Nursing & Health Care II	NUR 203	F/S	2	A grade of "C+" or higher is required in NUR 201, Coreq: NUR 202
Total Credits Required:			64	

Program Notes:

- To be eligible to continue in the program, students must achieve a grade of "C+" or higher in all nursing (NUR) courses.
- To be eligible to continue in the program, students must achieve a grade of "C" or higher in BIO 111, BIO 112, and BIO 232; students who have received a grade below a "C" in BIO 111, BIO 112, or BIO 232 are required to repeat the course and obtain a grade of "C" or higher by the end of the semester in which they are required or required as a prerequisite.

*May be taken in either the summer or fall semester.

**Class may be held during the daytime.

Advanced Placement Nurse Education Paramedic — NUP Associate in Science

Program Goals:

This Program is for Paramedics seeking Advanced Placement into the Evening Associate of Science Degree Program to prepare the Paramedic for a career as a Registered Nurse. Graduates of the program assume responsibilities related to direct patient care in a variety of settings, including, but not limited to, hospitals, clinics, extended care facilities, home and community health agencies. Upon successful completion of this program, students are eligible to take the National Council Examination for Registered Nurses (NCLEX-RN). The Quinsigamond Community College Nurse Education Program is approved by the Massachusetts Board of Registration in Nursing (MBORN) and accredited by the Accreditation Commission for Education in Nursing (ACEN), 3343 Peachtree Road, NE, Suite 850, Atlanta, GA 30326, 1.404.975.5000, www.acenursing.org. The program also prepares students for further study at four-year colleges and universities.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Relate Orem's self-care model to the nursing management of individuals, families and groups throughout the life cycle.
- Relate Erikson's developmental stages when planning for and delivering nursing care.
- Assume the role of the nurse in ways that reflect integrity, responsibility, ethical practice and an evolving identity as a professional nurse committed to evidence-based practice, caring, patient advocacy, and safe quality care for diverse patients in various settings.
- Effectively communicate verbally, nonverbally, in writing or with computer based technology with the patient, family and other health professionals with a patient-centered focus.
- Use the nursing process and other theoretical concepts in the comprehensive delivery of care.
- Make judgments in nursing practice, based on evidence, that integrate nursing science in the provision of safe, quality care and promote the health of patients, families and communities.
- Employ relationship-centered interventions that are caring, compassionate, nurturing, protective, therapeutic and respectful of human differences.
- Participate in a spirit of inquiry to help promote and maintain health and reduce risks for patients, families and communities by challenging the status quo, questioning underlying assumptions and offering new insights to improve quality of care.

- Collaborate within the nursing and inter-professional teams to foster open communication, mutual respect, and shared decision-making in order to achieve quality patient care.
- Manage patient care through planning, organizing, directing and delegating with an emphasis on system effectiveness to provide quality health care and a safe environment for patients and workers.
- Advocate for patients, families and oneself to retain or develop new pathways which encompass one's uniqueness, dignity, diversity and freedom toward a holistic well-being.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.
- Must take the college placement test to determine Math and English levels if no college level courses were previously completed.
- Math: minimum grade of "B" in MAT 098 or MAT 099 or take Math Placement Test and test into MAT 100.
- Biology: minimum grade of "B" in high school biology or "B" in BIO 100 (recommended) or other college biology class.
- English: ENG 091 with a grade of "B" or higher, ENG 096 with a grade of "B" or higher; or appropriate placement score.
- Qualifying mathematics and *one* biology course must be taken within five years of application and a grade of "B" or higher must be achieved.
- Required TEAS V composite score of 65% must be achieved in one test (cannot be a combination of two tests).
- Required grade must be earned within two attempts of taking and completing the course.
- Attendance at a Health information Session.
- Current Certification in Massachusetts as a Paramedic.
- Satisfy admissions requirements to the Associate of Science Degree Nursing Program.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI), Sex Offender Registry Information (SORI), and National Background checks are required in the program, either annually or every semester. Finger printing and drug testing are required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Nurse Education students should anticipate additional expenses for professional uniforms, standardized testing, CPR certification, health immunizations and physical exams. Also, there may be additional costs associated with the purchase of textbooks, professional liability insurance, licensing examinations applications, mandatory clinical make-up and any required skills for remediation.

Location:

- This program may be completed at the QCC Healthcare and Workforce Development Center in downtown Worcester.
- This program will require students to travel to clinical sites within the Worcester County area.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 51.3801.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

NurseeducationeveningsNULNUP@qcc.mass.edu

Additional Information:

- The program also prepares students for further study at four-year colleges and universities, as well as to provide a broad background for employment in healthcare facilities.
- Courses in both Nurse Education and Liberal Arts are required in the program curriculum. Nursing courses include clinical experiences in area hospitals, rehabilitation, long term care and community agencies, as well as classroom study and laboratory practice on campus.

- All clinical experiences are under the supervision of QCC Nurse Education faculty and entrance into most clinical agencies will require the wearing of a standardized school uniform.
- To be eligible to continue in the program, the student must achieve a grade of "C" or higher in all nursing (NUR) courses and in BIO 111, BIO 112 and BIO 232. Students who have received a grade below a "C" in BIO 111, BIO 112 or BIO 232 are required to repeat the course and obtain a grade of "C" or higher by the end of the semester in which they are required or required as a prerequisite.
- In addition, the student must demonstrate satisfactory performance in the nursing laboratory and in the clinical settings.
- The student must also satisfy all course and program requirements, including regulations on attendance and conduct, in order to be eligible for certification for licensure. Students who do not have completed health files (including titres and immunizations) submitted to the Nurse Education Department and cleared by the Health Compliance Officer by April 1st (Evening students only for summer rotations), July 15th, and January 5th of the respective semester will be removed from their nursing courses and will have to file for readmission to the next available semester.
- Readmission is always based upon space availability. Please review the readmission policy outlined in the QCC Handbook.
- All students accepted in the NUR, NUL, NUP and NUE programs must obtain Healthcare Provider (Red Cross) or BLS for Healthcare Providers (American Heart Association) CPR certification and provide documentation of immunization currency and satisfactory health status prior to beginning clinical experiences.
- A Social Security Number is mandatory for NCLEX Application (Licensure).
- All Clinical Experiences will start before 3:00 PM. Some Clinical Experiences will be held during the daytime.
- A student seeking readmission from the NUP to NUR program must first apply for readmission (see QCC Student Handbook), as this is dependent upon space availability (and other criteria). Once the student completes the readmission process with the appropriate Program Coordinator, the student is responsible for the following:
 - *Either* complete a petition form (if previous QCC Paramedic or other community college graduate) to grant credits for the NUR 103 and NUR 104 courses.
 - Or complete a Credit for Prior Learning application (if the student has completed a program of study for Paramedicine from a setting other than a college setting) with Experience Based Education (Room 272, Administration Building, main Worcester campus).

Advanced Placement Nurse Education Paramedic — Associate in Science — NUP

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1 (Summer I)				
Anatomy & Physiology I	BIO 111	F/S/SU	4	BIO 101 or High School Advanced Placement Biology, Coreq: ENG 101
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 2 (Summer II)				
Anatomy & Physiology II	BIO 112	F/S/SU	4	BIO 111
Introduction to Psychology	PSY 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 3 (Fall)				
Paramedic to ADN Bridge* (Oct-Nov)	NUR 100	F	1	Passing both BIO 111 and BIO 112 with a "C" or higher, PSY 101, ENG 101
Advanced Placement Nursing I (Dec-Jan)	NUR 101	F	1	Passing BIO 112 with a "C" or higher, PSY 101, NUR 100 or Admission to Advanced Placement Nurse Education LPN to ADN Program
Semester 4 (Spring)				
Medical Microbiology	BIO 232	F/S/SU	4	BIO 112 or CHM 123 or CHM 105
Medical Surgical Nursing I/ Maternal Newborn (Jan-April)	NUR 105	F/S	8	NUR 101 with a grade of "C+" or higher; or NUR 103 and NUR 104 with a grade of "C+" or higher, Coreq: BIO 232, PSY 121
A Survey of Life Span Development: Conception to Death	PSY 121	F/S/SU	3	PSY 101
Semester 5 (Summer I & Summer II)				
Composition II	ENG 102	F/S/SU	3	ENG 101
History Elective**	---	F/S/SU	3	
Medical Surgical Nursing II/ Pediatric*** (May-July)	NUR 201	F/S/SU	10	BIO 112, BIO 232, PSY 121, a grade of "C+" or higher is required in NUR 105, Coreq: ENG 102, any HST, SOC 101 or SOC 111
Introductory Sociology (Principles) or	SOC 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Social Problems & Social Change	SOC 111			Coreq: ENG 101
Semester 6 (Fall)				
Humanities Elective**	---	F/S/SU	3	
Advanced Medical Surgical Nursing III/Mental Health	NUR 202	F/S	10	ENG 102, any HST, SOC 101 or SOC 111, a grade of "C+" or higher is required in NUR 201, Coreq: NUR 203, Humanities Elective
Current Concepts in Nursing & Health Care II	NUR 203	F/S	2	A grade of "C+" or higher is required in NUR 201, Coreq: NUR 202
Total Credits Required:			65	

Program Notes:

- To be eligible to continue in the program, students must achieve a grade of "C+" or higher in all nursing (NUR) courses.
- To be eligible to continue in the program, students must achieve a grade of "C" or higher in BIO 111, BIO 112, and BIO 232; students who have received a grade below a "C" in BIO 111, BIO 112, or BIO 232 are required to repeat the course and obtain a grade of "C" or higher by the end of the semester in which they are required or required as a prerequisite.

*Students must successfully complete NUR 100 with a "C+" or higher before taking NUR 101.

**May be taken in either the summer or fall semester.

***Class may be held during the daytime.

Practical Nursing — LP Certificate

Program Goals:

Practical Nurse Education prepares students with skills and education that will enable them to become an effective Licensed Practical Nurse. The program will prepare the graduate to assume an entry-level position in the field or pursue additional education. Graduates of the program assume responsibilities related to direct patient care in a variety of settings, including, but not limited to, doctor's offices, clinics, extended care facilities, home and community health agencies. Upon successful completion of this program, students are eligible to take the National Council Examination for Practical Nurses (NCLEX-PN). The Quinsigamond Community College Practical Nurse Certificate Program is approved by the Massachusetts Board of Registration in Nursing (MBORN) and accredited by the Accreditation Commission for Education in Nursing (ACEN), 3343 Peachtree Road, NE, Suite 850, Atlanta, GA 30326, 1.404.975.5000, www.acenursing.org. The program also prepares students for further study at two and four-year colleges and universities.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Apply the nursing process to the care of culturally diverse clients, throughout the life span, who have actual, common, well-defined, or potential, health-deviation requisites.
- Use therapeutic communication effectively with clients, families, and members of the health care team.
- Implement goal-directed teaching plans to assist clients in resolving self-care deficits.
- Manage the nursing care of clients with actual or potential common, well-defined health-deviation requisites, in a variety of structured settings, in accordance with ethical, legal and professional standards.
- Demonstrate professional attributes in the provision of safe effective Practical Nursing Care.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.
- TEAS V composite score of 50%.
- Math: Must test into MAT 099 or higher or completion of MAT 095 with a "B" or higher.
- English: ENG 091 with a grade of "B" or higher, ENG 096 with a grade of "B" or higher; or appropriate placement score.
- Attend a Health Information Session.
- Must show evidence of being compliant with health requirements as defined by the Nurse Education Department.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI), Sex Offender Registry Information (SORI), and National Background checks are required in the program, either annually or every semester. Finger printing and drug testing may be required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Practical Nurse Certificate students should anticipate additional expenses for professional uniforms and required supplies, standardized testing, CPR certification, health immunizations and physical exams. Also, there may be additional costs associated with the purchase of textbooks, professional liability insurance, licensing examinations applications, end-of-course mandatory review, clinical make-up and any required skills for remediation.

Location:

- This program may be completed at the QCC Healthcare and Workforce Development Center in downtown Worcester.
- This program will require students to travel to clinical sites within the Worcester County area.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 51.3901.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

practicalnursing@qcc.mass.edu

Additional Information:

- The program also prepares students for further study at two and four-year colleges and universities, as well as to provide a broad background for employment in healthcare facilities.
- Courses in both Practical Nursing and Liberal Arts are required in the program curriculum. Nursing courses include clinical experiences in area hospitals, rehabilitation, long term care and community agencies, as well as classroom study and laboratory practice on campus.
- All clinical experiences are under the supervision of QCC Nurse Education faculty and entrance into most clinical agencies will require the wearing of a standardized school uniform.
- To be eligible to continue in the program, the student must achieve a grade of "C" or higher in all Practical Nursing (PNP) courses and in BIO 100 or BIO 140, PSY 101, and PSY 121, and must demonstrate satisfactory progress in the laboratory and clinical components of each nursing course. Students who have received a grade below a "C" in BIO 100 or BIO 140, PSY 101, and PSY 121 are required to repeat the course and obtain a grade of "C" or higher by the end of the semester in which they are required or required as a prerequisite.
- In addition, the student must demonstrate satisfactory performance in the nursing laboratory and in the clinical settings.

- The student must also satisfy all course and program requirements, including regulations on attendance and conduct, in order to be eligible for certification for licensure. Students who do not have completed health files (including titres and immunizations) submitted to the Nurse Education Department and cleared by the Health Compliance Officer by July 15th will be removed from their nursing courses and will have to file for readmission to the next available semester.
- Readmission is always based upon space availability. Please review the readmission policy outlined in the QCC Handbook.
- All students accepted in the LP and LPE programs must obtain Healthcare Provider (Red Cross) or BLS for Healthcare Providers (American Heart Association) CPR certification and provide documentation of immunization currency and satisfactory health status prior to beginning clinical experiences.
- A Social Security Number is mandatory for NCLEX Application (Licensure).
- Clinical Experiences will start before 7:00 AM. Some Clinical Experiences will be held on Saturday.

Gainful Employment:

Visit www.QCC.edu/gainful-employment for more information.

Practical Nursing — Certificate — LP

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Principles of Human Biology*	BIO 100	F/S/SU	4	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Practical Nursing I	PNP 101	F	10	Acceptance to the PNP Program, Coreq: BIO 100 or BIO 140
Introduction to Pharmacology	PNP 111	F	3	Acceptance to the PNP Program, Coreq: BIO 100 or BIO 140
Introduction to Psychology	PSY 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 2				
A Survey of Life Span Development: Conception to Death	PSY 121	F/S/SU	3	PSY 101
Semester 3				
Practical Nursing II: Medical/Surgical/Mental Health Nursing	PNP 200	S	11	PNP 101, PNP 111, PSY 121, Coreq: PNP 210, PNP 222, PNP 233
Nutrition Concepts in Health and Illness	PNP 210	S	1	BIO 100 or BIO 140, PNP 101, PNP 111, Coreq: PNP 200, PNP 222, PNP 233
Clinical Pharmacology	PNP 222	S	2	PNP 111, Coreq: PNP 200, PNP 210, PNP 233
Trends in Practical Nursing	PNP 233	S	1	PNP 101, PNP 111, Coreq: PNP 200, PNP 210, PNP 222
Semester 4				
Practical Nursing III: Pediatric/Maternal/Newborn/Leadership Management Nursing	PNP 202	SU	8	BIO 100 or BIO 140, PNP 200, PNP 210, PNP 222, PNP 233, PSY 121
Total Credits Required:			46	

Program Notes:

*BIO 140 can be accepted in place of BIO 100, if previously taken (BIO 140 no longer offered).

Practical Nursing - Evening — LPE Certificate

Program Goals:

Practical Nurse Education prepares students with skills and education that will enable them to become an effective Licensed Practical Nurse. The program will prepare the graduate to assume an entry-level position in the field or pursue additional education. Graduates of the program assume responsibilities related to direct patient care in a variety of settings, including, but not limited to, doctor's offices, clinics, extended care facilities, home and community health agencies. Upon successful completion of this program, students are eligible to take the National Council Examination for Practical Nurses (NCLEX-PN). The Quinsigamond Community College Practical Nurse Certificate Program is approved by the Massachusetts Board of Registration in Nursing (MBORN) and accredited by the Accreditation Commission for Education in Nursing (ACEN), 3343 Peachtree Road, NE, Suite 850, Atlanta, GA 30326, 1.404.975.5000, www.acenursing.org. The program also prepares students for further study at two and four-year colleges and universities.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Apply the nursing process to the care of culturally diverse clients, throughout the life span, who have actual, common, well-defined, or potential, health-deviation requisites.
- Use therapeutic communication effectively with clients, families, and members of the health care team.
- Implement goal-directed teaching plans to assist clients in resolving self-care deficits.
- Manage the nursing care of clients with actual or potential common, well-defined health-deviation requisites, in a variety of structured settings, in accordance with ethical, legal and professional standards.
- Demonstrate professional attributes in the provision of safe effective Practical Nursing Care.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.
- TEAS V composite score of 50%.
- Math: Must test into MAT 099 or higher or completion of MAT 095 with a "B" or higher.
- English: ENG 091 with a grade of "B" or higher, ENG 096 with a grade of "B" or higher; or appropriate placement score.
- Attend a Health Information Session.
- Must show evidence of being compliant with health requirements as defined by the Nurse Education Department.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are required. Finger printing and drug testing may be required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Practical Nurse Certificate students should anticipate additional expenses for professional uniforms and required supplies, standardized testing, CPR certification, health immunizations and physical exams. Also, there may be additional costs associated with the purchase of textbooks, professional liability insurance, licensing examinations applications, end-of-course mandatory review, clinical make-up and any required skills for remediation.

Location:

- This program may be completed at the QCC Healthcare and Workforce Development Center in downtown Worcester.
- This program will require students to travel to clinical sites within the Worcester County area.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the

Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 51.3901.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

practicalnursing@qcc.mass.edu

Additional Information:

- The program also prepares students for further study at two and four-year colleges and universities, as well as to provide a broad background for employment in healthcare facilities.
- Courses in both Practical Nursing and Liberal Arts are required in the program curriculum. Nursing courses include clinical experiences in area hospitals, rehabilitation, long term care and community agencies, as well as classroom study and laboratory practice on campus.
- All clinical experiences are under the supervision of QCC Nurse Education faculty and entrance into most clinical agencies will require the wearing of a standardized school uniform.
- To be eligible to continue in the program, the student must achieve a grade of "C" or higher in all Practical Nursing (PNP) courses and in BIO 100 or BIO 140, PSY 101, and PSY 121, and must demonstrate satisfactory progress in the laboratory and clinical components of each nursing course. Students who have received a grade below a "C" in BIO 100 or BIO 140, PSY 101, and PSY 121 are required to repeat the course and obtain a grade of "C" or higher by the end of the semester in which they are required or required as a prerequisite.
- In addition, the student must demonstrate satisfactory performance in the nursing laboratory and in the clinical settings.
- The student must also satisfy all course and program requirements, including regulations on attendance and conduct, in order to be eligible for certification for

licensure. Students who do not have completed health files (including titres and immunizations) submitted to the Nurse Education Department and cleared by the Health Compliance Officer by July 15th will be removed from their nursing courses and will have to file for readmission to the next available semester.

- Readmission is always based upon space availability. Please review the readmission policy outlined in the QCC Handbook.
- All students accepted in the LP and LPE programs must obtain Healthcare Provider (Red Cross) or BLS for Healthcare Providers (American Heart Association) CPR certification and provide documentation of immunization currency and satisfactory health status prior to beginning clinical experiences.
- A Social Security Number is mandatory for NCLEX Application (Licensure).
- Clinical Experiences will start before 3:00 PM. Some Clinical Experiences may be held on weekend days.

Gainful Employment:

Visit www.QCC.edu/gainful-employment for more information.

Practical Nursing - Evening — Certificate — LPE

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Principles of Human Biology*	BIO 100	F/S/SU	4	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Practical Nursing I	PNP 101	F	10	Acceptance to the PNP Program, Coreq: BIO 100 or BIO 140
Introduction to Pharmacology	PNP 111	F	3	Acceptance to the PNP Program, Coreq: BIO 100 or BIO 140
Introduction to Psychology	PSY 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 2				
A Survey of Life Span Development: Conception to Death	PSY 121	F/S/SU	3	PSY 101
Semester 3				
Practical Nursing II: Medical/Surgical/Mental Health Nursing	PNP 200	S	11	PNP 101, PNP 111, PSY 121, Coreq: PNP 210, PNP 222, PNP 233
Nutrition Concepts in Health and Illness	PNP 210	S	1	BIO 100 or BIO 140, PNP 101, PNP 111, Coreq: PNP 200, PNP 222, PNP 233
Clinical Pharmacology	PNP 222	S	2	PNP 111, Coreq: PNP 200, PNP 210, PNP 233
Trends in Practical Nursing	PNP 233	S	1	PNP 101, PNP 111, Coreq: PNP 200, PNP 210, PNP 222
Semester 4				
Practical Nursing III: Pediatric/Maternal/Newborn/Leadership Management Nursing	PNP 202	SU	8	BIO 100 or BIO 140, PNP 200, PNP 210, PNP 222, PNP 233, PSY 121
Total Credits Required:			46	

Program Notes:

*BIO 140 can be accepted in place of BIO 100, if previously taken (BIO 140 no longer offered).

Occupational Therapy Assistant — OT

Associate in Science

Program Goals:

This program prepares students for entry-level employment as a Certified Occupational Therapy Assistant (COTA). The Certified Occupational Therapy Assistant practices under the supervision of a Registered Occupational Therapist (OTR) as a member of the Healthcare team. Program graduates are eligible to apply for certification by examination from the National Board of Certification in Occupational Therapy and, upon successful completion of the examination; the graduate may apply for state licensure which is offered based upon the NBCOT Certification examination results. Licensure is required for practice.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Demonstrate a knowledge and understanding of the history and philosophical base of the profession, its Code of Ethics, Core Values and Standards of Practice.
- Demonstrate knowledge of OT theory, be able to differentiate between activity, purposeful activity and occupation, and articulate the importance of engagement in occupation to support participation in context.
- Select, adapt and safely administers appropriate activities and occupations for evaluation and treatment interventions based upon analysis of the activity and identification of client's needs.
- Communicate effectively through written, oral and non-verbal communication with client, family, employer and other health professional to explain the value of OT interventions and the importance of occupation in the promotion and maintenance of health.
- Participate in teaching, learning and collaboration with the client, significant support person(s), and other members of the healthcare team to help promote and maintain health.
- Understand and appreciates the importance of diversity and context factors in an individual's perception of health, illness, disability and treatment interventions.
- Demonstrate critical thinking, clinical decision making and therapeutic use of self to effect client change in individual and group settings.
- Describe the professional relationship between the OTA and COTA, including the role of supervision during the

steps of the OT Process.

- Demonstrate effective written communication skills to document OT services and gain reimbursement.
- Understand the contexts of OT service delivery and the role of the OTA in these contexts.
- Understand the varied tasks that the COTA may assume to assist in the provision of OT services in traditional and emerging practice areas, and the implications of legislation on service provision.
- Assume responsibility for his/her personal and professional actions in the practice of OT and maintenance of competence.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.
- Must take the college placement test to determine Math and English levels if no college level courses were previously completed.
- Attend a Health Information Session.
- English: ENG 091 with a grade of "B" or higher, ENG 096 with a grade of "B" or higher; or appropriate placement score.
- Math: minimum grade of "B" in MAT 098 or MAT 099 or place into MAT 100-level or above.
- Biology: minimum grade of "B" in high school biology or "C+" or higher in any college level biology course (BIO 101 recommended).
- Qualifying mathematics and one biology course must be taken within five years of application. Required grade must be earned within two attempts of taking and completing the course.
- Required TEAS V scores must be achieved within two attempts of taking the test and within five years of application.
 - English: 53%
 - Reading: 60%
 - Mathematics: 54%
 - Science: 40%

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI), Sex Offender Registry Information (SORI), and National Background checks are required in the program, either annually or every semester. Finger printing and drug testing may be required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Students should anticipate additional expenses for textbooks, professional liability insurance, transportation and parking fees at field placement sites.

Location:

- This program may be completed at the QCC Healthcare and Workforce Development Center in downtown Worcester.
- This program may require students to travel to clinical sites that are within a 75 mile radius of the College.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 51.0908.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

otassistant@qcc.mass.edu

Additional Information:

- The OTA program at QCC is fully accredited by the Accreditation Council for Occupational Therapy Education of the American Occupational Therapy Association (AOTA), which is located at 4720 Montgomery Lane, Suite 200, Bethesda, MD 20814-3449. The telephone number is 301.652.AOTA and the web address is www.aota.org/Education-Careers/Accreditation.aspx.
- Students accepted to the Occupational Therapy Assistant Program must:
 - Obtain CPR certification prior to the second semester in the program.
 - Provide documentation of immunization currency and satisfactory health status and be cleared by the Health Compliance Officer within six weeks of entering the Program.
 - Purchase a student membership to the American Occupational Therapy Association (approximately \$80.00) annually.

Occupational Therapy Assistant — Associate in Science — OT

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1 (Fall)				
Anatomy & Physiology I	BIO 111	F/S/SU	4	BIO 101 or High School Advanced Placement Biology, Coreq: ENG 101
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Introduction to Occupational Therapy: Concepts & Interventions	OTA 101	F	3	
Occupational Therapy: Methods and Modalities I	OTA 131	F	3	Coreq: OTA 101
Introduction to Psychology	PSY 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Liberal Arts Elective	---	F/S/SU	3	
Semester 2 (Spring)				
Anatomy & Physiology II	BIO 112	F/S/SU	4	BIO 111
Group Process and Interventions	OTA 103	S	4	OTA 101, PSY 101
Developing Professional Behaviors	OTA 105	S	3	OTA 101
Concepts and Occupational Therapy Interventions with the Physically Challenged	OTA 223	S	4	BIO 111, OTA 101, OTA 131
A Survey of Life Span Development: Conception to Death	PSY 121	F/S/SU	3	PSY 101
Semester 3 (Fall)				
Composition II	ENG 102	F/S/SU	3	ENG 101
Occupational Therapy with the Older Adult	OTA 211	F	3	OTA 101, PSY 121
Developmental Problems and Practice with Children	OTA 215	F	4	OTA 101, PSY 121
Concepts and Occupational Therapy Interventions in Mental Health	OTA 221	F	4	OTA 101, OTA 103, PSY 101
Occupational Therapy: Methods and Modalities II	OTA 231	F	3	OTA 101, OTA 131
Semester 4 (Spring)				
Occupational Therapy Field Placement I	OTA 241	S	7	BIO 112, ENG 102, OTA 105, OTA 211, OTA 215, OTA 221, OTA 223, OTA 231
Occupational Therapy Field Placement II	OTA 242	S	7	BIO 112, ENG 102, OTA 105, OTA 211, OTA 215, OTA 221, OTA 223, OTA 231
Total Credits Required:			68	

Program Notes:

- A grade of "C" or higher is required for ENG 101, ENG 102, BIO 111, BIO 112, and all OTA courses in order to remain in and advance through the program.
- Both OTA 241 and OTA 242 must be completed within 18 months of the OTA didactic coursework.

Physical Therapist Assistant — PTA

Associate in Science

Program Goals:

This Physical Therapist Assistant (PTA) program is offered through an articulation agreement with Mount Wachusett Community College (MWCC). General education requirements can be taken at Quinsigamond Community College. All PTA courses must be taken at MWCC. Students must meet the selective admissions requirements to the MWCC PTA program.

Admissions Process:

The application deadline is May 1st each year for the upcoming September enrollment. Students applying after the established deadline will be considered for acceptance if seats are available. This selective enrollment program requires additional application components. The selection process is competitive and space is limited. For specific information, contact QCC Admissions Office, Judith D'Angelo, jdangelo@qcc.mass.edu, 508.854.4262.

Admissions Requirements:

Contact MWCC for admissions requirements.

- MWCC MAT 126 or higher is required prior to Semester 1 coursework.
- PTA students are required to keep pace with the incoming class and must take courses in sequential order.
- Applicants must meet all requirements for consideration before entering the program.
- Students must meet technical performance standards and additional requirements, including immunizations, Healthcare Provider CPR certification, liability insurance, Criminal Offender Record Information (CORI), and Sex Offender Registry Information (SORI) checks.
- BIO 111 and BIO 112 must be completed within five years prior to or concurrently with PTA coursework in Semesters 1 and 2.
- Note: All BIO and PTA courses require a grade of "C+" in order to be eligible for promotion to the next level.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- PTA students should anticipate additional expenses for uniforms/clinical wear, textbooks, professional liability insurance, licensing examinations, and any required skills remediation.

Location:

- Even Years: MWCC, Gardner Campus
- Odd Years: MWCC, Devens Campus

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Career Outlook:

PTAs assist physical therapists (PTs) in acute care and rehabilitation hospitals, long-term care, private practices, school systems, and home care/visiting nurse associations.

Transfer Articulations & Opportunities:

While there has traditionally been no direct transfer route for PTA graduates, they may choose from a variety of higher level degrees such as exercise physiology, pre-physical therapy, and massage therapy or other complementary healthcare programs. Students should consult with their Academic Advisor. Transfer agreements exist with numerous colleges and universities. For more transfer information, visit MWCC's transfer services website at <http://mwcc.edu/advising/workshops/transfer/agreements/>.

Additional Information:

- PTAs implement treatment procedures in the rehabilitation of injured, ill, or debilitated individuals.
- The PTA program prepares individuals to work in the healthcare field under the direct supervision of a PT in a variety of settings.
- The program also prepares students for the PTA licensure examination in the students' respective state of practice.
- The program is accredited by the Commission on Accreditation in Physical Therapy Education.
- For more information, please contact MWCC at 978.630.9292.

Courses that may be taken at QCC:

- BIO 111 Anatomy & Physiology I
- BIO 112 Anatomy & Physiology II
- ENG 101 Composition I
- ENG 102 Composition II
- MAT 100 College Algebra
- MAT 121 Topics in Mathematics or higher
- PSY 101 Introduction to Psychology
- PSY 121 A Survey of Life Span Development: Conception to Death
- CIS 111 Introduction to Microcomputer Applications or a Business Elective and a Humanities Elective

Public Health —PHC

Certificate

Program Goals:

This program prepares the student to obtain employment as an entry-level public health worker. Public health care workers serve large populations of people and organize their efforts to prevent the spread of diseases through entire communities.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Identify the roles and responsibilities of the public health worker.
- Identify the multiple ways public health affects daily living.
- Explain relationships between the social and behavioral sciences and public health.
- Implement strategies that promote behavior change.
- Understand safe practices as it relates to the public health role.
- Understand the similarities and differences in public and global health including demographic measures of health status and burden of disease.
- Understand the impact of the environment and communicable diseases on the health of populations.
- Describe the basis of chronic diseases on morbidity or mortality and approaches to prevention, early detection, and disease management.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI) and Sex Offender Registry Information (SORI) checks are not required in the program, as there is no co-operative experience.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

Location:

- This program may be completed at the QCC Worcester campus.
- Some classes may be offered at the QCC Healthcare and Workforce Development Center in downtown Worcester or at the Southbridge location.
- This program may be completed face-to-face.
- This program may be completed 50% or more online.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 51.2208.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

janej@qcc.mass.edu

Public Health — Certificate — PHC

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1				
Introduction to Public Health	PHA 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Survey of Personal Health	PHA 100	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Anatomy & Physiology I	BIO 111	F/S/SU	4	BIO 101 or High School Advanced Placement Biology, Coreq: ENG 101
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 2				
Introduction to the Chemistry of Living Systems	CHM 101	F/S/SU	4	CHM 090 or one year of High School Chemistry, MAT 095 with a "C" or higher on the MAT 095 departmental final exam or approp place score
Introduction to Psychology	PSY 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Introduction to Global Health	PHA 102	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Anatomy & Physiology II	BIO 112	F/S/SU	4	BIO 111
Total Credits Required:			27	

Radiologic Technology — RT

Associate in Science

Program Goals:

This program prepares students for entry-level employment as Radiologic Technologists in various types of healthcare settings. Graduates are eligible to apply for certification by examination from the American Registry of Radiologic Technologists and licensing by the Radiation Control Program of MA-DPH (required for employment).

Student Learning Outcomes:

Graduates of the Radiologic Technology program are able to:

- Provide effective patient care.
- Utilize proper positioning/alignment skills.
- Apply appropriate exposure factors.
- Employ acceptable radiation safety.
- Be respectful of patients and co-workers.
- Work effectively as part of a team.
- Exhibit satisfactory work ethic.
- Recognize the importance of continued professional development.
- Modify routine imaging parameters to accommodate patient limitations.
- Assess image quality according to professional standards.
- Employ age/audience appropriate oral communication.
- Utilize effective writing skills.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.
- Attendance at a Health Information Session.
- 550 Battery Average on GED.
- Must take the college placement test to determine Math and English levels if no college level courses were previously completed.

- English: ENG 091 with a grade of "B" or higher, ENG 096 with a grade of "B" or higher; or appropriate placement score.
- Math: minimum grade of "B" in MAT 099 or place into MAT 100-level or above.
- Biology: minimum grade of "B" in high school biology or "C+" or higher in any college level biology course (BIO 101 recommended).
- Qualifying mathematics and one biology course must be taken within five years of application. Required grade must be earned within two attempts of taking and completing the course.
- Required TEAS V scores must be achieved within two attempts of taking the test and within five years of application.
 - English: 53%
 - Reading: 60%
 - Mathematics: 54%
 - Science: 40%
- Complete all Discovery Activities listed at www.qcc.edu/radiologic-technology/admission-health-transfer-articulation-agreements.
- Four-hour clinical observation (offered to academically qualified applicants only).

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI), Sex Offender Registry Information (SORI), and National Background checks are required in the program, either annually or every semester. Finger printing and drug testing may be required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Students enrolled in RDT courses are subject to expenses for professional liability insurance, uniforms and transportation to clinical sites and clinical parking fees.

Location:

- This program may be completed at the QCC Healthcare and Workforce Development Center in downtown Worcester.
- This program will require students to travel to clinical sites within the Worcester County area.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 51.0911.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

radiologictechnology@qcc.mass.edu

Additional Information:

- The Radiologic Technology program is accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT), 20 N. Wacker Drive, Suite 2850, Chicago, IL 60606, 312.704.5300, e-mail: mail@jrcert.org.
- Students accepted to the Radiologic Technology program must:
 - Obtain Healthcare Provider level BLS/CPR certification prior to beginning the program.
 - Provide documentation of immunization currency and satisfactory health status and be cleared by the Health Compliance Officer by July 1st of the respective year.
 - Maintain health insurance throughout the student's enrollment.
 - Provide annual TB test results.
- Clinical rotations occur during fall, winter, spring and summer semesters. Students are responsible for their own transportation and may be assigned to any clinical education setting affiliated with the Radiologic Technology program.

Radiologic Technology — Associate in Science — RT

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1 (Summer I & Summer II)				
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Anatomy & Physiology I	BIO 111	F/S/SU	4	BIO 101 or High School Advanced Placement Biology, Coreq: ENG 101
Statistics	MAT 122	F/S/SU	3	MAT 099 with a "C" or higher on the MAT 099 departmental final exam or approp place score
Semester 2 (Fall)				
Introduction to Psychology or	PSY 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Psychology of Interpersonal Relations	PSY 118			
Speech Communication Skills	SPH 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Patient Care & Ethics in Radiology	RDT 102	F	3	Accepted to RT Program
Radiographic Medical Terminology	RDT 104	F	1	Accepted to RT Program
Fundamentals of Radiographic Equipment and Medical Imaging	RDT 110	F	3	Accepted to RT Program, MAT 122
Radiographic Positioning & Anatomy I	RDT 121	F	3	Coreq: RDT 102, RDT 104
Medical Radiography Clinic I	RDT 131	F	2	Coreq: RDT 110, RDT 121
Semester 3 (Spring)				
Anatomy & Physiology II	BIO 112	F/S/SU	4	BIO 111
Medical Imaging II	RDT 112	S	3	RDT 110
Radiographic Positioning & Anatomy II	RDT 122	S	3	RDT 121, SPH 101
Medical Radiography Clinic II	RDT 132	S	5	RDT 131
Radiation Science	RDT 141	S	2	RDT 110
Semester 4 (Fall)				
Composition II	ENG 102	F/S/SU	3	ENG 101
Medical Radiography Clinic III	RDT 231	F	5	RDT 132
Imaging Applications	RDT 240	F	4	RDT 112, RDT 122
Medical Radiographic Equipment & Quality Assurance	RDT 245	F	3	RDT 112
Semester 5 (Spring)				
Medical Radiography Clinic IV	RDT 232	S	4	RDT 231
Radiology Seminar	RDT 252	S	4	BIO 112, RDT 231, RDT 240
Radiologic Pharmacology and Pathology	RDT 254	S	3	BIO 112, RDT 231, RDT 240
CT & Cross-Section Anatomy	RDT 260	S	2	BIO 112, RDT 231, RDT 240
Total Credits Required:			73	

Program Notes:

- A grade of "C" or higher is required for BIO 111, BIO 112, and all RDT courses in order to remain in and advance through the program.

Respiratory Care — RS

Associate in Science

Program Goals:

The Respiratory Care Program prepares students for a career as advanced level Respiratory Care practitioners. Graduates of this program are eligible to attempt the credentialing examinations offered by the National Board for Respiratory Care. Upon successful completion of this process, graduates receive the Registered Respiratory Therapist (RRT) credential.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Assume the role of the Respiratory Therapist in ways that reflect integrity, responsibility, ethical practice and an evolving identity as a professional Healthcare provider committed to evidence-based practice.
 - Effectively communicate verbally, non-verbally, in writing or with computer-based technology with the patient, family and other health professionals.
 - Utilize Respiratory Care theoretical concepts in the comprehensive delivery of care, and apply and evaluate clinical information relevant to their roles as advanced level Respiratory Care practitioners.
 - Make judgments in Respiratory Care practice that integrate science and evidence-based medicine to provide safe, quality care and promote the pulmonary health of patients, families and communities.
 - Employ relationship-centered interventions that are caring, compassionate, protective, therapeutic, and respectful of human differences.
 - Collaborate with inter-professional teams to foster open communication, mutual respect, and shared decision-making to achieve quality patient care.
 - Demonstrate technical proficiency in all skills necessary to fulfill their roles as advanced level Respiratory Care practitioners.
- High School Diploma or GED/High School Equivalency.
 - GPA of 3.0 or equivalent in high school or 3.0 in college with minimum 10 credits or 550 Battery Average on GED, or HiSET 45.
 - Must take the college level placement test to determine Math and English levels if no college level courses were previously completed.
 - Attend a Health Information Session.
 - Math: minimum grade of "B" in MAT 098 or MAT 099 or place into MAT 100-level or above.
 - Biology: minimum grade of "B" in high school biology or "B" in BIO 101 (recommended) or other college biology class.
 - English: ENG 091 with a grade of "B" or higher, ENG 096 with a grade of "B" or higher; or appropriate placement score.
 - Chemistry: minimum grade of "B" in high school chemistry or "B" in CHM 090.
 - Qualifying mathematics, one chemistry, and one biology course must be taken within five years of application.
 - Required TEAS V composite score of 65% must be achieved within two attempts of taking the test.
 - Reading: 60%
 - Review of program website and career video.
 - Attend one Respiratory Care class.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI), Sex Offender Registry Information (SORI), and National Background checks are required in the program, either annually or every semester. Finger printing and drug testing may be required.

- Students should be aware that a prior or current history of criminal or sexual offense may negatively impact the applicant's ability to obtain a limited work permit while a student in the program, and/or a license to practice within the Commonwealth of Massachusetts after graduation. Additionally, healthcare facilities which affiliate with the program reserve the right to restrict or deny clinical privileges to students with a prior or current history of criminal, sexual, or drug-related offense.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Respiratory Care students should anticipate additional

expenses for uniforms/clinical wear, textbooks, professional liability insurance, parking fees at clinical sites, licensing examinations, CPR certification, health immunizations and physical exams, and any required skills remediation.

Location:

- This program may be completed at the QCC Healthcare and Workforce Development Center in downtown Worcester.
- This program may require students to travel to clinical sites that are within a 75 mile radius of the College.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

- If an applicant holds the CRT credential awarded by the National Board for Respiratory Care, or has successfully completed courses at a CoARC accredited school of Respiratory Care, then s/he may apply for advanced standing/credits toward a degree from QCC.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 51.0908.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

respiratorycare@qcc.mass.edu

Additional Information:

- The program is fully accredited by the Commission on Accreditation for Respiratory Care, 1248 Harwood Road, Bedford, TX 76021-4244, www.coarc.com.
- Licensure by the MA Department of Public Health is required to work as a Respiratory Therapist within the

Commonwealth of Massachusetts (for more information on licensure contact: MA Department of Public Health, Division of Health Professions on Licensure, www.state.ma.us/reg/boards/rc).

- Courses in both Respiratory Care and Liberal Arts are required in the program curriculum. Respiratory Care courses include clinical experiences in area hospitals, rehabilitation/long term care facilities and home care settings, as well as classroom study and laboratory practice on campus.
- All clinical experiences are under the supervision of QCC Respiratory Care faculty, and entrance into all clinical agencies will require a standardized school uniform and identification nametag.
- Students accepted to the Respiratory Care program must:
 - Obtain Healthcare Provider level BLS/CPR certification prior to beginning the program.
 - Provide documentation of immunization currency and satisfactory health status, and be cleared by the Health Compliance Officer by August 15th of the respective year.
 - Maintain health insurance throughout the student's enrollment.
 - Provide annual TB test results.
- All students must achieve a grade of "C" or higher in all Respiratory Care (RCP) courses and in PHY 103, BIO 111, BIO 112, and BIO 232. In addition, students must also satisfy all course and program requirements, including regulations on conduct, professionalism, and attendance.
- In addition, the student must demonstrate satisfactory performance in both the clinical and laboratory setting.
- Readmission is not guaranteed and is based on space availability and recommendation by faculty. Please review the readmission policy outlined in the QCC handbook.
- A Social Security number is mandatory for all NBRC examinations.

Respiratory Care — Associate in Science — RS

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1 (Fall)				
Anatomy & Physiology I	BIO 111	F/S/SU	4	BIO 101 or High School Advanced Placement Biology, Coreq: ENG 101
Composition I	ENG 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Fundamentals of Respiratory Care I	RCP 103	F	2	Coreq: RCP 121
Medical Lectures I	RCP 111	F	3	
Clinical I	RCP 121	F	3	Coreq: RCP 103
Pharmacology	RCP 141	F	3	Coreq: RCP 111
Semester 2 (Spring)				
Anatomy & Physiology II	BIO 112	F/S/SU	4	BIO 111
Composition II	ENG 102	F/S/SU	3	ENG 101
Physics for Respiratory Care	PHY 103	S	2	MAT 095 with a "C" or higher on the MAT 095 departmental final exam or approp place score
Fundamentals of Respiratory Care II	RCP 104	S	2	RCP 103, RCP 121, Coreq: RCP 122
Medical Lectures II	RCP 112	S	3	RCP 111
Clinical II	RCP 122	S	3	RCP 103, RCP 121, RCP 141, Coreq: RCP 104
Semester 3 (Summer)				
Critical Care I Laboratory	RCP 230	SU	1	BIO 112, RCP 122
Semester 4 (Fall)				
Introduction to Psychology or	PSY 101	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Psychology of Interpersonal Relations	PSY 118			
Medical Lectures III	RCP 113	F	3	BIO 112, RCP 112
Cardiopulmonary Technology	RCP 131	F	2	BIO 112, RCP 122
Clinical III	RCP 221	F	5	BIO 112, RCP 122
Critical Care II	RCP 231	F	3	RCP 230
Elective	---	F/S/SU	3	
Semester 5 (Spring)				
Medical Microbiology	BIO 232	F/S/SU	4	BIO 112 or CHM 123 or CHM 105
Bioethics	IDS 215	S	3	Coreq: ENG 101
Medical Lectures IV	RCP 114	S	3	BIO 112, RCP 113
Clinical IV	RCP 222	S	5	BIO 112, RCP 221
Neonatal and Pediatric Respiratory Care	RCP 243	S	3	BIO 112, RCP 221
Respiratory Care Seminar	RCP 245	S	2	BIO 112, Coreq: RCP 222
Total Credits Required:			75	

Program Notes:

- To be eligible to remain in the program, all students must achieve a grade of "C" or higher in all Respiratory Care (RCP) courses and in PHY 103, BIO 111, BIO 112, and BIO 232. In addition, students must satisfy all course and program requirements, including regulations on conduct, professionalism, and attendance in order to remain in the program.

Sleep Technology

Certificate

Program Goals:

- Sleep Technology (Polysomnography or PSG) is an allied health specialty whose practitioners administer complex sleep/neurodiagnostic studies. Polysomnographic technologists are typically employed in hospital based clinics and sleep/neurodiagnostic laboratories. Due to the nature of the work, sleep technologists often work at night.
- The Sleep Technology Certificate program is offered through an articulation agreement with Northern Essex Community College (NECC). General education requirements can be taken at Quinsigamond Community College. All PSG courses are taken online through NECC with a commitment of attendance on campus at NECC for one Saturday per month throughout the certificate program.
- Students may choose to enroll in face-to-face classes at NECC - Lowell Campus. Laboratory experience will involve one Saturday per month traveling to NECC. All clinical assignments will be in the Central Massachusetts area.
- The Sleep Technology Certificate program prepares graduates for a career in sleep medicine. Graduates of the program will be prepared to take the Registered Polysomnography Technologist (RSPGT) examination. Students must earn a "C" or higher in all PSG courses at NECC in order to graduate. A minimum of 28 credits is required for graduation.

Admissions Requirements:

All admissions criteria are available on the NECC website at www.necc.mass.edu/academics/courses-programs/areas/health/.

CORI, SORI, Finger Printing & Drug Testing:

Students interested in participation in this academic program may be required to undergo a Criminal Offender Record Information (CORI) check, a Criminal History Record Information (CHRI) check, and/or a Sex Offender Registry Information (SORI) check. Finger printing may be required and drug testing will be required. For more information, visit www.necc.mass.edu/cori-sori/.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Students should anticipate additional expenses for uniforms/clinical wear, textbooks, professional liability insurance, licensing examinations, and any required skills remediation.

Program Contact:

John Murray
(jmurray@necc.mass.edu)

Office: L-206

Phone: 978.738.7274

Please call to schedule an appointment.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Career Outlook:

Graduates will be able to pursue many career paths. Most sleep technologists work in sleep labs, often associated with hospitals. Positions as sleep technologists are available. Salaries are competitive.

Additional Information:

Students are required to be CPR Certified at the Healthcare Provider Professional Rescuer level prior to the start of clinical courses. Students are required to complete a health evaluation, including the Hepatitis B immunization series, prior to final acceptance into the program.

Students are required to carry professional liability insurance. The premium is to be paid at the time of course registration.

The Commission on Accreditation of Allied Health Education Programs accredits the Sleep Technology Certificate program at NECC (www.caahep.org) upon the recommendation of the Committee on Accreditation for Polysomnographic Technologists (CoA-PSG), Commission on Accreditation of Allied Health Education Programs, 1361 Park Street, Clearwater, FL 33756, 727.210.2350. Currently there is no state licensure required.

Surgical Technology — ST Certificate

Program Goals:

The Surgical Technology Program is designed to prepare the beginning practitioner to possess the knowledge, skills, and abilities necessary to provide services in the operating room in the role of Surgical Technologist as part of the surgical team. Instruction includes components of the basic sciences, operating room policies and procedures, safe patient care, operating room techniques, surgical procedures, and clinical practice.

Student Learning Outcomes:

Upon completion of the program graduates will be able to:

- Correlate the knowledge of anatomy, physiology, pathophysiology, and microbiology to their role as a Surgical Technologist.
- Demonstrate a safe level of practice and knowledge in their role as a Surgical Technologist.
- Identify the purpose and principles for maintaining environmental control in the operating room suite.
- Identify the various classifications of surgical armamentarium, including instrumentation, sutures, and equipment used during the perioperative experience.
- Acquire an understanding of the ethical, legal, moral, and medical values related to the patient and the operating room team during the perioperative experience.
- Identify the elements, actions, and use of medications and anesthetics used during the perioperative experience.
- Demonstrate knowledge and utilizes relevant medical terminology.
- Demonstrate safe practice techniques in regards to perioperative routines, patient transportation, positioning, and emergency procedures.
- Demonstrate and integrates principles of surgical asepsis as part of the perioperative experience.
- Carry out the principles and techniques of medical asepsis as part of the perioperative experience.
- Effectively communicate both written and orally.

Admissions Process:

Admissions inquiries should be directed to admissions@qcc.mass.edu. Prospective students may apply to the

program of their choice by following the enrollment steps at www.QCC.edu/admissions/enrollment-steps.

Admissions Requirements:

Students should note that some first semester courses carry minimum prerequisites. Refer to the program grid.

- High School Diploma or GED/High School Equivalency.
- Must take the college level placement test to determine Math and English levels if no college level courses were previously completed.
- Attendance at a Health Information Session.
- Math: minimum grade of "C" in MAT 095 or place into MAT 099 level or above; must be taken within five years of application.
- English: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score.
- Required TEAS V composite score of 60% must be achieved within two attempts of the test and within five years of application.

CORI, SORI, Finger Printing & Drug Testing:

Criminal Offender Record Information (CORI), Sex Offender Registry Information (SORI), and National Background checks are required in the program, either annually or every semester. Finger printing and drug testing may be required.

Additional Cost:

See the Program Fees page (page 34). (Note: Not all programs have program fees).

- Students should anticipate additional expenses for textbooks, credentialing exam, professional liability insurance, transportation, and parking fees at clinical sites.

Location:

- This program may be completed at the QCC Healthcare and Workforce Development Center in downtown Worcester.
- This program will require students to travel to clinical sites within the Worcester County area.

Technical Performance Standards:

See the Technical Performance Standards page (page 20). (Note: Not all programs have technical performance standards).

Credit for Prior Learning:

Students enrolled in this program may be able to earn academic credit for prior learning. Please contact the Student Employment and Transfer Center (Room 272A) at careerservices@qcc.mass.edu or 508.854.4439.

Career Outlook:

Please consult the Massachusetts Career Information System at <https://masscis.intocareers.org/> or the Occupational Outlook Handbook at www.bls.gov/ooh/ for specific occupational information. The CIP code for this program is 51.0909.

Transfer Articulations & Opportunities:

Prospective students may learn more about transfer articulation agreements at www.qcc.mass.edu/transfer/ArticPathways.html. More information regarding transfer opportunities is available at www.qcc.mass.edu/transfer.

Program Contact Email:

surgicaltechnology@qcc.mass.edu

Additional Information:

- The program is accredited by the Commission on Accreditation of Allied Health Education Programs, 1361 Park Street, Clearwater, FL 33756, 727.210.2350, www.caahep.org.
- QCC Surgical Technology certification exam pass rate was 83% for 2015.
- Transportation is required.

Gainful Employment:

Visit www.QCC.edu/gainful-employment for more information.

Surgical Technology — Certificate — ST

Course Title	Course #	Semester Offered	Credits	Prerequisites
Semester 1 (Summer I or Summer II)				
Asepsis	SUR 115	SU	2	Enrollment limited to Surgical Technology majors only
Principles of Human Biology*	BIO 100	F/S/SU	4	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Introduction to Medical Terminology	ALH 102	F/S/SU	3	ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or approp place score
Semester 2				
Perioperative Issues	SUR 101	F	3	BIO 100 or BIO 140, SUR 115, Coreq: SUR 111
Operating Room Techniques	SUR 111	F	5	SUR 115, ALH 102, Coreq: SUR 101
Surgical Procedures I	SUR 121	F	8	BIO 100 or BIO 140, SUR 115, Coreq: SUR 111
Ethics	SUR 230	F	1	
Semester 3				
Clinical I	SUR 199	S	4	SUR 101, SUR 111, SUR 121, SUR 230
Surgical Procedures II	SUR 221	S	3	SUR 121
Clinical II	SUR 290	S	6	SUR 199
Clinical III	SUR 299	S	6	SUR 290
Total Credits Required:			45	

Program Notes:

- A grade of "C" or higher is required in all classes.

*BIO 140 can be accepted in place of BIO 100, if previously taken (BIO 140 no longer offered).

General Education

The College offers three types of associate degrees, and the type of degree determines the minimum number of credits required in general education. The Associate in Applied Science degree requires a minimum of sixteen credits in general education; the Associate in Science degree requires a minimum of twenty credits in general education; and the Associate in Arts degree requires a minimum of thirty-three credits in general education. These requirements are distributed across the disciplines of Humanities, Mathematics, Science, and the Social Sciences. Actual distribution requirements will vary according to the demands of each program.

General Education Student Learning Outcomes

General education at Quinsigamond Community College provides students with the skills, knowledge, and perspectives that enable them to achieve their academic, professional, and personal goals. The following general education student learning outcomes for general education are integrated into the general education and program courses that are required for each associate degree program.

- **Communication Skills:** Students will be able to write and speak effectively.
- **Information Literacy:** Students will be able to locate, evaluate, and apply reliable and appropriate information.
- **Quantitative Reasoning:** Students will apply the concepts and methods of mathematics to solve problems.
- **Scientific Reasoning:** Students will relate scientific methods of inquiry to the acquisition of knowledge.
- **Technical Literacy:** Students will utilize computer and emerging technologies effectively.
- **Aesthetics:** Students will appreciate the variety of human experiences as expressed through the arts.
- **Multiple Perspectives:** Students will demonstrate knowledge and appreciation of diverse cultures.
- **Ethics:** Students will develop an awareness of personal obligations and responsibilities in one's community of influence.
- **Impact of Technology:** Students will reflect on the impact of scientific and technological advances on the individual, society, and the environment.
- **Civic Literacy:** Students will demonstrate awareness of the responsibilities of local, national, and international citizenship.

Information on Course Selection

Types of Courses

College level courses: College level courses are defined as all credit courses offered by the College except the developmental (pre-college level) courses.

Developmental Courses: Developmental courses, which are listed below, are the courses offered by the College to improve academic skills of students, enabling them to succeed in college level courses. These courses cannot be used to satisfy degree or certificate requirements.

- CHM 090
- ENG 090
- ENG 091
- ENG 095
- ENG 096
- MAT 090
- MAT 095
- MAT 098
- MAT 099

Interdisciplinary Courses: Interdisciplinary courses are those courses which combine subject matter from more than one academic discipline. The interdisciplinary courses can also be used to satisfy a Liberal Arts Elective if they have an IDS designation in the course numbers.

Types of Course Modalities

The following types of course modalities are offered at Quinsigamond Community College.

Face-To-Face

A face-to-face course is one in which instruction is delivered fully on-site with face-to-face interaction between the instructor and student. A face-to-face course may make use of computers, the internet, or other electronic media in the classroom. Students may be directed to online materials provided by publishers or to other internet accessible sources as part of their course work.

Blended

A Blended (also, hybrid) course has fewer in-person course meetings than a face-to-face course. A portion of the course is delivered online and a portion is delivered on-site face-to-face. Blended courses use the institution's chosen Learning Management System for the online portion of the course.

Online

An online course is a course that is provided entirely through the institution's Learning Management System. No on-site class meetings are required. Although it is preferred that all assessments occur within an online course, a proctored in-person exam may be required.

Accelerated

An accelerated course runs in a compressed time and either meets more often to ensure adequate contact time or utilizes other proven accelerated learning methods to replicate the required contact hours. Specialized accelerated learning cognitive methods may also be used. An accelerated course may be offered face-to-face, online, or in a blended modality.

Types of Electives

1. **Elective:** Any college level course qualifies as an Elective, and a student may enroll in any college level course for which he or she meets the prerequisites.

2. **Business Elective:** Any ACC, BKK, BUS, BSL, BSS, CIS, ECO, FIN, HRM, IDS 113, MGT, MNT, or MRK course is considered a Business Elective.

3. **Multiple Perspectives Elective:** Courses designated as Multiple Perspectives Electives involve the study of diversity of people with respect to culture (national origin, language, religion, and ethnicity), gender, race, social class, age, sexual orientation, and ability. The study can be focused on diversity in America or global diversity in a non-Western context. The following courses are considered Multiple Perspectives Electives.

ANT 111	ENG 231	HST 133	PHI 201
ANT 221	ENG 232	HST 152	PSY 142
ART 260	FRC 111	HST 157	PHA 102
ASL 111	FRC 112	HST 203	SOC 111
ASL 112	FRC 211	HST 204	SOC 115
ASL 113	FRC 212	HST 215	SOC 201
ASL 200	GEO 210	HST 216	SOC 211
ASL 211	GER 111	HST 241	SOC 220
ASL 212	GER 112	HUM 147	SPN 111
ASL 215	GER 211	HUM 211	SPN 112
CHC 151	GER 212	HUS 221	SPN 211
CHC 250	GRT 101	IDS 101	SPN 212
CHC 255	HST 104	MUS 121	
CRJ 110	HST 105	PHI 121	
ECE 133	HST 106	PHI 123	

4. **Liberal Arts Elective:** Any Humanities, Social Science, Behavioral Science, Mathematics, or Science Elective is considered a Liberal Arts Elective. Designations for these courses are listed next.

5. **Humanities Elective:** The Humanities courses present knowledge concerned with humanity and world culture: philosophy, literature, and the fine arts. These arts are distinguished from the sciences and are produced or intended primarily for beauty, not utility. Sculpture, painting, drawing, architecture, literature, drama, music, and the dance are examples of such expressions. Courses with the following designations are considered Humanities Electives:

American Sign Language (ASL)	Humanities (HUM)
Art (ART)	Music (MUS)
English (ENG)	Philosophy (PHI)
French (FRC)	Spanish (SPN)
German (GER)	Speech (SPH)

6. **Foreign Language Elective:** Any of the following serve as Foreign Language Electives. Note that these courses also serve as Humanities Electives or as Multiple Perspectives Electives:

American Sign Language (ASL)
French (FRC)
German (GER)
Spanish (SPN)

7. **Social Science Elective:** All the social sciences are concerned with the study of people and their behavior, both individually and as a member of groups, nations, cultures, and societies. Courses with the following designations are considered Social Science Electives:

Anthropology (ANT)
Economics (ECO)
Geography (GEO)
History (HST)
Political Science (PSC)
Psychology (PSY)
Social Science (SOS)
Sociology (SOC)

8. Behavioral Science Elective: Behavioral sciences involve seeking to discover general truths about human social behavior. Courses with the following designations are considered Behavioral Science Electives:

Anthropology (ANT)

Psychology (PSY)

Sociology (SOC)

9. Mathematics Elective: Any mathematics college level course (MAT 100 or above) is a Mathematics Elective. Some programs may have specific recommendations.

10. Science Elective and Lab Science Elective: These courses present systematized knowledge derived from observation, study, and experimentation. Electives that are specifically designated as Science Electives do not require a lab. However, a science course with a lab will also fulfill the requirement. Electives that are specifically designated as Lab Science Electives require a science course that includes a lab (at least four credits). Courses with the following designations are considered Science Electives (three credits) and Lab Science Electives (at least four credits):

Biology* (BIO)

Biotechnology** (BTT)

Chemistry (CHM)

Physics (PHY)

Science (SCI)

*BIO 140 (no longer offered) is not a Lab Science Elective

**Specifically, BTT 101 (Science Elective) and BTT 201 (Lab Science Elective)

11. Social Science Foundational Elective: The following courses have been designated as Social Science Foundational Electives:

ANT 111

ANT 221

ECO 215

ECO 216

GEO 210

PSC 201

PSY 101

SOC 101

12. Literature, Philosophy, or Language Elective: Any ASL, FRC, GER, HUM, PHI, or SPN course is considered a Literature, Philosophy, or Language Elective, as well as the following courses:

ENG 200

ENG 212

ENG 215

ENG 231

ENG 232

ENG 241

ENG 242

ENG 251

ENG 252

ENG 255

ENG 259

ENG 260

13. Creative Arts Elective: Any ART, MUS, or THA course is considered a Creative Arts Elective, as well as ENG 202, ENG 203, and ENG 204.

Anticipated Course Offerings

The College has attempted to identify the cycle of course offerings. The following notations can be found at the end of course descriptions:

"F" - Indicates course is offered each Fall semester

"S" - Indicates course is offered each Spring semester

"SU" - Indicates course is offered each Summer (Sessions I & II will be determined at time of offering)

Courses that are not offered every year have been designated with an "F" or "S" and a specific year. Thus, a course designated "F, 2016" means that the course will be offered in the Fall Semester, 2016. Students are encouraged to work with their advisors to plan out a sequence of courses that takes into account when courses will be offered.

The College reserves the right to deviate from the indicated cycles, although such deviations are anticipated to be minimal. The College also reserves the right to cancel courses and sections that are under enrolled.

Course Descriptions

A prerequisite for a course is listed at the end of its description. It must be successfully completed before registering for that course. The prerequisite requirement may also be fulfilled by an appropriate placement score. The instructor of the course section, program coordinator, academic dean, or the vice president of Academic Affairs may waive the prerequisite requirement on presentation of acceptable documentation. A corequisite requirement indicates a course that should be taken concurrently or prior to enrollment in a course.

Accounting

ACC 101 Financial Accounting I

This course focuses on the relationships between business activities and events and the impact they have on financial statements from a prepare/user-of-accounting perspective. Students study financial transactions for both service and merchandising businesses and relate the transactions to a company's assets, liabilities, owners' equity, revenues, expenses, and cash flow. Areas of study include the basic accounting model, the process of the accounting cycle, accounting principles and terminology, financial statement preparation, and computerized accounting applications.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score, MAT 090 with a "C" or higher on the MAT 090 departmental final exam or appropriate placement score

ACC 102 Financial Accounting II

This course builds on the material learned in ACC 101. Students use their knowledge of preparing financial statements to analyze and communicate a variety of financial information including accounting for accruals, inventory, equity and debt issues, and cash flow statement analysis. Students demonstrate the knowledge they gain by working with Web resources to present a financial analysis of a public corporation.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ACC 101

ACC 110 Accounting Software for Small Business

This course focuses on understanding accounting through a mastery of general ledger software applications. Students set up and maintain a computerized accounting records system by recording the transactions necessary to operate a service and merchandizing business. This course covers the areas of cash, accounts receivable, accounts payable, and payroll transactions. Students learn how to create these transactions on a computer and how to understand and interpret the resulting financial reports. During the laboratory component, students will be required to develop an accounting system for a small

company. This course will prepare students for the Certified QuickBooks Users examination.

Credits: 4

Semester Offered: F/S/SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score, MAT 090 with a "C" or higher on the MAT 090 departmental final exam or appropriate placement score

ACC 211 Federal Taxation

This course examines basic federal income and employment taxes. Students learn how to prepare individual tax returns including the appropriate schedules, manually and on computers. Topics covered include analysis of tax problems, identification of tax issues, income inclusion and exclusion, deductible business and non-business expenses, gains and losses, tax credits, special taxes, and current tax laws and procedures.

Credits: 3

Semester Offered: F

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

ACC 222 Managerial Accounting

This course examines information used by executives and managers who work in business. Students study manufacturing accounting, budgeting forecasting, and financial statement analysis. Using computer applications, working in groups, and through classroom exercises, students learn to use and interpret accounting data as the basis for managerial decision-making and planning.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ACC 102

ACC 231 Computerized Accounting

This course focuses on understanding accounting through a mastery of general ledger software applications, using industry standard software. Students set up and maintain a computerized accounting records system by recording the transactions necessary to operate a service and merchandizing business. The course covers the areas of cash, accounts receivable, accounts payable, and payroll transactions. Students learn how to create these transactions on a computer and how to understand and interpret the resulting financial reports.

Credits: 3

Semester Offered: S

Prerequisites: ACC 101, CIS 111

Allied Health

ALH 102 Introduction to Medical Terminology

This course provides a basic foundation for students interested in the allied health field. Emphasis is on analyzing word parts and learning basic prefixes, suffixes and word roots. The course also highlights the body systems: basic anatomy and physiology, including terms used in diseases and surgical procedures.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

ALH 103 Introduction to Pharmacology for Allied Health Professionals

This course provides a foundation with knowledge in pharmacology, a historical view of pharmacology and explores the fundamental pharmacological concepts such as pharmacokinetics and pharmacodynamics. Students study drug classifications, their actions, indications for use, contraindications and adverse effects. Natural alternatives and herbal remedies are included. This course is designed for all students with an interest in the Allied Health Professions, as well as the general public.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

ALH 106 Medical Law and Ethics

This course explores many legal, ethical and bioethical issues encountered in a medical office and offers suggestions for dealing with those issues in an informed, legal and sensitive manner. Students learn the various designations for medical employees (licensed, registered and certified) and understand the laws that directly relate to physicians. Also an understanding of the role of bioethics in a medical office is discussed.

Credits: 3

Semester Offered: F/S

Prerequisites: ENG 096 with a grade of "C" or higher; or appropriate placement score

ALH 107 Medical Coding and Billing

This course examines ICD-10CM coding, CPT-4 coding, insurance programs, Medicare, insurance claim forms, and legal issues. The course introduces the coding systems and recordkeeping used in medical facilities.

Credits: 3

Semester Offered: S

Prerequisites: ENG 096 with a grade of "C" or higher; or appropriate placement score

Corequisites: ALH 102

ALH 131 Introductory Nursing Assistant

This course provides students with the theory and entry-level skills necessary to safely provide basic nursing assistant level care in a long-term care facility, acute care facility or home health care agency. Students learn the role and responsibilities of the nursing assistant and home health aide within the health care team, including patient and residents' rights, professionalism, communication skills, basic body structure and function, common disorders, rehabilitation and restorative care, infection control and safety, special care concerns, and basic patient care skills, including vital signs. Upon completion of classroom and skills practice laboratory learning and competency testing, students participate in a clinical rotation at a skilled nursing facility, under the supervision of a registered nurse.

Credits: 5

Semester Offered: F/S/SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

ALH 132 Advanced Nursing Assistant

This advanced course is designed for students who have completed a Massachusetts state-approved nursing assistant training program and want to expand their knowledge related to the role and practice of the certified nursing assistant. Students learn the importance of professionalism and develop the traits, behaviors, and skills that employers are demanding of today's health care workers. Topics include work ethics and performance, personal values, personal traits of the health care professional, interpersonal relationships, teamwork and communication skills, cultural competence, professionalism and personal life, job-seeking skills, becoming a leader, and career development. This course also includes advanced education to expand students' knowledge of how to understand and successfully care for people with dementia. Topics include types and symptoms of dementia, conditions that may present dementia-like symptoms, prevention of abuse, communication strategies, understanding and dealing with challenging behaviors, and the principles of a person-centered approach to care.

Credits: 2

Semester Offered: F/S/SU

Prerequisites: Certificate of Completion from a state-approved nursing assistant training program or current C.N.A. certificate, ALH 131

ALH 134 Phlebotomy/EKG Technician

This course provides an introduction to the theory, techniques and roles of a phlebotomist and electrocardiogram (EKG) technician. Students learn phlebotomy skills, including skin puncture, venipuncture, blood collection, and quality assurance. Additional topics include infection control, medical terminology, quality assurance, principles of venipuncture, specimen handling, basic hematology and basic anatomy of the venous system. Students learn the cardiovascular system as it relates to the performance of an EKG. Students gain knowledge in basic EKG tracing, rate, rhythm, common heart abnormalities and the use and function of the EKG machine.

Credits: 3

Semester Offered: F/S

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

ALH 136 Phlebotomy/EKG Technician Clinical Co-Operative Externship

The externship prepares students for a career as a phlebotomy/EKG technician. Students learn phlebotomy skills, EKG skills and how to use reference materials. Students then work in a laboratory and learn how to perform as a phlebotomist; they also work in an EKG clinic and learn how to perform as an EKG technician. Students practice their communication skills, familiarize themselves with the layout of the EKG clinic and its daily and monthly operation. Students experience data entry and third party billing, inventory and quality control checks. Students also practice writing a resume, interviewing techniques and professional skills.

Credits: 6

Semester Offered: F/S

Corequisites: ALH 134

ALH 137 Pharmacy Technician

This course provides students with the knowledge needed to prepare for a career as a pharmacy technician. Students study the laws of pharmacy practice, drug names and classification, compounding, calculations, abbreviations, and dosage forms. Students learn various duties a technician may perform as well as communication skills and aspects of assisting the pharmacist.

Credits: 3

Semester Offered: F

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score, MAT 090 with a "C" or higher on the MAT 090 departmental final exam or appropriate placement score

ALH 138 Pharmacy Technician Clinical Co-Operative Externship

The externship prepares students for a career as a pharmacy technician. Students learn compounding skills, mathematical calculations, and how to use reference materials. Students then work in a pharmacy and learn how to perform as a pharmacy technician. They practice their communication skills; familiarize themselves with the layout of a pharmacy and its daily and monthly operation. Students experience data entry and third-party billing, inventory and compounding. Students also practice writing resumes, interviewing, and professional skills.

Credits: 6

Semester Offered: S

Prerequisites: ALH 137

ALH 151 Medical Office Administration I

This course introduces medical office procedures, including appointment scheduling, medical records creation and maintenance, phone communication, inventory of supplies, and computers in the medical office. Students become competent in the use of office equipment and the composing of different type's letters. The course introduces verbal and non verbal methods of communication skills.

Credits: 3

Semester Offered: F

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

Corequisites: ALH 102, BSS 101

ALH 152 Medical Office Administration II

This second level course teaches students administrative functions used in the medical office. Administrative competencies include medical records management, bookkeeping, payroll functions, account payable and receivable, management of charges, credits and adjustment of account entries, office inventory and maintenance, electronic healthcare records and legal and ethical issues in a medical practice.

Credits: 3

Semester Offered: S

Prerequisites: ALH 151

American Sign Language

ASL 111 Beginning American Sign Language I

This course introduces American Sign Language (ASL), a method of visual/gestural communication used by deaf people in the United States and Canada. Students learn visual readiness skills to recognize and express spatial relationships and to use appropriate non-manual signals, such as facial expressions and body movements. Course topics include communicative functions, vocabulary, grammar, and cultural aspects of the deaf community. The course also covers functional communication to

help students understand the needs and history of the deaf as well as their Community. Students learn the differences between American Sign Language and oral communication for the deaf.

Credits: 3

Semester Offered: F/S/SU

ASL 112 Beginning American Sign Language II

This course emphasizes visual readiness skills and conversational skills by utilizing grammatical principles, language functions, and cultural behaviors. Students explore the functions of language and identify cultural behaviors characteristic of deaf people. Students increase their fluency in American Sign Language: describing behavior, making requests, and giving directions, etc.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ASL 111

ASL 113 Introduction to Deaf Studies

This course utilizes a multi disciplinary perspective to emphasize issues and values affecting the American Deaf Community. Topics include the causes of hearing loss, the speech and hearing process, various manual sign systems, professions in the field of deafness, current events in the Deaf community, various aspects of deaf communication, technology and its impact on communication, educational philosophies, and the history of the Deaf in the United States.

Credits: 3

Semester Offered: S

Prerequisites: ASL 111

ASL 200 Deaf Community Practicum

This course emphasizes practical experience by involving students in various educational or human service settings that service the Deaf Community. Students utilize receptive and expressive skills as well as their knowledge of Deaf Culture through first hand interaction and exposure. Students integrate their hands on experience with related readings, classroom discussions and student presentations. This course has a community based learning component.

Credits: 3

Semester Offered: F/S

Prerequisites: ASL 112, ASL 113, CORI/SORI Check

ASL 211 Intermediate American Sign Language I

This course focuses on further development of visual-spatial orientation and manipulations skills, sign vocabulary, and complex sentence structures. Students continue learning strategies for opening, sustaining, and closing general conversations on a range of topics. The course concentrates on developing the abilities to question, narrate, and give increasingly detailed

descriptions of activities, interactions, plans, and directions. Students learn how to communicate clearly and express themselves in a culturally appropriate way.

Credits: 3

Semester Offered: S

Prerequisites: ASL 112

ASL 212 Intermediate American Sign Language II

This course emphasizes further development of visual/spatial orientation, vocabulary, complex sentence structures and conversational skills. Students learn to give clearly detailed descriptions of activities, interactions, plans and directions. Through in-class assignments and interactions with the Deaf community students demonstrate complex conversational receptive and expressive skills. Students learn to analyze and discuss current events in the Deaf community using ASL. The course also covers ASL to voice and voice to ASL translating.

Credits: 3

Semester Offered: S

Prerequisites: ASL 211

ASL 215 Introduction to the Field of Interpreting

This course provides students with information regarding the role and function of an interpreter. Topics covered include: the history of interpreting, terminology, employment options and settings, the Registry of Interpreters for the Deaf, and the Code of Ethics. Students explore interpreting and transliteration. This course addresses the influence of culture on interpreting, equivalence issues in translation, cultural influences on context, and strategies for improved inter-cultural communication.

Credits: 3

Semester Offered: S

Prerequisites: ASL 113, ASL 211

Anthropology

ANT 111 Cultural Anthropology

The course introduces the concepts of cultural adaptation in small-scale and large-scale societies. It focuses on the integration of fundamental cultural institutions including economics, political organizations, family, and religion. Students learn how to explain why specific cultural differences and similarities occur and persist in the United States and other countries. Students develop an understanding of culture contact, culture change, and the role of anthropology in the modern world.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

ANT 221 Physical Anthropology

The course examines the evolutionary foundations of human variation and diversity. Students study human evolution; primate behavior; and the interactions of culture, environment, and human biology by reviewing research on biological differences within and among modern human populations.

Credits: 3

Semester Offered: F/S

Prerequisites: ENG 101

Art

ART 101 Art Appreciation

This course introduces the major art forms and ways to relate to them. Through the use of videos, DVDs and field trips, students learn about the diversity found in art and the impact that artistic works have. Students learn how to appreciate art by developing the skills necessary to view it through intelligent and informed evaluations.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

ART 111 A History of Art I

This course presents a study of art through the major historical periods in Western civilization. Course topics include pre-historic, ancient, classical, early Christian, and Byzantine artistic expressions including painting, sculpture, architecture, and the minor arts. Students learn the many aspects of the visual arts as they relate to the formal influences by examining the underlying social, political, environmental, and humanistic factors of specific historical periods. Museum trips are required.

Credits: 3

Semester Offered: F

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

ART 112 A History of Art II

This course covers a study of art through the major historical periods in Western civilization. It focuses on painting, sculpture, architecture, and the minor arts of the Renaissance, Baroque, and early modern periods. Students learn aspects of the visual arts of these periods as they relate to formal influences and underlying social, political, environmental, and humanistic factors. Museum trips are required.

Credits: 3

Semester Offered: S

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

ART 121 Contemporary Art

This course covers the underlying social, political, environmental, and humanistic influences that affect contemporary artistic styles and ways artists have expressed those influences. Students examine the development of diverse styles in contemporary art by exploring the evolution of modern artistic trends from 1940 to the present.

Credits: 3

Semester Offered: S

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

ART 131 Introduction to Drawing I

This course examines the varied experiences involved in the drawing process while emphasizing an awareness of traditional disciplines. Students learn how to solve problems of surface organization and to develop the ability to analyze and translate three-dimensional space into a two-dimensional surface by using both perceptual and conceptual drawing methods.

Credits: 3

Semester Offered: F/S

ART 132 Introduction to Drawing II

This course introduces instrumental and perspective drawing, including free application of mechanical theories. Topics include art and design applications of techniques; proper instrument use; and parallel, angular, and three-point perspective. Students learn how to use both freehand techniques and mechanical instruments to render drawings with speed, accuracy, legibility, and neatness.

Credits: 3

Semester Offered: F/S

Prerequisites: ART 131

ART 141 Photographing People

This course covers both posed and candid photographs of people. Students learn the proper operation of various cameras (automatic, manual, single-lens reflex, digital) and the selection of subjects, posing, and lighting. Students must supply their own photographic equipment (a working camera) and pay their own processing costs for prints.

Credits: 3

Semester Offered: F/S/SU

ART 143 Nature, Scenic, and Travel Photography

This course covers photography of both natural and human-made subjects of interest to travelers or nature lovers. Topics include photographing wildlife, landscapes, and structures. Students learn ways of visualizing and capturing subjects at various times of the day or year. Course topics include equipment, planning, and techniques necessary to create the best photographs under varied circumstances. The course requires field trips. Students must provide their own photographic equipment (a working

camera, and are responsible for the cost of their own film (if used, five rolls minimum), printing or processing, and travel and meal expenses.

Credits: 3

Semester Offered: SU

ART 211 History of Graphic Design

This course is a chronological exploration of graphic design from the invention of writing and to the digital revolution. Students examine the origins of type and graphic representations from the Renaissance, through Art Nouveau, the Bauhaus, and Postmodern influences. Students learn about the impact that graphic forms have made. Students study the basic concepts and movements in graphic design and the relationship of fine art, design art, photography, and emerging technologies in graphic and visual communications.

Credits: 3

Semester Offered: S/SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

ART 260 American Women Artists

This course surveys the work of American women artists from early Native American times to the present. It focuses on the accomplishments of American women artists in the face of longstanding cultural prejudices against them. Students explore the struggle of women to gain access to schools dominated by men, and examine the gains and setbacks of women artists through each historical period. Students learn the contributions of American women artists to American culture from women's perspective.

Credits: 3

Semester Offered: S

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

Automotive Technology**AUT 102 Fundamentals of Automotive Service**

This course provides students the fundamentals of working in the automotive industry. It covers dealership workshop operations and organization, and how to work safely in a shop environment. Students learn to identify the major components and systems of an automobile; how to navigate both printed and electronic service information systems; and how to follow service procedures. The course focuses on the proper use of shop equipment such as hand tools, power tools, and specialty tools, including proper usage, storage and safety guidelines; fasteners, fluids, and vehicle maintenance; and measuring devices such as micrometers and dial indicators.

Credits: 3

Semester Offered: F

Please Note: Two hours lecture, three hours laboratory

AUT 111 Automotive Electrical Systems

This course covers basic automotive electrical theory and operation including the battery and starting and charging system. Students learn electrical diagnostic tools and testing using all service publications in their available formats, obtain information needed for diagnosis, use the Symptom-to-System-to-Component-to-Cause (SSCC) diagnostic process, and learn repair procedures.

Credits: 4

Semester Offered: F

Please Note: Three hours lecture, three hours laboratory

AUT 113 Basic Automotive Electronics

This course explores the internal workings of automotive microprocessors, interrelationship of inputs and outputs, and sensor input and output controlling devices. Through classroom exercises, students examine electronically controlled components and systems, identify and describe the functions of various sensors, learn the types of generated signals, understand the internal workings of the automotive microprocessor, and describe and explain the operation of various output devices.

Credits: 3

Semester Offered: S

Prerequisites: AUT 111

Please Note: Two hours lecture, three hours laboratory

AUT 121 Basic Gasoline Engines

This course covers the basic functioning of gasoline engines. Topics include operation, design, diagnostic, and repair strategies. Students disassemble measure, inspect, and reassemble engines to blueprint specifications and perform dynamic tests in a laboratory environment. Students learn how to describe the major components of a gasoline engine and explain how they contribute to an engine's performance and operation.

Credits: 4

Semester Offered: S

Prerequisites: AUT 102

Please Note: Three hours lecture, three hours laboratory

AUT 125 Engine Testing/Performance Analysis

This course covers basic engine performance, operations, and testing. Topics include the theory and operation of engine systems including ignition, fuel and air management, and emission control using current diagnostic methods and tools. Students diagnose and repair engine performance-related problems and learn how to explain the operations and relationships between engine performance and emissions.

Credits: 4

Semester Offered: S

Prerequisites: AUT 102

Please Note: Three hours lecture, three hours laboratory

AUT 131 Brake Systems

This course focuses on the basics of hydraulic principles, and the types, components, and operation of brake systems. Students learn the specific types of master cylinders, disc brakes, drum brakes, and anti-lock brakes with emphasis on diagnosing brake problems and making adjustments and repairs. The course concentrates on the diagnosis and repair of car and light truck anti-lock brakes and stability systems using equipment specified by manufacturers.

Credits: 3

Semester Offered: F

Please Note: Two hours lecture, three hours laboratory

AUT 133 Suspension, Steering & Alignment

This course examines conventional suspension, air suspension, and programmed/automatic ride control systems. Students learn the theory and operation of basic steering systems, rack and pinion steering systems, and variable and electronic steering systems. Topics include two - four-wheel alignment and use of specialized steering equipment. Students gain an entry-level knowledge of suspension and steering as the foundation for performing comprehensive vehicle suspension and steering performance evaluations and repairs.

Credits: 3

Semester Offered: S/SU

Prerequisites: AUT 102

Please Note: Two hours lecture, three hours laboratory

AUT 141 Climate Control System

This course explores the air conditioning and heater components through an understanding of basic refrigeration principles and the use of diagnostic tools. Students learn how to diagnose and repair A/C and heating related problems (including controls, switches, compressors, and clutches) and learn to perform leak testing, recharging, and safety procedures. Students acquire the knowledge necessary to obtain a National Institute Automotive Service Excellence (ASE) certification in this field.

Credits: 3

Semester Offered: SU

Prerequisites: AUT 121

Please Note: Two hours lecture, three hours laboratory

AUT 211 Electronic Powertrain Control Systems

This course covers the repair of devices that manage engine operations, emissions, and powertrain systems. Through a combination of lectures and laboratory work students learn to diagnose and repair electronic powertrain

control systems. The course also examines the regulations for the second generation of On-Board Diagnostics (OBD II) and the latest developments in powertrain controls.

Credits: 5

Semester Offered: S

Prerequisites: AUT 125

Please Note: Four hours lecture, three hours laboratory

AUT 251 Automotive Drive Train

This course covers manual transmissions, manual transaxles, clutch systems, operation assemblies, and front wheel drive halfshafts. Students learn how to explain driveline functions, including three-, four-, and five-speed manual transmissions and transaxles. They also learn how to diagnose and repair rear differentials, and locate and repair driveline vibrations problems in two-wheel drive, four-wheel drive, and all-wheel drive systems.

Credits: 3

Semester Offered: F

Prerequisites: AUT 121

Please Note: Two hours lecture, three hours laboratory

AUT 253 Automatic Transmission & Transaxle

This course covers the operation principles of automatic transmissions and transaxles including hydraulic and mechanical operating principles and powerflow, diagnostic procedures, disassembly, repair, and reassembly. Students learn about automatic transmission powerflow, hydraulic circuits in valve bodies, and other components. They diagnose problems by electronic testing and pressure methods. The course also covers electronic transmissions and their relationships to the powertrain control module.

Credits: 4

Semester Offered: F

Corequisites: AUT 251

Please Note: Three hours lecture, three hours laboratory

AUT 299 Field Experience and Cooperative Education in Automotive Technology

This course provides students with an opportunity to apply classroom theory to practical work experience in an approved facility. Students receive feedback from supervisors at the employment site who review their progress and consult with the Automotive Technology faculty on an on-going basis.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: Approval of Program Coordinator

Biology

BIO 100 Principles of Human Biology

This course focuses on the basic structure and function of the human body. Topics include the anatomy and physiology of human cells, tissues and key organ systems. Basic chemical principles will be introduced. The course also explores the major types of microorganisms that infect humans as well as concepts of disease transmission and prevention. Three hours lecture, three hours laboratory.

Credits: 4

Semester Offered: F/S/SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

BIO 101 General Biology: Core Concepts

Students intending to major in the health sciences learn scientific method, basic chemistry (for the understanding of biologic concepts), structure and function of basic cells and tissues, mitosis and meiosis, genetics, and the basic principles of evolution. The laboratory component covers basic techniques in observation, analysis, and interpretation of data relating to the topics discussed in lecture. The lab activities are investigative in nature with the students devising hypotheses, predictions, and identifying independent and dependent variables.

Credits: 4

Semester Offered: F/S/SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score, MAT 095 with a "C" or higher on the MAT 095 departmental final exam or appropriate placement score

BIO 104 Introduction to Plant Biology

This course introduces the formal concepts of the science of botany as well as the impact that plants have on humans and earth. Topics include plant structure, plant growth, diversity of plants, life cycles and natural history, major plant environments of the world, and the economic influence that plants have on our species. Students gain enhanced appreciation of the importance of plants in our lives and present the fundamental concepts used in the study of plants. In the laboratory component, students learn basic scientific investigation of the plant world.

Credits: 4

Semester Offered: F/S/SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score, MAT 095 with a "C" or higher on the MAT 095 departmental final exam or appropriate placement score

BIO 105 Principles of Ecology

This course examines the fundamental concepts of ecology. Topics include ecosystem formation within the context of habitat, population,

community, biodiversity, evolution, sustainability and global change. The laboratory component focuses on the collection and interpretation of data based on computer simulations of renowned ecological field studies.

Credits: 4

Semester Offered: F/S/SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score, MAT 090 with a "C" or higher on the MAT 090 departmental final exam or appropriate placement score

BIO 107 Principles of Biology I

This course examines principles of molecular, cellular and physiological levels of living organisms. Topics include biomolecules, cell structure and function, cellular energetics, heredity and the molecular control of genes and evolution. The laboratory component focuses on scientific methodology, acquiring and interpreting data and experimental design. The course is designed for those planning to major in the biological sciences, biotechnology, biochemistry, or biomedical engineering.

Credits: 4

Semester Offered: F/S/SU

Prerequisites: MAT 099 with a "C" or higher on the MAT 099 departmental final exam or appropriate placement score

Corequisites: ENG 101

BIO 108 Principles of Biology II

This course examines the principles of organismal biology. Topics include evolution, comparative anatomy and physiology, diversity of biological organisms, and plant phylogeny and biology. The laboratory component focuses on scientific methodology, acquiring and interpreting data, and experimental design. The course is designed for those planning to major in the biological sciences.

Credits: 4

Semester Offered: F/S/SU

Prerequisites: BIO 107

BIO 111 Anatomy & Physiology I

This course examines the organization of the human body at the tissue, organ, and system level. Students study the structure and function of the integumentary, skeletal, muscular, and nervous systems with emphasis on concepts of homeostasis, the complementary nature of structure and function, and the interrelationships of systems.

Credits: 4

Semester Offered: F/S/SU

Prerequisites: BIO 101 or High School Advanced Placement Biology

Corequisites: ENG 101

BIO 112 Anatomy & Physiology II

Students study the structure and function of the endocrine, cardiovascular, lymphatic, respiratory,

digestive, urinary, and reproductive systems. The course emphasizes the roles that systems play in immunity and in fluid, electrolyte, and pH balance.

Credits: 4

Semester Offered: F/S/SU

Prerequisites: BIO 111

BIO 221 Pathophysiology

This course focuses on the physiological changes associated with normal human function including alterations of cells, inflammation, changes in immunity, disorders of cell proliferation and differentiation, alterations in fluid, electrolyte and pH balance; alterations in perfusion, cardiac function, ventilation, elimination, and hormonal regulation. Students study the etiology, pathogenesis, morphological changes, diagnosis, and the clinical course of major and common diseases. Students learn about epidemiology, natural histories of disease, risk factors, and prevention of disease. Students gain an appreciation for the multi-factorial nature of disease and the interactions of the inflammatory response, environmental factors, and genetic predisposition in pathophysiology.

Credits: 3

Semester Offered: S

Prerequisites: BIO 112

BIO 231 General Microbiology

This course explores the morphology, growth, metabolism, and genetics of microorganisms including bacteria, fungi, and viruses. Topics include microbial growth, identification, genetic manipulation techniques used in the biotechnology industry, pathogenicity, disease transmission, and immunology. The course emphasizes documentation, data manipulation, and experimental design.

Credits: 4

Semester Offered: F/S

Prerequisites: BIO 107

BIO 232 Medical Microbiology

This course examines the major groups of pathogenic bacteria. Topics include microbial control, immunization, and the physiological problems these microorganisms produce on body tissues. Student learn the general structure and function of bacteria, viruses, molds, fungi, and rickettsiae; the factors which make these microbes pathogenic, and how these factors induce the disease state; how the human body fights infection naturally; and, methods of natural and passive immunization.

Credits: 4

Semester Offered: F/S/SU

Prerequisites: BIO 112 or CHM 123 or CHM 105

BIO 241 Nutrition

This course covers the nutrients including proteins, minerals, and vitamins; their sources; their digestion, absorption, and cellular function. Students also examine nutrition in pregnancy

and lactation; nutrition of the elderly; obesity; fad diets; and food preservation.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: BIO 101 or BIO 111

BIO 259 Cell Biology

This course focuses on the structure and function of cells. Topics include organelles, membrane function, metabolism, and regulation of growth as well as collection, analysis, and documentation methods. Students explore laboratory instrumentation, cellular techniques, and manipulations employed in the biotechnology industry.

Credits: 4

Semester Offered: F/S

Prerequisites: BIO 107

BIO 260 Molecular Biology

This course focuses on the principles of molecular biology and associated laboratory techniques. Topics include the structure and function of nucleic acids including replication, protein synthesis and sorting, and gene regulation. Students learn data collection, analysis, and documentation. The laboratory component focuses on recombinant DNA and its manipulation.

Credits: 4

Semester Offered: F/S

Prerequisites: BIO 107

BIO 262 Principles of Genetics

This course covers the principles of classical and molecular genetics in both model organisms and humans. The material focuses on experimental evidence for genetic principles along with application of these principles to solve problems involving inheritance patterns. Students perform investigative laboratory exercises in genetic mapping, recombinant DNA techniques, gene regulation, and bioinformatics.

Credits: 4

Semester Offered: F/S

Prerequisites: BIO 108, MAT 122

Biotechnology

BTT 101 Introduction to Biotechnology

The basic tenets of biotechnology including the scientific method will be presented through readings on the commercialization of recombinant DNA technology to produce therapeutic proteins and on the drug discovery process. Students will discuss the ethics, public policy issues, patent issues, career opportunities, and therapeutic promises of recombinant DNA technology. Students will also participate in a virtual drug discovery program to elucidate issues in drug discovery such as target identification, lead discovery and optimization, candidate selection, ethical clinical trials, and drug markets.

Credits: 3

Semester Offered: F/S

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score, MAT 095 with a "C" or higher on the MAT 095 departmental final exam or appropriate placement score

BTT 201 Techniques in Biotechnology

This course provides biotechnology students with an understanding of a good manufacturing practices environment. They will develop specific skills in such areas as formulation of solutions, operation of specific basic laboratory equipment, sterile operations, quality control knowledge and operation of utilities and environmental controls, as well as appropriate use of documentation. Students will also participate in a simulated manufacturing environment/laboratory utilizing good manufacturing practices.

Credits: 6

Semester Offered: SU

Prerequisites: BIO 259, BIO 260, BIO 231

Bookkeeping

BKK 101 Bookkeeping I

This course focuses on the recordkeeping skills needed in the area of double entry bookkeeping for small, mid-size and large business entities. Students study how to compute, classify and record numerical data, prepare routine posting calculations, verify financial data using basic math skills and reconcile discrepancies found. Areas of study include short term and long term assets and liabilities transactions as well as recording revenue and expense entries. This detail-oriented course provides knowledge and experience in the recordkeeping functions of a business entity as well as ample opportunity to learn and use good communications skills.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score, MAT 090 with a "C" or higher on the MAT 090 departmental final exam or appropriate placement score

BKK 102 Bookkeeping II

This course focuses on the proven bookkeeping knowledge and skills needed to carry out all key accounting functions through the adjusted trial balance. Students study how to generate adjusting entries, master correction of accounting errors, calculate and record basic payroll functions, compute depreciation, compute inventory values, and comprehend basic internal controls. Areas of study include adjusting entries, payroll, depreciation, inventory and internal controls. This detail-oriented course provides knowledge and experience in the recordkeeping functions of a business entity as well as ample opportunity to learn and use good communications skills. Students are strongly encouraged to take and pass the American Institute of Professional Bookkeepers exam.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: BKK 101

Business

BUS 201 Integrated Communications for Business

This course emphasizes the creation, preparation and perfecting of effective business communication. Students write and edit letters, memos, proposals, short reports, e-mails, resumes, cover letters, and oral presentations using word processing, spreadsheets, and presentation software. Students create a portfolio of their semester's work.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score, CIS 111

BUS 205 Project Management

This course provides students with the framework needed to define the scope; plan the activities, resources and timeframe; execute and manage the implementation; and evaluate the success of projects in all areas of business and industry. Students learn techniques to assist them in managing project quality, scope, time, cost, human resources, communications, risk, procurement, and integration in the business environment. Students gain the foundation to take the Project Management Institute (PMI) Project Management Professional (PMP) exam. This course satisfies PMI's contact hours requirement for the PMP exam. Students wishing to take the PMI Certification Exam should note that exam has additional requirements, such as experience hours.

Credits: 3

Semester Offered: F/S

Prerequisites: ENG 101

BUS 250 Business Administration Capstone

This course is designed to prepare Business Administration career track students to make the transition from school to work. The course focuses on how personality traits effect relationships with coworkers and managers, as well as overall career advancement. Other topics of importance include analysis of the job market, analyzing companies, the job hunting process, including resume presentation, techniques and job interviewing skills, the basics of networking, professional dress codes, and codes of ethics.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: Over 42 credits completed in the Business Administration degree program

BUS 299 Career Strategies and Co-op Experience

This course provides students with career and employment strategies. Students learn the job hunting process, identification of their skill set, resume and cover letter preparation, job interviewing skills, networking, negotiation, interpersonal skills development, business etiquette, ethics, and presenting themselves for success. Co-op Placement: Students develop a learning agreement with the instructor, stipulating learning goals and outcomes based on the position description. Students are required to successfully satisfy the terms of the learning agreement and complete a 150-hour unpaid or 225-hour paid cooperative work experience related to their particular major. The faculty member and career placement services can provide Co-op placement assistance, but students are ultimately responsible for securing a timely Co-op placement.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ALH 151 or BKK 102 or BSS 104 or permission of the Program Coordinator

Business Law

BSL 101 Business Law I

This course examines law and society; the operation of law as it reflects the mores of human relations; and the ethics of business, criminal, and tort law with special emphasis on the law of contracts. Topics include the general principles of the law assigned, the nature of the United States legal system, the trial process, and the sources of law available. Students analyze court decisions and learn to apply the law both in fact situations and in reasoning in gray areas.

Credits: 3

Semester Offered: F/S/SU

BSL 102 Business Law II

This course covers the Uniform Commercial Code with emphasis in the areas of sales, commercial paper, property law, agency, partnership, and corporations. Students learn the general principles of law assigned, analysis of court decisions, application of law to fact situations, and reasoning in gray areas as they pertain to the UCC.

Credits: 3

Semester Offered: F/S

BSL 103 E-Business Law & Ethics

This course introduces legal, clerical, and cyberlegal issues as they relate to the e-business world of today. Students learn the general laws as they pertain to business with special focus on laws which pertain to e-commerce contracting, copyright, and trademark infringement. The topics of Internet crime, free speech, privacy under the U.S. Constitution, and libel and other torts are also covered. The emphasis of the course is on ethical decision-making and socially responsible and appropriate practices involving technology.

Credits: 3
Semester Offered: F/S
Corequisites: CIS 111

BSL 112 Introduction to Law & Paralegal Practice

This course examines the American legal system and the paralegal profession. Students learn the functions performed by paralegals, ethical principles, federal and state court structures, litigation, sources of law, legal research and reasoning, investigation and interviewing, and law office management. Students explore career perspectives and strategies for seeking employment in the paralegal field.

Credits: 3
Semester Offered: F

Business Office Support Specialist

BSS 101 Keyboarding Applications

This course focuses on the alphanumeric touch method of keyboarding with a personal computer, emphasizing the progressive development of speed and accuracy. Students learn basic keyboarding techniques, hardware components, and standard business needs, including business letters, forms, proposals, tabulations, and drafts. Through the course, students develop skills in composition, language arts, proofreading, and formatting. The goal of the course is for students to attain a speed of 30-35 wpm for three minutes with less than three errors.

Credits: 3
Semester Offered: F/S/SU
Prerequisites: ENG 091 with a grade of "C" or higher; or appropriate placement score

BSS 104 Business Office Procedures

This course prepares students for office support tasks required in all types of businesses. Topics covered include the virtual worker, current employment structure, appointment scheduling, human relations, time and organization management, records management including medical records, compliances, communication, technology used for tasks, decision-making, creative thinking, and lifelong learning skills.

Credits: 3
Semester Offered: F/S/SU

Prerequisites: BSS 101, CIS 111, ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

BSS 112 Medical/Dental Billing and Insurance

Students in this course acquire the entry-level skills for using patient billing software on IBM compatible computers in medical and dental offices. Students explore the steps of the patient billing process, including coding and third-party billing, become familiar with computerized

recordkeeping for medical facilities, and learn how the various components of the patient billing system relate to the accounting system in a medical office.

Credits: 3
Semester Offered: F/S
Prerequisites: ALH 102

Chemistry

CHM 090 Introduction to Chemistry

This course is a foundation course for studies in biology and chemistry. Students manipulate significant figures and scientific notation; study density, energy, and their calculations; learn basic atomic structure and the periodic table; and write and solve formulas, equations, and related problems. They examine gases, chemical bonding, equilibrium, redox reactions, and rate chemistry; and, demonstrate knowledge of solutions, acid-base chemistry, and related calculations.

Credits: 3
Semester Offered: F/S/SU
Prerequisites: MAT 095 with a "C" or higher on the MAT 095 departmental final exam or appropriate placement score

CHM 101 Introduction to the Chemistry of Living Systems

This course is designed for students seeking careers in the health sciences and the natural sciences (biology and chemistry) by focusing on those chemicals and processes that operate in living systems. Students learn the fundamentals of inorganic, organic, and biological chemistry and apply these chemical principles in laboratory exercises.

Credits: 4
Semester Offered: F/S/SU

Prerequisites: CHM 090 or one year of High School Chemistry, MAT 095 with a "C" or higher on the MAT 095 departmental final exam or appropriate placement score

CHM 105 General Chemistry I

This course focuses on the classification of matter and the behavior and characteristics of chemicals in the natural world. Topics include the basic structure of the atom, nuclear chemistry, nomenclature of chemicals, chemical reactions, the mole concept, stoichiometry, acid-base concepts, the concentration units of solutions, the gas laws, thermochemistry and quantum theory. The laboratory portion of the course fosters basic laboratory skills and reinforces lecture concepts.

Credits: 4
Semester Offered: F/S/SU

Prerequisites: CHM 090 or one year of High School Chemistry, MAT 099 with a "C" or higher on the MAT 099 departmental final exam or appropriate placement score

CHM 106 General Chemistry II

This course focuses on stoichiometry, bonding and periodicity in special groups, Lewis structures, intramolecular attractions, crystalline solids, kinetics, acids and bases, thermodynamics, electrochemistry, organic chemistry and biochemistry. The lab fosters basic laboratory skills and reinforces lecture concepts.

Credits: 4
Semester Offered: F/S/SU
Prerequisites: CHM 105

CHM 123 Principles of Chemistry for Engineers I

This is the first part of a two-semester course sequence. The course is designed for students in engineering or for students requiring a sound knowledge of chemical principles. Students learn chemical principles of atomic structure, stoichiometry, thermochemistry, gases, quantum theory, chemical bonding, intermolecular forces, and solutions.

Credits: 4
Semester Offered: F/S/SU
Corequisites: MAT 233

CHM 124 Principles of Chemistry for Engineers II

This course is designed for students in engineering or for students requiring a sound knowledge of chemical principles. Students learn the chemical principles of chemical kinetics, chemical equilibrium, acid-base, solubility, electro-chemistry, coordination compounds, and organic chemistry.

Credits: 4
Semester Offered: F/S/SU
Prerequisites: CHM 123

CHM 201 Organic Chemistry I

This course introduces the chemistry of carbon compounds for students pursuing a career in medicine, chemistry, or modern biology by examining the relationship between organic chemistry and biology. Topics include the chemistry of the carbon atom; the structure, physical properties and reactivity of the important classes of organic compounds; stereochemistry; and IR spectroscopy. Laboratory topics include chromatography, isolation and crystallization, fractional distillation, and basic organic reactions. Three hours lecture, three hours laboratory.

Credits: 4
Semester Offered: F/S/SU
Prerequisites: CHM 106 or CHM 124

CHM 202 Organic Chemistry II

This course includes the study of functional group reactions, aromaticity, NMR spectroscopy, common biological reaction types, biochemicals, biochemical pathways, and natural products chemistry. Laboratory topics include classic organic reactions; synthesis, isolation, and

identification of natural products; and, polymer chemistry.

Credits: 4

Semester Offered: F/S/SU

Prerequisites: CHM 201

Complementary Health

CHC 150 Health and Healing

This course explores the mind/body/spirit dimensions of health and healing, as well as theories of health maintenance, illness prevention, balanced living, and self-care in the cultivation of health and wellness. The role of the patient-provider relationship and its relevance to health and healing is emphasized. The course also covers health and healing theories of the biomedical, integrative, complementary, and energetic perspectives.

Credits: 3

Semester Offered: F

Prerequisites: BIO 101, ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

CHC 151 Fundamentals of Complementary Health

This course examines fundamental characteristics, principles, cultural contexts, and modalities of integrative and complementary health including breath, Reiki, yoga, therapeutic touch, meditation, expressive therapies, sound, Tai Qi, Qi Gong, nutrition, and herbalism. Students study philosophies, educational preparation of practitioners, practice modalities, scientific basis, and efficacy and safety with an emphasis on experiential learning.

Credits: 3

Semester Offered: F

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

CHC 250 World Medicines: Harmony and Health

This course explores medicines of the world from folk/indigenous through biomedicine and integrative health. Students examine traditional and modern systems of medicine, including Traditional Chinese medicine, Ayurveda, Curanderismo, and Naturopathy; explore the impact of culture and meaning on health and healing; and examine connections between ancient traditions and modern views of health and well-being. Students explore perspectives of east and west in treating illness and cultivating health.

Credits: 3

Semester Offered: S

Prerequisites: ENG 101

CHC 255 Applications in Integrative Health

This course explores the application of integrative and Complementary Health/

Medicine in populations having particular needs. Integrative medical approach is applied to a variety of human ailments and health care needs including Cardiovascular, Cancer, Women's/ Men's Health, Elders/Aging, and Children among others. Students learn how to bridge the approaches of conventional health care and CAM to achieve an Integrative Health approach in their work and clients.

Credits: 3

Semester Offered: S

Prerequisites: CHC 150, CHC 151

Computer Information Systems

CIS 105 Introduction to Information Technology

This course provides an overview of the core aspects of information technology. The topics include: computer hardware, operating systems, application software, networks, information security, interactive media, and programming. The course focuses on defining how each IT area relates to, and interacts with, each other. Upon completion of the course, students have the knowledge necessary for further study in IT as well as understanding of the impact of technology on society and organizations of all types. Knowledge and competencies in this course are in National Career Cluster Core IT Standards published by the Educational Development Center (EDC).

Credits: 3

Semester Offered: F/S/SU

CIS 111 Introduction to Microcomputer Applications

This course focuses on basic working knowledge and hands-on experiences in word processing, spreadsheet processing, database processing, and presentation software. Students acquire an overview of computer concepts, the most common business office operating systems, the Internet, and the World Wide Web.

Credits: 3

Semester Offered: F/S/SU

CIS 112 Advanced Microcomputer Applications

This course is a continuation of CIS 111. Students learn advanced database and spreadsheet processing through the use of realistic business situations. They also learn how to use presentation software to create professional-looking documents.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: CIS 111

CIS 115 Introduction to Computer Applications in Telecommunications

This course focuses on a basic orientation to computer hardware and the use of software applications in telecommunications.

Students study the Windows environment, and use integrated software packages for word processing, database management, spreadsheets, and telecommunications. Through lectures, interactive learning, and demonstrations students learn how to solve problems and transfer information via electronic media. They write reports, documents, and presentations and import and export documents between different software applications.

Credits: 3

Semester Offered: F/S

CIS 121 Introduction to Programming with C++

This course focuses on the basic concept of programming, utilization of the executable codes, and implementation of these codes in problem solving. Students learn the concept of solving problems through the design and implementation of algorithmic solutions using the C++ programming language. Topics include the programming process, structured programming techniques, and basic logic formations. Practical business applications are emphasized throughout the course.

Credits: 3

Semester Offered: F/S

Corequisites: CIS 111 or CIS 115

CIS 134 Web Page Development I

This course focuses on the basics of Web site design using the latest version of XHTML and CSS. Topics include text formatting, color, image maps, tables, frames, client-side forms, and insertion of audio and video files. Java Applets will be introduced. Students work on individual or team projects to create Web sites.

Credits: 3

Semester Offered: F/S

Corequisites: CIS 111 or CIS 115

CIS 135 Internet Server Technologies

This course introduces students to the hardware, software, and protocols used on Internet servers. Internet server software and the technologies it supports will determine what features and tools developers may employ when creating Web applications. This provides students with information on the most critical Internet information services such as email, file transfer, and e-commerce.

Credits: 3

Semester Offered: S

Prerequisites: CIS 105

CIS 141 Introduction to Data Communication & Networks

This course examines business data communications. Students learn fundamental communication concepts, communication networks, and communications hardware and software. Students study the information in a non-technical format designed to provide an understanding of data communication systems needed in today's business environment.

Credits: 3

Semester Offered: F/S

Prerequisites: CIS 111

CIS 212 Electronic Health Records

This course provides students with the understanding of Electronic Health Records (EHR) system, HIPPA requirements, patient confidentiality, a team-based approach, and workflow processes in a health care setting. This course allows the student to learn to use and operate an EHR software package.

Credits: 3

Semester Offered: F/S

Prerequisites: CIS 111, ALH 102

CIS 223 .NET Programming I

In this course, students who already have been exposed to programming and critical thinking are introduced to Microsoft .NET architecture, Visual Studio IDE and object-oriented programming with .NET. The course emphasizes building stand-alone desktop projects with graphical user interfaces using WinForm components. Students are taught how to apply the principles of programming and problem solving within an object-based design and event-driven paradigm. Among other skills, the student learns basic interface design, using common libraries and features of the common language runtime.

Credits: 3

Semester Offered: S

Prerequisites: CIS 111 or CIS 115, CIS 121

CIS 224 Visual Basic II

This course emphasizes in-depth programming skills that are needed to create applications, develop advanced graphical user interface (GUI) applications, and manipulate mouse and keyboard events. Students learn to employ advanced Visual Basic functions for Windows, create and use sequential and random files, access relational databases, and improve error handling and debugging.

Credits: 3

Prerequisites: CIS 223

CIS 225 Programming with C++ II

This course is a continuation of CIS 121 and covers advanced topics including recursive programming, storage techniques, pointer and dynamic variables, arrays, manipulation of data (searching, sorting, etc.), file processing, linked lists, stacks and queues. The course emphasizes structured programming through the use of algorithm analysis. Students explore higher-level problem solving through user-defined functions and classes, and learn how to write programs and demonstrate proficiency in the C++ language.

Credits: 3

Semester Offered: S

Prerequisites: CIS 121

CIS 226 Introduction to Java

This course explores the fundamentals of visual object-oriented programming using the Java language. Students learn how to design, write, and compile Java programs through lectures, hands-on programming assignments, and projects. The emphasis is on problem solving through algorithmic analysis. Topics include Java applications and applets, control structures, methods and classes, arrays, searches, and fundamental data types.

Credits: 3

Semester Offered: F

Prerequisites: CIS 121

CIS 227 Java II

This course is a continuation of CIS 226 and focuses on higher-level visual object-oriented programming using the Java language. Students learn to design, write, and execute Java applications and applets using graphic user interface (GUI) components through lectures, hands-on programming exercises, and projects. Other topics include exception handling, classes and methods, objects and inheritance, and problem solving through the use of algorithmic analysis.

Credits: 3

Semester Offered: S

Prerequisites: CIS 226

CIS 228 SQL Programming

This course introduces students to the fundamentals and functions of Structured Query Language (SQL), including relational database, table creation, updating, and manipulation concepts. Using a live data base, students learn SQL basics and then move on to the more sophisticated and challenging aspects of SQL. Students get in-depth knowledge of the language through extensive use of internet based, industry standard SQL programming and certification testing engines. Upon completion of this course, students have the skills and competencies required to program in SQL and the background necessary to continue to intermediate and advanced courses in PL/SQL and database administration.

Credits: 3

Semester Offered: F/S

Prerequisites: CIS 105 or CIS 111 or CIS 115

CIS 229 PL/SQL Programming

This is an intermediate course in the use of Relational Database Management Systems Procedural Language, PL/SQL. The course focuses on the concepts, design and components of relational database PL/SQL programming Language, including creating record, types, defining transactions, the basics of SQL in PL/SQL and datatypes. The student will also manipulate RDBMS including functions related to multiple tables, compound and complex queries, exporting and importing tables, sub-queries, and reporting.

Credits: 3

Semester Offered: F/S

Prerequisites: CIS 228

CIS 230 Mobile Apps Development

This course introduces application development for mobile devices such as Android, Windows, and web. Students program professional apps, using standard IDE (Integrated Development Environment) platforms commonly used professionally, through lectures, hands-on programming assignments, and individual and group projects.

Credits: 3

Semester Offered: S

Prerequisites: CIS 226

CIS 232 .NET Programming II

This course emphasizes in-depth programming skills and extends the student's knowledge of Microsoft .NET and related tools. The course emphasizes the use of SQL and ADO.NET for the creation of stand-alone and distributed database applications to solve common business problems. The course exposes student to n-tier and database application design, advanced error handling and the production of flexible business reports.

Credits: 3

Semester Offered: F/S

Prerequisites: CIS 223

CIS 234 Web Page Development II

This course focuses on creating interactive Web sites using the latest version of XHTML, DHTML and JavaScript. Students write code for form validation, page animation, image and text rollovers, pull-down menus, slide shows, create expandable and collapsible outlines, and mouse and keyboard events to create interactive and dynamic web sites. Students also learn to code for W3CDOM. Concepts of e-commerce are discussed.

Credits: 3

Semester Offered: F/S

Prerequisites: CIS 121, CIS 134

CIS 237 Network Management

This course examines the issues from a management perspective that are involved in maintaining and managing an information network. Students learn the requirements of an information network, the aspects of function and support information needs, user access and control, and file and directory maintenance. Other topics include disaster prevention and recovery, network printing, setting operating system parameters for increased performance, and planning and supervision of network growth.

Credits: 3

Semester Offered: S

Prerequisites: CIS 141

CIS 240 Introduction to PERL

This course introduces the fundamentals of the PERL language. Students learn how to create and execute basic PERL programs through lectures and hands-on programming assignments. The course focuses on PERL syntax, operators, control structures, and reading and writing data to files. Students use PERL to perform basic Web/common gateway interface (CGI) scripting for Web development support.

Credits: 3

Semester Offered: S

Prerequisites: CIS 121, CIS 134

CIS 241 Systems Analysis & Design

This course provides practical experience in feasibility studies, data gathering, analysis, and design of a business information system. Students study the various techniques that can be utilized, conduct a feasibility study, learn valid data collection processes, analyze existing systems, and design new information systems.

Credits: 3

Semester Offered: F/S

Prerequisites: CIS 121 or CIS 223 or CIS 226 or CIS 240

CIS 243 Database Management Application Development

This course focuses on in-depth database management utilizing current database applications. Students learn the concepts of distributed database systems, query optimization, concurrency control, and deductive database and object-oriented database systems through lecture and hands-on activities. Topics include structural design, testing and debugging techniques, security, and backup and restart procedures. Students design and construct a complete database system.

Credits: 3

Semester Offered: F/S

Prerequisites: CIS 105 or CIS 111

CIS 244 Database Management Concepts

This course provides an overview of the skills and the knowledge of database application systems that are used in business, government, and industry. Topics include database systems, data models, the relational database model, entity relationship modeling, normalization of database tables, advanced data modeling, introduction to Structured Query Language (SQL), database design.

Credits: 3

Semester Offered: S

Prerequisites: CIS 105 or CIS 111 or CIS 115

CIS 245 Database-Driven Web Pages

This course introduces students to building database-driven pages using "open source" tools available on the Internet. The tools used in this course will be PHP (Hypertext Preprocessor),

which is a server-side scripting language, and MySQL and/or MS SQLServer, a relational database management system.

Credits: 3

Semester Offered: S

Prerequisites: CIS 121, CIS 135 or CIS 141

Corequisites: CIS 234

CIS 246 .NET Programming III

This course introduces students who are already familiar with HTML, Visual Basic, and database concepts to creating N-tier Web applications using .NET technologies such as: Active Server pages and ActiveX data objectives. Microsoft's Active Server Pages (ASP) technology allows the Internet developer to create browser-independent, dynamic Web pages by combining programmatic code with the three-tier client-server Web applications.

Credits: 3

Semester Offered: S

Prerequisites: CIS 224 or CIS 232, CIS 234

CIS 247 Database Administration

This course focuses on how to fine tune a selected relational database (RDB), such as SQL SERVER/ORACLE. Topics include RDB architectural components; RDB administration tools; RDB instances; creating an RDB database; constructing Data Dictionary views; maintaining the control file; maintaining the Redo Log File; managing table spaces and data files; understanding relationships and impacts on the storage structure; managing tables, indexes and segments; maintaining data integrity; managing users, profiles, privileges, and roles; understanding and using database auditing options; using National Language Support.

Credits: 3

Semester Offered: S

Prerequisites: CIS 228, CIS 244

CIS 299 Computer Information Systems Cooperative Education

This course provides students with an opportunity to apply classroom theory to practical work experience. Students exchange feedback about their work experience in a seminar environment. The number of credits earned is based upon the number of weeks and hours per week involved in the cooperative work experience as well as established learning objectives.

Credits: 3-6

Semester Offered: S

Prerequisites: Approval of Program Coordinator

Corequisites: CIS 241

Computer Science**CSC 105 IT Help Desk Concepts**

This course focuses on key information needed by user support professionals, including decision making, communicating successfully

with a client, determining the client's specific needs, and technical writing for the end user. Students are introduced to the latest in support industry trends, such as the use of Web support, e-mail-based support, self-service support and automated help desk software. Career paths for user-support workers are researched and discussed. This course details real-life scenarios of working professionals and issues in the IT help desk environment.

Credits: 2

Semester Offered: F/S/SU

CSC 108 Computer Science I

This course is the first in a three-course sequence that provides students with a foundation in computer science. The complete three-course sequence is designed in such manner that students progress in knowledge, proficiency and professional maturity in software engineering principles, professional, and ethical conduct. Students develop fundamental programming skills using a language that supports an object-oriented approach, incorporating security awareness, human-computer interactions and social responsibility. This course emphasizes using a cyclic approach for program development by iterating through designing, coding, and testing program modules. Complemented by algorithm analysis, students are encouraged to think abstractly about problems and to begin developing processes for decomposing problems into organized parts. Encouraging clear documentation, good naming conventions and consistent secure coding style contribute to a disciplined approach to writing programs.

Credits: 4

Semester Offered: F/S/SU

Prerequisites: CIS 111, ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

Corequisites: MAT 100 or appropriate placement score

Please Note: Four hours lecture

CSC 109 Computer Science II

This course is the second in a three-course sequence that provides students with a foundation in computer science. The progression of software engineering topics continues in CSC 108, where greater emphasis is placed on abstraction and sound software design principles, engaging students in the development of secure software components that solve a wide range of related problems and can be reused. The students determine the necessary elements of simple ADTs (such as a counter or a date) and then construct them; by their very nature, these components must be well-documented to encourage reuse. Additionally the students write assertions such as pre-conditions and post-conditions describing each class method, thereby encouraging students to think deeply about a simple problem before coding. After coding, the components must be well-tested, and therefore the use of test plans and test drivers are practiced. These activities reinforce the notion of constructing software from well-

defined, independent pieces and complement the study of using existing library classes and APIs in software solutions.

Credits: 4

Semester Offered: F/S/SU

Prerequisites: CSC 106 or CSC 108

Please Note: Four hours lecture

CSC 140 Mobile Operating Systems

This course explores information technology devices used in personal and professional capacities, including modern mobile operating systems environments. Students learn how to utilize, configure, and maintain common mobile operating systems including Windows, Android, and Mac OS in home and enterprise business environments.

Credits: 3

Semester Offered: F/S

CSC 141 Windows Client Operating Systems

This course provides the student with an introduction to Microsoft client or desktop operating systems. Hands-on activities in the laboratory closely parallel classroom discussion to give the student practical experience with the use and management of multiple desktop operating systems, both legacy and current. Topics include operating system installation and configuration, file systems, resource management, user management, and security. This course focuses on current Microsoft desktop operating systems and teaches subject-matter corresponding to the current Microsoft Solutions Associate certification examination.

Credits: 4

Semester Offered: F/S/SU

Please Note: Three hours lecture, three hours laboratory

CSC 201 Systems Programming and Scripting

This course provides an introduction to writing programs for use by operating systems. Students examine scripting within both Windows and Linux. Topics include command line operating system syntax, basic rules of scripting, examination of tools used for script creation, and creating scripts using both command line and graphical user interface tools.

Credits: 3

Semester Offered: F/S

Prerequisites: CSC 141

Corequisites: CST 245

CSC 208 Introduction to Architecture and Assembly Language

This course presents computers from the circuit level to higher levels of abstraction. Students work from logical gates, digital circuits, and memory, through the execution model, machine and assembly languages, and the interaction with high-level languages. Topics

include the organization of computers, number representatives, assembly language instruction sets and addressing modes, procedure calling and the stack, low-level input/output, and linkers and loaders. Students write and debug programs in assembly language.

Credits: 4

Semester Offered: F/S/SU

Prerequisites: CSC 211

CSC 210 Storage Technologies

This course covers the information needed to plan, design, manage, and use storage technology infrastructure for information management in an enterprise environment. Students learn information availability and management theories commonly used in business today, including backup, recover, and replication. Through hands-on activities, students implement solutions using modern storage subsystems such as Direct Attached Storage (DAS), Storage Attached Networks (SANs), Network Attached Storage (NAS), and Content Addressed Storage (CAS). This course contains subject-matter consistent with topics in EMC's Storage Technologist and CompTIA's Storage+ exams. Note: Some of the products and technologies discussed in this course are subject to federal government restrictions on exports from the U.S. Accordingly, all students registered for this course shall be subject to review under the "Denied Persons List" maintained by the U.S. Department of Commerce's Bureau of Industry and Security in order to determine their eligibility to receive U.S. goods and technology information.

Credits: 3

Semester Offered: S/SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

CSC 211 Programming with Data Structures

This course introduces data structures using object-oriented programming techniques and basic algorithm analysis. It covers basic structures such as lists, queues, and stack; binary trees and balanced trees; hash tables and priority queues; and set and graph representation. Students use algorithms to survey and apply recursion techniques; apply common sorting and searching algorithms such as Quicksort; graph traversal algorithms such as Floyd's and Dijkstra's; and explore depth-first traversals, divide and conquer, backtracking, and greedy algorithms. Students develop and test a variety of programs in the languages chosen for the course.

Credits: 4

Semester Offered: F/S/SU

Prerequisites: CSC 107 or CSC 109 or CIS 225

CSC 212 Introduction to Software Engineering

The progression of software engineering topics

from the previous computer science courses conclude in CSC 212, where students are asked to step beyond the programmer role and take a broader view of software development; to consider its lifecycle from problem description to maintenance. Students first practice with analysis and design of medium-sized systems. Standard modeling tools are introduced and the students complete the phases of analysis, design, implementation and testing of a medium-sized team project that includes documents such as UML diagrams or CRC cards in addition to test plans. The software engineering topics are integrated with professionalism and ethics, as well as software and information assurance topics, such as security concerns and liabilities of computer-based systems.

Credits: 4

Semester Offered: F/S/SU

Prerequisites: CSC 211

Please Note: Four hours lecture

CSC 221 C++ For Scientists & Engineers

This is a course in computer architecture and programming. Course topics include the fundamentals of software engineering; the computation of the engineering problem and selection of the appropriate algorithm; the relationship between analysis, design, coding and testing; programming algorithm, modularity, functions, constants; data structures, (such as records, lists, and trees) arithmetic operations and variables, accumulating, counting, and formatting output; mathematical library functions; relational expressions; logical operators, loops, solution of simultaneous linear equations; root finding; fixed increment iterations; numerical integration; rectangular approximations and trapezoidal approximations; Simpson's method; pointers and character strings are covered in this course.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: MAT 124

Corequisites: MAT 233 recommended

CSC 233 Computer Hardware and Support

This course is a comprehensive study of the topics students need to learn in order to service, maintain, upgrade, and optimize computer systems' hardware and related devices. Students perform hands-on laboratory projects utilizing servers, personal computers, laptops, tablets, and embedded systems. This course presents students with subject-matter corresponding to the CompTIA's A+ 220-801 certification examination.

Credits: 4

Semester Offered: F/S/SU

Corequisites: CSC 141

Please Note: Three hours lecture, three hours laboratory

CSC 234 Networking Technologies

This course presents students with information needed to install, configure and troubleshoot

local area networks (LANs). Students are also introduced to wide area networks (WANs) methods and technologies. Students will learn the basics of telecommunications, home and enterprise networking technologies, wireless networking technologies, protocols of data communications, LAN cabling, and internetworking. This course presents subject-matter contained within the CompTIA's Network+ certification examination.

Credits: 4

Semester Offered: F/S/SU

Corequisites: CSC 141

Please Note: Three hours lecture, three hours laboratory

CSC 241 Windows Server Operating Systems

This course introduces students to current Microsoft Windows server operating systems and the techniques utilized to network computers with Windows client and server operating systems. Topics covered include establishing a user environment including permissions and rights, print servers, files system management, and advance configuration and connectivity. Students use hands-on projects and project cases to emphasize what is covered in the lecture. This course presents subject-matter contained in the Microsoft Certified Solutions Associate examination in the area of the current Microsoft server operating system.

Credits: 3

Semester Offered: F/SU

Prerequisites: CSC 141

Please Note: Two hours lecture, three hours laboratory

Computer Systems Engineering Technology

CST 205 IT Security Foundations

This course provides students with knowledge of the basic information security goals of availability, integrity, accuracy, and confidentiality. Vocabulary and terminology specific to the field of information security are discussed. Detection of exposures and vulnerabilities with their appropriate countermeasures, planning, and administrative controls are also discussed. Students become competent in the five areas of security, including general security, communications security, infrastructure security, cryptography, and operational/organizational security. This course presents subject-matter contained within CompTIA's Security+ exam.

Credits: 3

Semester Offered: S/SU

Prerequisites: CSC 141, CSC 234

CST 206 Computer Forensics

This course provides students with an introduction to computer forensics and investigation. Students are presented with

methods to properly conduct computer forensics investigations beginning with an understanding of ethics through identification of tools and techniques to prevent, identify, and/or analyze computer crime. Students are presented with subject-matter contained within the Certified Forensic Computer Examiner (CFCE) certification offered by the International Association of Computer Investigative Specialists (IACIS) organization.

Credits: 3

Semester Offered: F/S

Prerequisites: CSC 141

CST 207 Telecommunications in Business

This course provides students with the key technical and business strategies needed to leverage telecommunications technologies effectively in the business enterprise today. This course covers the principles of implementing and managing secure integrated voice, video, and data for a converged network solution, as well as providing an understanding of the importance of the convergence of voice and data in today's enterprise. This course introduces voice technologies including VOIP, IVR, phone systems, and call center management; reviews video technologies including IPTV and video conferencing; and explores the implementation of LAN and WAN-based technologies including circuit and packet-switched networks. Students are presented with subject-matter contained within the CompTIA's Convergence Technologies Professional (CTP+) certification exam.

Credits: 3

Semester Offered: F/S

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

CST 208 Security Threats, Vulnerabilities & Countermeasures

This course presents a modern and relevant introduction to information systems security and will present approaches security professionals use to identify the people or things that may cause harm, identification of vulnerabilities and the countermeasures that can be deployed to reduce the probability and likelihood of a successful attack against information systems.

Credits: 3

Semester Offered: S

Prerequisites: CSC 141

CST 231 Internetworking Principles and Protocols

This course presents a detailed overview of the implementation of the Transmission Control Protocol/Internet Protocol (TCP/IP) suite. It prepares students with the necessary concepts and skills needed to configure, manage, and troubleshoot the TCP/IP environment. Upon completion of the course, students are able to configure TCP/IP clients and resources, configure and manage TCP/IP services, and troubleshoot network problems using TCP/IP utilities.

Credits: 3

Semester Offered: F/S

Corequisites: CSC 234

Please Note: Two hours lecture, three hours laboratory

CST 235 Network Infrastructure Management

This course represents the concepts and technologies employed to manage computer networks. It has a technical focus, employing the latest techniques in the disciplines of Network Management to provide a central solution to managing distributed Network Resources. Students design, document, and plan the implementation of a complex network environment including security, configure/use network management systems to control and troubleshoot networking equipment, and configure and use software to maintain and troubleshoot remote computer systems and resources from a central command center.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: CSC 234

Corequisites: CST 231

Please Note: Two hours lecture, three hours laboratory

CST 238 Enterprise Networking and Application Infrastructure

This course covers the many things that turn a Local Area Network (LAN) into an Enterprise Network. The focus is on the interconnectivity between multiple operating systems, services, and applications commonly deployed in business and industry today. Current trends are further illustrated with the current technology and network operating systems in wide use today.

Credits: 3

Semester Offered: S/SU

Corequisites: CSC 241

Please Note: Two hours lecture, three hours laboratory

CST 240 Routing Technologies

This course provides students with a foundation in, and apprentice knowledge of, network routing for the small to medium office and home office environment. Students gain skills necessary to install, configure, and operate LAN, WAN, and dial access services for small to medium networks, including but not limited to use of these protocols: IP, IGRP, IPX, Serial, AppleTalk, Frame Relay, IP RIP, VLANs, RIP, Ethernet and Access Lists. This course presents student with subject-matter contained within the Cisco Certified Network Associate (CCNA) certification examination.

Credits: 3

Semester Offered: F/S

Corequisites: CST 231

Please Note: Two hours lecture, three hours laboratory

CST 245 UNIX Operating Systems I

This course provides students with a strong foundation in UNIX operating systems. Students explore the implementation of UNIX in a networked environment as a file/print server in an end-user environment and also as a special-purpose server, such as Web, e-mail, and database servers. Topics include installation and rebuilding of the operating system kernel, configuration, system administration and maintenance, and troubleshooting. This course presents subject-matter contained within the CompTIA's Linux+ certification exams.

Credits: 4

Semester Offered: F/S/SU

Corequisites: CSC 141

Please Note: Three hours lecture, three hours laboratory

CST 246 UNIX Operating Systems II

This course provides students with the knowledge to implement and maintain UNIX-based server technologies. Students install server-based Linux and those packages required to support Linux clients. Server components are discussed and then implemented by students and include: DNS, DHCP, NIS, NFS, and SAMBA. Students explore configuration of log files, remote access, task automation, security, and virtualization. After completing this course students have the required knowledge to sit for the Red Hat Certified System Administrator/Engineer (EX200 and EX300).

Credits: 3

Semester Offered: F/S/SU

Prerequisites: CST 245

Please Note: Two hours lecture, three hours laboratory

CST 250 Web Server Administration

This course is one of three in a series developed to introduce students to the growing complexities of network and application administration in today's enterprise computing environments. This course focuses on Web Servers, emphasizing IT best practices, and providing practical knowledge on how to administer Web Servers in a Windows and Linux environment. Students learn the differences between two common Web Server architectures and environments, Microsoft IIS, and Apache, and learn the basics of using Web Server management consoles and command lines to package and deploy web sites in both environments. Topics such as IIS Manager, Virtual Directories, Web Activation Service, and FTP are examined.

Credits: 1

Semester Offered: S

Prerequisites: CST 245 or CSC 141

CST 251 SQL Server Administration

This course is one of three in a series developed to introduce students to the growing complexities of network and application administration in today's enterprise computing

environments. This course focuses on SQL Server, emphasizing practical knowledge on how to administer SQL Server in a Windows environment. Students learn the basics of Relational Database Management Systems along with an overview of products on the market today. Students are introduced to installing and configuring SQL Databases, creating database tables and indices, and accessing data using SQL commands such as SELECT, UPDATE, DELETE, JOIN, and stored procedures. Topics related to administering a Microsoft SQL Server installation is also covered, including SQL Server Management Studio, security considerations, and performance management.

Credits: 1

Semester Offered: S

Prerequisites: CSC 141

CST 252 Exchange Server Administration

This course is one of three in a series developed to introduce students to the growing complexities of network and application administration in today's enterprise computing environments. This course focuses on Exchange Server, emphasizing practical knowledge on how to administer an Exchange Server in a Windows environment. Students learn the basics of installing and deploying Exchange, its integration with Active Directory, using the Exchange Management shell, user and contact administration, mailbox management, and enterprise considerations such as security, backup and recovery strategies, and secure mobile access.

Credits: 1

Semester Offered: S

Prerequisites: CSC 241

CST 253 Lync Server Administration

This course, one of five in a series, introduces students to the growing complexities of network and application administration in today's enterprise computing environments. This course focuses on Lync and other unified communication technologies, emphasizing IT best practices, and providing practical knowledge on how to administer Lync in a modern Windows environment. Students explore important Lync communication protocols (SIP), plan a deployment, and install an on-premise and cloud-based version of the software. Topics such as Lync client configuration (and mobile client setup), Lync integration with Exchange and SharePoint, Persistent Chat, Topology planning, security considerations, and user management are covered.

Credits: 1

Semester Offered: S

Prerequisites: CSC 141, CSC 234

Corequisites: CST 231

CST 254 SharePoint Server Administration

This course, one of five in a series, introduces

students to the growing complexities of network and application administration in today's enterprise computing environments. This course focuses on SharePoint and other collaborative technologies, emphasizing IT best practices, and providing practical knowledge on how to administer SharePoint in a modern Windows environment. Students explore the information architecture of SharePoint, plan a deployment, and install an on-premise and cloud-based version of the software. Students explore topics such as SharePoint metadata, SharePoint sites, and SharePoint governance.

Credits: 1

Semester Offered: S

Prerequisites: CSC 141

CST 260 Enterprise Network Convergence

This course provides students with the key technical knowledge needed to plan, configure, and verify the implementation of complex enterprise switching solutions. Students explore the principles of managing secure converged data over local area networks, including both physical and protocol options commonly used in business today. Students implement these technologies using Cisco products and sample solutions. At the end of the course, students prepare to sit for Cisco's CCNP Implementing IP Switched Networks (SWITCH) exam.

Credits: 3

Semester Offered: S

Prerequisites: CST 240, CST 207

CST 265 Wide Area Networks

This course provides students with the key technical and business strategies needed to engineer and troubleshoot wide area network (WAN) technologies effectively in the business enterprise today. Students explore the principles of implementing and managing converged data in a secure manner over WANs, including both physical and protocol options commonly used in business today. Students implement these WAN technologies using Cisco products and examples. At the end of the course, students prepare to sit for Cisco's CCNP Implementing IP Routing (ROUTE) exam.

Credits: 3

Semester Offered: F

Prerequisites: CST 240

CST 299 Cooperative Work Experience & Seminar

This course provides students with a structured learning experience, in which they apply classroom theory to a practical work experience. The seminar provides opportunities for students to exchange feedback about their work experience. The number of credits earned is determined by the number of weeks and hours per week required by the cooperative work experience and the objectives of the student's learning contract.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: Approval of Program Coordinator

Criminal Justice

CRJ 101 Introduction to Criminal Justice

This course covers the philosophies and historical background of the American criminal justice system. Students discuss the organization, operation, and processes of the components of the justice system: police, courts, and corrections. Students study the nature of crime, the characteristics of criminals and victims, and several contemporary issues confronting each part of the system, such as the use of force by the police, changes in sentencing practices, and the growth in the prison population.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 091 with a grade of "C" or higher; or appropriate placement score

CRJ 102 Terrorism and Homeland Security

This course covers the fundamentals of preparing an organization and community for terrorism in the 21st century. Areas of study include the concept of threat assessment, prevention, mitigation, and response. Students learn about crisis and consequence management, and the methods used to plan for and respond to domestic terrorist incidents involving nuclear, biological, or chemical weapons of mass destruction as it relates to Homeland Security.

Credits: 3

Semester Offered: F/S/SU

CRJ 110 Multicultural Diversity in Criminal Justice

This course examines multicultural issues and social problems relating to the implementation of justice in a culturally diverse society. Students explore and discuss issues such as hate crimes, immigration and refugees in the United States, racial profiling, multicultural issues related to terrorism, homeland security, disaster preparedness, gangs, the homeless, and the mentally ill.

Credits: 3

Semester Offered: F/S

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

CRJ 111 Criminal Law

This course examines the American court system from the perspective of the various ways in which antisocial or criminal behavior is stemmed or prevented by this formal mechanism of social control. Areas of study include common law, morality, decency, crimes against persons and property, and the history of several landmark cases. Students learn the statutory definitions of crime, the importance of constitutional

proscriptions, and the motivations and origins of criminal behavior.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

CRJ 113 Constitutional Law

This course focuses on the Bill of Rights; the Due Process clause of the Fourteenth Amendment; and, the laws of arrest, search and seizure, right to counsel, self-incrimination, and entrapment. Areas of study include judicial interpretations, civil rights, and individual liberties. Students learn the constitutional framework for criminal justice procedures and policies. The course provides a basis for understanding the principles and reasons on which the U.S. Constitution is based and the application of U.S. Supreme Court decisions.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

CRJ 123 Contemporary Corrections

This course examines the history, philosophy, and components of the American corrections system. Areas of study include the origins of correctional systems in the U.S. and the development of the major programs that make up the correctional system - jails, probation, intermediate punishments, prisons, and parole. Students learn about life in prison, the management of correctional programs, the increases in imprisonment over the last two decades, rehabilitation, and controversial issues such as the death penalty.

Credits: 3

Semester Offered: S

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

CRJ 141 Introduction to Private Security

This course emphasizes the role and services the security function provides. Students learn about the concepts, origins, and development of security systems. Areas of study include physical/facility security, loss prevention, risk assessment, disaster management, terrorism, and fraud. Students examine workplace violence, transportation security, hazard analysis, cybercrime, and white-collar crime in relation to private security issues.

Credits: 3

Semester Offered: F/S

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

CRJ 207 Criminal Investigation

This course covers the fundamentals of

investigation. Students learn the duties and responsibilities of an investigator, interview and interrogation techniques, search methods, techniques of protecting a crime scene, and the collection and preservation of evidence. Areas of study include the modus operandi system, scientific aids, electronic information gathering systems, court preparation, and case follow-up. Students learn the basics of technical writing as it applies to criminal investigation.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 101

CRJ 208 Technologies in Criminal Justice

This course examines the application of developing technologies in the field of criminal justice. Students learn forensic science techniques, computer applications for disasters and emergencies, record management systems, crime mapping, and automated fingerprint identification systems. The course also covers computerized booking systems, integrated criminal justice information systems, less than lethal weapons, and "interoperable" wireless communications. Students explore the relationships of these new technologies and how they influence changes in criminal justice agency policy and procedure.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

CRJ 211 Evidence & Court Procedure

This course examines the adjudication process and the influence of both case law and established practices of the courts. Areas of study include due process; evidentiary rules; burden of proof; hearsay; and offender, victim, and witness recall. Students learn the relevance of constitutional law to the adjudication process and examine the processing of a real case to understand the strengths and weaknesses of the current judicial process.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 101

CRJ 213 Criminology

This course focuses on various criminological theories. Areas of study include early explanations of criminal behavior and their modern counterparts. Areas of study include an overview of criminological theories regarding various types of violent crimes, property crimes, business and government crimes, drug-related crimes, and fraud-related crimes. Students learn these basic theories and their relationship to criminal investigations.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

CRJ 215 Wrongful Convictions

This course examines wrongful convictions from a broadly interdisciplinary perspective. This course will consider the scope and causes, the process of exonerations, and the legal, political and social responses and implications of wrongful convictions on the U.S. Justice System as a whole. Areas of study include eyewitness misidentification, unvalidated forensic science, false confessions, police and prosecutorial misconduct, ineffective assistance, and snitch/informant testimony.

Credits: 3

Prerequisites: ENG 101 or appropriate placement score

CRJ 221 Probation & Parole in the Criminal Justice System

This course focuses on the theories and practice of probation and parole. Areas of study include recidivism, responses of paroling authorities to public pressures, and court controls and their implications for rehabilitative efforts. Students learn about the efforts to create alternatives to incarceration. Among the methods considered is the feasibility and effectiveness of reintroducing individuals into communities as part of their treatment while they are still under sentence. Other new programs used in crime control strategies are also explored.

Credits: 3

Semester Offered: S

CRJ 231 Introduction to Policing

This course focuses on the philosophy and history of policing, limitations imposed on law enforcement in a democratic society in accordance with the Constitution; and the role and place of law enforcement in the total criminal justice process. Students study law enforcement agencies; examine the current challenges facing the contemporary police officer and practical police problems. Areas of study include homeland security, community policing, and crime control concepts. Students will be expected to demonstrate mastery of these areas before proceeding to more advanced coursework in the curriculum.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 091 with a grade of "C" or higher; or appropriate placement score

Dental Assisting**DAS 101 Clinical Science I**

This course covers terminology and procedures performed in a general dental office. Students learn oral diagnosis, treatment of dental disease, management of medical emergencies, and dental therapeutics.

Credits: 3

Semester Offered: F

Corequisites: BIO 100, DAS 151

DAS 102 Dental Sciences

This course provides knowledge and understanding of the development, form and function of the structures of the head and neck and oral cavity including dental anatomy of the teeth, histology and embryology of the teeth and periodontium, and the embryonic development of the face and teeth in order to understand the rationale behind the performance of general dentistry procedures.

Credits: 3

Semester Offered: F

Prerequisites: DAS students only

Corequisites: DAS 101

DAS 105 Clinical Science II

This course explores the concepts of preventive dentistry, patient education and motivation, and dental specialties. Topics include dietary considerations for the dental patient; the psychology of human behavior as it relates to working and communicating with patients, other dental personnel, and society; and, restorative dentistry equipment and methods. Students prepare for the DANB CDA examination through a review of chairside materials, laboratory materials, and procedures.

Credits: 4

Semester Offered: S

Prerequisites: DAS 101

DAS 111 Practice Management

This course introduces students to office principles including reception techniques, appointment control, third-party billing, financial records, and manual and computerized accounting procedures. Students learn the basics of Microsoft Windows®, Word®, and PowerPoint®. Students learn effective oral communication through presentations on selected topics. Students prepare for employment through study of interviewing skills and creation of a resume.

Credits: 3

Semester Offered: S

DAS 124 Introduction to Oral Pathology

This course is an introduction to the etiology, incidence, and disease process of common oral and dental pathological conditions. Students gain familiarity with diseases of the teeth and supporting structures, developmental disturbances of the oral cavity, and neoplasms; and, distinguish normal from abnormal tissue.

Credits: 1

Semester Offered: S

Prerequisites: DAS students only

DAS 151 Dental Assisting I

This course prepares students to provide chairside assistance to the dentist in all phases of general and specialty dentistry. Topics include principles of four-handed dentistry, instrument use and identification, exposure control, OSHA regulations, and

hazard control recommendations. Students explore dental ethics, jurisprudence, and manipulation of chairside intraoral materials. Students gain a familiarity with a professional dental setting through a 36-hour externship in a local dental office.

Credits: 4

Semester Offered: F

Corequisites: DAS 101

DAS 153 Dental Assisting Clinical Practicum

In the setting of a general dental office 60 hours rotation, students apply the skills and knowledge acquired in the classroom by competently performing dental assisting functions including participating in four-handed chairside techniques and related dental assisting procedures. Students are responsible for recruiting patients to participate in full-mouth radiographic series.

Credits: 2

Semester Offered: IN

Prerequisites: BIO 100, DAS 101, DAS 151, DHY 131

DAS 155 Dental Assisting II

In the setting of general and specialty dental office rotations, students apply the skills and knowledge acquired in the classroom by competently performing dental assisting functions including participating in four-handed chairside techniques and related dental assisting procedures. A minimum of 200 externship hours is required. Students must attend weekly seminars to discuss extern issues and topics related to the practice of dentistry. The course also provides a review for the DANB CDA examination.

Credits: 6

Semester Offered: S

Prerequisites: DAS 153

DAS 299 Dental Externship

Students apply classroom knowledge to a practical work experience. Students share learning experiences through a bi-weekly seminar conducted in conjunction with a 120-hour externship. Students prepare objectives for their work experience as part of a learning contract and portfolio.

Credits: 3

Semester Offered: S

Prerequisites: BSS 111, BSS 112

Dental Hygiene**DHY 111 Dental Hygiene Process I**

In this fundamental course, students are introduced to the dental hygiene process of care through lecture and laboratory sessions. The theoretical concepts presented in this lecture are expanded upon and applied in the laboratory setting. Emphasis is placed on patient assessment in the dental hygiene process of

care, including: disease transmission theory and regulatory guidelines, infection control practices, medical histories, vital signs assessment, intra and extra oral examination, soft and hard deposits, caries theory, removal of extrinsic stains/biofilm, dentifrices and mouth rinses, and the develop of basis instrumentation skills. Skills are developed through practice on mannequins and student partners.

Credits: 4

Semester Offered: F

Prerequisites: BIO 112, CHM 101, DHY 125

DHY 112 Dental Hygiene Process II

This course continues theoretical preparation in the dental hygiene process of care. Emphasis is on the action and administration of fluorides, caries prevention, prevention and management of medical emergencies including medicolegal implications, dental hygiene care planning, introduction to ultrasonic instrumentation, health promotion, and care of special needs clients. In the clinical setting, emphasis is on patient assessment, care planning, patient education, basic hand and ultrasonic instrumentation, care of oral appliances and application of caries preventive agents. Students are expected to use critical thinking and problem solving skills when planning and implementing patient care. A weekly one-hour Service-Learning component integrates with the academic experience.

Credits: 5

Semester Offered: S

Prerequisites: BIO 112, CHM 101, DHY 111, DHY 131

Corequisites: DHY 250

DHY 113 Dental Hygiene Process Summer Clinic

This course continues preparation in the dental hygiene process of care and emphasizes developing and refining hand and ultrasonic instrumentation skills, medical emergency drills, protocol for dietary counseling, intraoral photography and an introduction to supportive periodontal treatment. Students demonstrate their understanding of the dental hygiene process of care in implementation and evaluation using critical thinking, problem solving and sound judgment in providing direct patient care in supervised clinical sessions.

Credits: 1

Semester Offered: SU

Prerequisites: DHY 112, DHY 250

DHY 116 Practice Management for the Dental Hygienist

This course introduces students to the duties related to dental practice management administrative functions and to dental office software, as it relates to the provision of clinical services used in the day-to-day operations in a dental setting. Students learn interpersonal and communication skills as well as basic computer skills to utilize dental practice management

software for basic office procedures.

Credits: 1

Semester Offered: IN

Prerequisites: DHY 111

DHY 121 Anatomy of the Head & Neck

This course provides a theoretical and practical study of the anatomy of the head and neck. Students apply this foundational knowledge of anatomical principals and concepts to dental hygiene practice and the provision of comprehensive dental hygiene care. Students will gain in depth knowledge in head and neck anatomy including: anatomical nomenclature, identification of dento-osseous structures, location and function of muscles, nerves, lymphatics, glandular tissues, blood supply and the anatomy involved in the administration of local anesthesia.

Credits: 2

Semester Offered: F

Prerequisites: Admission to Dental Assisting or Dental Hygiene program

DHY 123 Oral Histology & Embryology

The student will study the microscopic anatomy of the oral tissues. Oral structure and its embryonic development and function will be presented. The student will gain knowledge in the cellular structure and embryonic development of the head, face, and oral cavity.

Credits: 2

Semester Offered: F

DHY 124 Periodontology

This course provides a gross and microscopic study of the anatomy and physiology of the supporting structures of the teeth. The student will gain theoretical and practical knowledge in the etiology, the classification, and principles of examination and treatment of periodontal disease. An ability to recognize normal versus abnormal states of periodontium tissues is an expected learner outcome.

Credits: 2

Semester Offered: S

DHY 125 Dental Anatomy

This course examines the anatomy and morphology of the human permanent and primary dentitions. The student will gain a theoretical and practical knowledge of tooth anatomy and relate those anatomical principles to the dental hygiene process of clinical care. The student will identify the anatomy of the human teeth.

Credits: 1

Semester Offered: SU

DHY 126 Oral Pathology

The student is introduced to the basic principles and process of pathology. Emphasized are the disease process, pathology of the oral cavity, and their relationship to caring for the total

patient. The student is expected to recognize visually normal and abnormal tissue and gain a theoretical and practical knowledge of diseases of the teeth and supporting structures and developmental disturbances of the oral cavity and neoplasms.

Credits: 2

Semester Offered: S

DHY 131 Dental Radiology

This course provides an introduction to the history of dental radiology, radiation hazards and protection, and the production and control of the dental x-ray beam. Classroom and laboratory instruction in x-ray exposure and processing techniques, as well as interpretation of dental x-rays, are designed to prepare the student for future clinical x-ray experience.

Credits: 3

Semester Offered: F

DHY 150 Local Anesthesia for the Dental Hygienist

This course provides the dental hygiene student with the essential skills and knowledge necessary to deliver safe and effective administration of local anesthetics for pain control. Through lectures and clinical experience, students learn to select appropriate anesthetic agents for each patient, select and prepare local anesthetic equipment, locate anatomical landmarks for each injection site and provide comfortable and safe maxillary and mandibular injections. Emphasis is placed on prevention, recognition and management of complications associated with local anesthetic administration. Students serve as patients for each other during laboratory sessions.

Credits: 2

Semester Offered: S

Prerequisites: BIO 111, CHM 101, DHY 111, DHY 121, DHY 125, DHY 131

Corequisites: BIO 112, DHY 112

DHY 201 Health Promotion

This course examines the role of the dental hygiene professional in the promotion of patient-client health and well-being and in the prevention of disease. The multiple dimensions of health will be integrated with theories, principles, and processes of teaching and learning, communication, motivation and strategies for behavior change. Particular patient populations with unique health promotion needs are also presented. The learner will gain an overview of holistic nature of health and the importance of patient-provider relationships.

Credits: 2

Semester Offered: F

DHY 202 Dental Ethics, Jurisprudence & Professional Issues

This course explores the ethical and legal obligations of the Dental Hygiene professional. Content will include the major ethical theories

applied in healthcare, the ethical code of the Dental Hygiene profession, and the resolution of ethical dilemma. The learner will become familiar with the legal regulation of their profession including practice acts, licensure, risk management, and quality assurance. A component of the course experience is devoted to preparing for dental hygiene employment and includes current professional issues, preparation of a resume, participation in employment interviews and selecting a career position.

Credits: 2

Semester Offered: S

DHY 211 Dental Hygiene Process III

This course continues the preparation in the dental hygiene process of care and emphasizes the theory of implementation of care for periodontally involved patients including advanced periodontal instrumentation, and the use of chemotherapeutic agents. Students evaluate dental hygiene care through case study applications. This course emphasizes the student demonstrating understanding of dental hygiene implementation and evaluation using critical thinking, problem solving, professional demeanor and sound judgment in providing direct patient care in supervised clinical sessions.

Credits: 5

Semester Offered: F

Prerequisites: BIO 112, DHY 113

DHY 212 Dental Hygiene Process IV

This clinical theory course emphasizes the various dental specialties including but not limited to: General, Orthodontics, Pediatric Dentistry, Endodontics, Periodontics and Oral surgery practice. Lectures provided by dental specialists highlight the role of the dental hygienist in each area. The clinical component emphasizes mastering the delivery of the dental hygiene process of care while demonstrating independent decision making, sound judgment, and critical thinking and problem solving skills. The course emphasizes the treatment of periodontally involved patients requiring advanced instrumentation skills. Service-learning externships include oral health promotion and provision of services to specific target populations in the community.

Credits: 6

Semester Offered: S

Prerequisites: DHY 211

DHY 231 Dental Pharmacology

This course studies the basic principles of pharmacology and anesthesiology and applies this knowledge to the treatment of patients. The student will gain knowledge of drugs, drug actions, and the efficacy of both those drugs used in dentistry and those impacting on the treatment of patients. The course content will include the physical and chemical properties, preparations, mode of administration, and effect on body systems, as well as reference to medical emergencies associated with dental treatment.

Credits: 2

Semester Offered: F

DHY 241 Dental Materials

This course studies the physical properties of dental materials encompassing principles of various materials, composition, and uses. The student will be introduced to a variety of dental materials in the classroom and laboratory settings. Emphasis is placed on the rationale for use of particular materials, selection criteria for various manipulative techniques of materials, and the importance of knowledge of materials for the dental hygienist and how these affect his/her responsibility in a clinical setting.

Credits: 2

Semester Offered: F

DHY 243 Dental Public Health

This course introduces dental public health and community dentistry. Emphasis is placed on the dental care delivery system, public health methodology, scientific evaluation, health care financing, and patient groups being served. The student will utilize classroom presentation and discussion, outside research, library assignments, and community experiences to become familiar with this aspect of the healthcare delivery system.

Credits: 2

Semester Offered: S

DHY 250 Nutrition in Oral and Systemic Health

The course provides an overview of the function and food sources of extreme essential to systemic and oral health with an emphasis on the role of nutrients in the development and maintenance of the oral tissues throughout the life cycle. Attention is given to specific life cycle nutrition and health issues that may impact oral health.

Credits: 2

Semester Offered: S

Prerequisites: BIO 112

Corequisites: DHY 112

Early Childhood Education

ECE 101 Introduction to Early Childhood Education

This course is an introduction to early childhood education. Students study the history and contributing theories of the field and the basic aspects important to quality programs for young children. Course content includes studies of child development, the types of programs available; qualifications for teachers and staff; state regulations monitoring programs, state Guidance Policy, the Massachusetts Early Childhood Standards; career opportunities; special education considerations, and current issues in early childhood education. During a 10-hour field experience students make observations in the Quinsigamond Children's School and focus on guidance practices; children's play; integrated curriculum practices; transitions and routines; and appropriate methods for addressing special needs of young children.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 096 with a grade of "C" or higher; or appropriate placement score

ECE 102 Growth & Development of the Young Child

Students study the dynamics of child growth and development from birth to 14 years of age, thereby acquiring a complete view of the development of a healthy personality in the child. Students also identify rates and patterns of growth in young children. They also develop an understanding of the implications for creating healthy environments for children, individually and in groups. Discussion of special needs will be addressed throughout the course. Students observe infants, toddlers, preschool children and interview school age children. The focus of these observations includes applying developmental theory to the behaviors observed and to interpret the behaviors according to theories covered in this course.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 096 with a grade of "C" or higher; or appropriate placement score

ECE 103 Health, Safety & Nutrition in Programs for Young Children

This course examines the role of the early childhood educator in providing physical safety, health requirements, and proper nutrition for young children, with emphasis on their emotional and physical well being.

Credits: 3

Semester Offered: F

Prerequisites: ENG 096 with a grade of "C" or higher; or appropriate placement score

ECE 105 Understanding Applied Behavior Analysis

This course examines the definition, characteristics, basic frameworks, and theory of applied behavior analysis (ABA). Students review the history and foundations of applied behavioral analysis. Students also explore targeted areas of clinical intervention and educational intervention. Students learn to identify the differences in behaviorism, the experimental analysis of behavior, and applied behavioral analysis within the context of an educational environment. Students focus on information that emphasizes the relationship between the field of applied behavior analysis and the education of children.

Credits: 3

Semester Offered: F/S

Prerequisites: ENG 096 with a grade of "C" or higher; or appropriate placement score

ECE 112 Family Issues & Dynamics

This course focuses on the family life cycle, economics, family interactions and patterns,

and family diversity; and, the course examines the effect these variables have on children's growth and development. Students relate these variables to their own personal family history and then examine this information in order to support children and families in school settings.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 096 with a grade of "C" or higher; or appropriate placement score

ECE 113 Curriculum Planning for School Age Children

This course emphasizes the curriculum planning process for programs serving school age children outside of the classroom. Students observe children and plan developmentally appropriate curriculum plans to address the social, emotional, physical, and intellectual needs of children. Curriculum plans include children's hobbies, games, art experiences, creative dramatics, music, conflict resolution, career exploration, and study skill development. Students also develop plans for cultural and linguistic diversity and explore strategies for including families in the program.

Credits: 3

Semester Offered: S

Prerequisites: ENG 096 with a grade of "C" or higher; or appropriate placement score

ECE 123 Fieldwork with Infants and Toddlers (Observation and Experience)

Students spend the first part of this course observing infants and toddlers to become familiar with the growth and developmental stages of these children. Specific observations cover the physical, social, cognitive and emotional needs of infants and toddlers. The impact of the caregiver's ability to nurture, support and encourage and set limits is also considered. Students, under the supervision of a licensed infant/toddler teacher take part in the in the daily routines, interact with the children and build competencies necessary to become a competent infant/toddler teacher.

Credits: 3

Semester Offered: S

Prerequisites: ENG 096 with a grade of "C" or higher; or appropriate placement score

ECE 131 Planning Programs for Young Children

This course examines ways to work with young children to support growth and development for the whole child (physically, cognitively, socially, and emotionally) from birth to age eight. Content includes the development of daily and long range curriculum plans and organization of learning centers within the classroom. Students discover ways to accommodate children's special needs and how to work with families and communities. The course reviews the value of play and the importance of cultural diversity. Students make connections between children's development and their learning experiences.

Credits: 3

Semester Offered: S

Prerequisites: ENG 096 with a grade of "C" or higher; or appropriate placement score

ECE 133 Developing a Multicultural Curriculum for Young Children

This course examines the importance of incorporating cultural diversity into early education and care programs by having students look at themselves, children, and families in relationship to race, culture, gender, and physical attributes. The course focuses on curriculum planning using multicultural/anti-bias materials and activities, and emphasizes techniques for empowering children through dialogue that is respectful of diversity.

Credits: 3

Semester Offered: S

Prerequisites: ENG 096 with a grade of "C" or higher; or appropriate placement score

ECE 141 Child Abuse & Neglect

This course covers families under stress and the causes of child abuse and neglect. The course examines laws, services, and programs that attempt to alleviate or prevent family dysfunction characterized by child mistreatment. Students identify signs of child abuse and neglect and learn their professional obligations with regard to working with families and reporting to authorities.

Credits: 3

Semester Offered: S

Prerequisites: ENG 096 with a grade of "C" or higher; or appropriate placement score

ECE 202 Fieldwork with Young Children I

This course provides onsite supervision and consultation for students who are developing skills and competencies as they work directly with young children in a school setting (ages 2.9-under seven years old and not yet enrolled in first grade). Early Childhood Education faculty observe and consult with students during this process. Students demonstrate and document competence in the following areas: setting up and maintaining a safe, healthy learning environment for children; providing positive guidance for children; implementing an age appropriate, culturally sensitive curricula; providing appropriate social experiences for young children; communicating and cooperating with team members appropriately; documenting self-growth over time; and demonstrating awareness of the total classroom at all times.

Credits: 3

Semester Offered: S

ECE 204 Fieldwork with School-Age Children

This course provides on-site supervision and consultation to students who work directly with school age children (ages 5-16) in before and after school settings. Students develop

individual learning contracts then demonstrate and document competencies necessary for working in quality after school programs. These competencies include skills in behavior management, curriculum development, understanding and support of children and families with special needs, knowledge of community resources and skills in supporting school transitions. In addition to the onsite observations and consultations, students attend group seminars to discuss information and share learning experiences.

Credits: 3

Semester Offered: S

Prerequisites: ENG 096 with a grade of "C" or higher; or appropriate placement score, ECE 102 or PSY 123

ECE 205 Applied Behavior Analysis Supervised Practicum

This course emphasizes practical classroom experience (150 hours) working with young children in the BCI ABA Center (Behavioral Concepts Inc. & Center for Applied Behavioral Instruction) and other approved private school settings under faculty supervision. Students examine competencies that include working as a team member; developing, implementing and evaluating appropriate applied behavioral strategies for young children. Students focus on demonstrating positive strategies and including strategies identified in the Registered Behavior Technician (RBT) task list; keeping children safe and healthy; and creating and maintaining a developmentally appropriate educational environment while maintaining a commitment to the profession of Applied Behavior Analysis and Early Care and Education.

Credits: 3

Semester Offered: F/S

Prerequisites: ECE 105 with a grade of "C" or higher

Restriction: Restricted to students accepted and enrolled in Technician in Applied Behavior Analysis Certificate

ECE 221 Infant & Toddler Curriculum and Development

This course examines the developmental stages of infants and toddlers. Using a holistic approach, students explore health and safety concerns, plans for stimulating learning experiences, and the design of indoor and outdoor environments specific to infants and toddlers. Students plan developmentally appropriate infant/toddler curricula and explain the connection between the physical environment and quality programs for infants and toddlers.

Credits: 3

Semester Offered: F

Prerequisites: ENG 096 with a grade of "C" or higher; or appropriate placement score

ECE 222 Infant/Toddler Curriculum: Application in the Field

This course examines the application of

learning experiences for infant and toddlers in the early childhood classroom. Students plan developmentally appropriate infant/toddler curricula and apply these plans in an infant/toddler setting. Students apply national and state guidelines to curriculum plans, the classroom environment, and their daily interactions with families and children. Students participate in field placement under the direct supervision of an EEC Licensed Infant-Toddler Lead Teacher and are observed within the classroom environment during that time.

Credits: 3

Prerequisites: ENG 096 with a grade of "C" or higher; or appropriate placement score

ECE 231 Curriculum for Young Children I

This course examines the value and functions of equipment, multicultural materials, and developmentally appropriate activities for young children. Students learn how to develop curriculum that promotes sensitivity toward diversity through hands on classroom activities using the Massachusetts Early Childhood Program Standard and Guidelines for Preschool Learning Experiences. Attention is given to special accommodations to meet the needs of all children. A professional portfolio is developed during this course.

Credits: 3

Semester Offered: F

Prerequisites: ENG 101, ECE 101, ECE 102 or PSY 123

Corequisites: ECE 251, ECE 253

ECE 232 Curriculum for Young Children II

This course focuses on curriculum planning that is developmentally appropriate for young children. Students create and design plans and physical space using the Massachusetts Early Childhood Program Standards and Preschool Learning Experiences as a guide. Students implement the plans in a classroom setting (ECE 254 Supervised Student Participation II), and address the effectiveness of their plans through observation and assessment procedures. Attention will be given to special accommodations to meet the needs of all children.

Credits: 3

Semester Offered: S

Prerequisites: ENG 101, ECE 231, ECE 251, ECE 253

Corequisites: ECE 252, ECE 254

ECE 238 Supervision, Coaching and Mentoring in Early Childhood Settings

This course covers the critical elements involved in on-site supervision, coaching and mentoring in early childhood settings. The course emphasizes observing, recording, and analyzing data, and giving constructive feedback to the classroom teacher. Students develop conference skills and interpersonal communication strategies, demonstrate team-building skills and sensitivity to cultural issues, and gain knowledge of

basic adult development. Students also write formative and summative evaluations.

Credits: 3

Semester Offered: F

Prerequisites: ENG 101

ECE 242 Young Children with Special Needs

This course explores ways of meeting the challenges of young children with special needs. Students study ways to construct and design environments to support children and their families. Students are introduced to evolving social policies and legislation supportive of young children with special needs and their families, and observe intervention programs for young children.

Credits: 3

Semester Offered: F/S

Prerequisites: ENG 096 with a grade of "C" or higher; or appropriate placement score, ECE 102 or PSY 123

ECE 243 Administration in Early Education and Care

This course covers the administration routines and activities in a variety of early care and education settings. Content includes program and staff management, community relationship skills, budgeting, staffing, and program development. Students review meeting standards and license requirements, encouraging parent participation, and fundraising. Students explore elements of supervision and policy formation.

Credits: 3

Semester Offered: F

Prerequisites: ECE 102 or PSY 123

ECE 244 Communication for Collaboration

This course emphasizes leadership skills needed for communication and collaboration within Early Childhood Education settings. Students examine adult development and individual style in relationship to leadership skills in early education settings. The role emotional intelligence plays in interpersonal dynamics and communication when working with staff and families is addressed.

Credits: 3

Semester Offered: S

Prerequisites: ECE 102 or PSY 123

ECE 245 Advocacy and Ethics for Social Justice in Early Care and Education

This course examines the critical role advocacy plays in early education and care. Students use the National Association for the Education of Young Children's Code of Ethics in their work to support advocacy for quality early childhood programs, and in addressing local/international issues for children and families.

Credits: 3

Semester Offered: S

Prerequisites: ECE 102 or PSY 123

ECE 246 Seminar and Field Experience: Leadership in Early Education and Care

This course examines students' field experiences in connection with leadership skills and competencies. Students select a focus competency directly related to the early childhood field experience and assume a leadership role working with staff and families. Seminar sessions support the students' self-examination of leadership competencies. Students demonstrate these specific leadership competencies in class and at the fieldwork placement. Skills required include reflective and analytical thinking, demonstration of logic, use of supportive interpersonal skills, clear written and oral communication and the ability to problem solve in group settings.

Credits: 3

Semester Offered: S

Prerequisites: ECE 102 or PSY 123

ECE 251 Integrating Theory and Practice I: Guidance of Young Children

This course covers major theories of Early Childhood Education and the Guides to Speech and Action developed by Katherine Baker. The implications of cultural, positive guidance practices as stated in the Department of Early Education and Care Child Guidance Policy, and the Massachusetts Early Childhood Program Standards and inclusion strategies compose the major focal area of this course. Students increase awareness of political and social issues that influence the lives of children, families, and the field of early education and care. Students observe young children throughout the course to identify positive guidance strategies, improve recording, observation and assessment skills.

Credits: 3

Semester Offered: F

Prerequisites: ENG 101, ECE 101, ECE 112, ECE 102 or PSY 123

Corequisites: ECE 231, ECE 253

ECE 252 Integrating Theory and Practice II: Observing, Recording and Authentic Assessment

This course focuses on observation, documentation and assessment of young children based on the developmental theories covered in ECE 251 Integrating Theory and Practice I: Guidance of Young Children. Students conduct extensive observations of young children in natural settings. Students record their observations and interpret the data. The course provides students with a working knowledge of young children with special needs, individual planning for inclusion, anti-bias strategies for inclusion and professional portfolio development.

Credits: 3

Semester Offered: S

Prerequisites: ECE 251

Corequisites: ECE 232, ECE 254

ECE 253 Supervised Student Participation I

This course provides students with practical experience (150 hours) working with young children in the Quinsigamond Children's Laboratory School and in a community school setting under faculty supervision. Competencies introduced include working as a team member; developing, implementing and evaluating appropriate activities for young children; demonstrating positive guidance strategies and including strategies identified in the Office of Child Care Services Guidance Policy; keeping children safe and healthy; and, creating and maintaining a developmentally appropriate inclusive learning environment.

Credits: 4

Semester Offered: F

Prerequisites: ENG 101, ECE 101, ECE 112, ECE 102 or PSY 123

Corequisites: ECE 231, ECE 251

ECE 254 Supervised Student Participation II

This course provides the students with an extended opportunity (150 hours) to relate theory to practice in the Quinsigamond Children's Laboratory School working under faculty supervision. Students act as lead teachers throughout the semester to observe children closely and use the Massachusetts Early Childhood Program Standards to plan, implement and evaluate curricula for young children. Students set up and maintain the total learning environment; provide appropriate guidance for young children and implement inclusion strategies as needed.

Credits: 4

Semester Offered: S

Prerequisites: ENG 101, ECE 231, ECE 251, ECE 253

Corequisites: ECE 232, ECE 252

ECE 255 Discipline: Guiding Children's Behavior

This course helps students examine and interpret young children's behavior. The course examines a variety of positive approaches to discipline. Students discover how materials and use of space contribute to children's behavior; learn appropriate speech and action to guide children toward cooperation and productive interactions with others; and, develop realistic expectations of young children according to the child's developmental level.

Credits: 3

Semester Offered: F/S

Prerequisites: ENG 096 with a grade of "C" or higher; or appropriate placement score

Economics

ECO 215 Principles of Macroeconomics

The course examines the broad and general aspects of an economy and covers the traditional macroeconomic elements of an introductory economics program. Students study the theories of supply and demand, national income, fiscal and monetary policy, cyclical fluctuations, economic growth, inflation, employment, and international trade. Students learn how to understand and interpret statements and policies made by both national and world leaders.

Credits: 3

Semester Offered: F/S/SU

Corequisites: ENG 101

ECO 216 Principles of Microeconomics

The course examines particular aspects of an economy and covers the traditional microeconomic elements of an introductory economics program. Students study pricing, input/output costs, resource allocation, farm policy, income distribution, and environmental issues. Students gain an understanding of various market structures as they relate to the national economy.

Credits: 3

Semester Offered: F/S/SU

Corequisites: ENG 101

Electromechanical Technology

ELM 251 Instrumentation and Control Technology

This course covers the theory and application of mechanical processes and their control circuits. All major aspects of a control system are studied, including controllers, drivers, actuators, sensors and feedback control. Topics include AC and DC motors, brushless motors, stepper motors, sensors, transducers, servomechanisms, and pneumatics. Students gain skills designing, characterizing, and troubleshooting small-scale control systems.

Credits: 4

Semester Offered: F/S

Prerequisites: ELT 104, ELT 130

Please Note: Three hours lecture, three hours laboratory

ELM 256 Robotics and Automated Systems

This course provides students with an overview of the systems and concepts involved in today's highly automated manufacturing environments. Robotic systems, an important component of an automated system, are also studied. Topics include equipment safety, robotic systems, SCADA networks, manufacturing execution systems (MES), and statistical process control (SPC). Students learn and practice systematic troubleshooting, using

a highly automated manufacturing system as well as robotic systems.

Credits: 4

Semester Offered: S

Prerequisites: ELT 104, ELT 121

Please Note: Three hours lecture, three hours laboratory

ELM 257 Introduction to Programmable Logic Controllers

This course focuses on the principles and application of programmable logic controllers (PLCs) in the control of manufacturing processes. Students learn the fundamental parts of PLCs and the role each plays in providing an effective system of control. Students develop and implement PLC programs and learn methods of interfacing the PLC with external input and output devices.

Credits: 4

Semester Offered: F/S

Prerequisites: ELT 121

Please Note: Three hours lecture, three hours laboratory

ELM 258 Mechatronic Systems

This course provides students with a systems-level overview of mechatronic systems and how they are integrated into today's highly automated manufacturing environments. Topics include equipment safety, power distribution, pneumatics, controller I/O, SCADA networks, HMI programming, manufacturing execution systems (MES), and statistical process control (SPC). Students learn and practice systematic troubleshooting, problem solving, and preventive and corrective maintenance. Classroom material is reinforced by lab activities using a highly automated manufacturing system and other mechatronic systems.

Credits: 4

Semester Offered: F/S

Prerequisites: ELT 130

Please Note: Three hours lecture, three hours laboratory

ELM 260 Industrial Robotics

This course is an introduction to robotics as used in modern industry. Students explore coordinate configurations, control systems, drive systems, robot vision systems, and various methods of programming. The relationship of robot applications to other automated technologies is discussed and investigated. In the laboratory, students complete a series of projects that require them to apply robots to a variety of work cell tasks. Students practice industrial robot safety at all times.

Credits: 4

Semester Offered: F/S

Prerequisites: ELT 130

Please Note: Three hours lecture, three hours laboratory

ELM 299 Cooperative Work Experience & Seminar

This course provides students with a structured learning experience while applying classroom theory to a practical work experience. Students participate in a seminar where they exchange feedback about their work experiences. The number of credits earned is determined by the number of weeks and hours per week required by the cooperative work experience and the established learning objectives.

Credits: 3-6

Semester Offered: F/S/SU

Prerequisites: ELT 104, ELT 130

Electronics Technology

ELT 103 Electronics I

This course provides an introduction to DC and AC electrical circuits. Students learn the concepts of voltage, current, resistance, magnetism, and power and energy and the relationships between them. Methods of circuit analysis using Ohm's Law, Kirchoff's Laws, and network theorems are studied. Concepts of AC, capacitance, and inductance are presented. Impedance, R-L-C circuits, and impedance networks are introduced. In the laboratory, students use a variety of test equipment including analog and digital meters, oscilloscopes, and function generators in order to analyze a variety of circuit configurations using experimental and mathematical techniques.

Credits: 4

Semester Offered: F/S

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score, MAT 095 with a "C" or higher on the MAT 095 departmental final exam or appropriate placement score

Please Note: Three hours lecture, three hours laboratory

ELT 104 Electronics II

This course examines theoretical and practical electronics, solid state fundamentals, transistors, power supplies, amplification systems, oscillators, pulse generators, and miscellaneous electronic circuitry. Students learn the practical and theoretical behavior of electronic control devices such as diodes, transistors, Zener diodes, field-effect transistors (FETs), thyristors, and logic gates. Students construct amplifiers, power supply circuits, oscillator circuits, and other circuits involving control devices.

Credits: 4

Semester Offered: F/S

Prerequisites: ELT 103

Please Note: Three hours lecture, three hours laboratory

ELT 120 Introduction to Photonics

This course provides students with an introduction to the fundamentals of optics, including the nature of light, light sources, and

light propagation and interaction with matter in terms of geometrical optics and physical (wave) optics. This course gives students the opportunity to learn how to apply the principles of optics in a laboratory setting to conduct experiments and solve real world problems.

Credits: 4

Semester Offered: F/S

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score, MAT 099 with a "C" or higher on the MAT 099 departmental final exam or appropriate placement score

Please Note: Three hours lecture, three hours laboratory

ELT 121 Digital Circuits

This course explores digital fundamentals including number systems, digital code, logic gates, Boolean algebra, combinational logic, and flip-flops. Students learn the functions of the basic digital circuits used in all areas of Electronics. Students learn the operation of a digital electronic circuit, troubleshooting components of digital electronic circuits, binary and hexadecimal number systems, and Boolean rules and laws used to describe and construct gate networks.

Credits: 4

Semester Offered: F/S

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score, MAT 095 with a "C" or higher on the MAT 095 departmental final exam or appropriate placement score

Please Note: Three hours lecture, three hours laboratory

ELT 130 Embedded Microcontrollers

This is a project-oriented course where students apply the basic concepts they learn in ELT 103 and ELT 121 to microcontroller-based systems. Students gain valuable experience reading schematics and wiring diagrams, interfacing real-world devices to microcontroller inputs and outputs, and programming the microcontroller to perform various functions. Students also gain experience using LabView graphical programming for data acquisition and control. Students also practice PC board design, soldering, and troubleshooting techniques.

Credits: 4

Semester Offered: S

Prerequisites: ELT 103, ELT 121

Please Note: Three hours lecture, three hours laboratory

ELT 222 Photonics Technology

In this course, students apply the principles learned in Introduction to Photonics to investigate the operation and applications of modern photonic systems, including lasers, optical fibers, and detectors. Students learn how photonic systems operate, and apply those systems to analyze and solve real world problems.

Credits: 4

Semester Offered: F/S

Prerequisites: ELT 120

Please Note: Three hours lecture, three hours laboratory.

ELT 299 Cooperative Work Experience & Seminar

This course provides students with a structured learning experience by applying classroom theory to practical work experience. Students participate in seminars to exchange information about their work experience. The number of credits earned is determined by the number of weeks and hours per week required by the cooperative work experience and the established learning objectives.

Credits: 3-6

Semester Offered: F/S/SU

Prerequisites: ELT 104, ELT 130

Elementary Education

EDU 101 Elementary Education: Teaching and Learning

This course provides students with a view of elementary schools as they are today. Historical, philosophical and pedagogical perspectives are examined. Students examine curriculum, teaching strategies and assessment models to gain insight and acquire skills in current methodologies employed in elementary settings. A field experience (pre-practicum) of 15 hours beyond classroom time is required. This fieldwork is divided between grades one and two, grades three and four and grades five and six. Please note: Students are required to have a recent CORI/SORI on file to participate in the fieldwork which is required for successful completion of the course.

Credits: 3

Semester Offered: F/S

Prerequisites: ENG 096 with a grade of "C" or higher; or appropriate placement score

EDU 102 Theory to Practice: The Elementary School Learner

This course examines prominent theories of teaching and learning in elementary education. Students review social, emotional and cognitive developmental processes involved in learning for typical and atypical learners. The course also covers insights into motivational theories, the affective aspects of learning and classroom management. Students are required to participate in a field experience (pre-practicum) of 15 hours beyond classroom time in an elementary school setting. Please note: Students must have a recent CORI/SORI on file to participate in the fieldwork which is required for successful completion of the course.

Credits: 3

Semester Offered: F/S

Prerequisites: ENG 096 with a grade of "C" or

higher; or appropriate placement score

EDU 200 Foundations of Reading

This course provides a strong foundation in the best practices of literacy instruction. Essential areas of reading instruction are addressed: understanding phonological and phonemic awareness, the use of phonics, vocabulary development, fluency, comprehension, assessment, and writing. The course offers opportunities to gain knowledge of the mechanics of the reading process and to design and implement effective instruction for various student populations. A field experience (pre-practicum) of 15 hours beyond classroom time is required. Please note: Students must have a recent CORI/SORI on file to participate in the fieldwork which is required for successful completion of the course.

Credits: 3

Semester Offered: F/S

Prerequisites: EDU 101

EDU 201 Curriculum and Instruction in the Elementary School

This course provides an overview of curriculum planning and instruction, addressing the needs of all learners in an elementary school setting. Topics include classroom management, designing learning environments, assessment systems and communicating with families. State and national standards are integrated into instructional methods in the areas of language arts, social studies, math, science, health and technology. A field experience (pre-practicum) of 15 hours beyond classroom time is required. Please note: Students must have a recent CORI/SORI on file to participate in the fieldwork which is required for successful completion of the course.

Credits: 3

Semester Offered: F/S

Prerequisites: EDU 101

Emergency Medical Technician

EMT 101 Basic Emergency Medical Technology

This course is designed to train individuals who respond to emergency calls for immediate care to the critically ill or injured and who transport patients to a medical facility. Students develop skills to determine the extent of illness or injury and establish priorities for emergency care. Topics include techniques in opening and maintaining an airway, cardiac resuscitation, controlling hemorrhage, treating shock, immobilizing fractures, assisting childbirth, managing behavioral emergencies, and light rescue skills including freeing patients from entrapment.

Credits: 7

Semester Offered: F/S/SU

EMT 108 Introduction to Advanced Pre-Hospital Care

This course provides paramedic students with the principles of advanced pre-hospital care and EMS operations under varying circumstances including operations and paramedic roles and responsibilities. There is an added emphasis on personal wellness and injury and illness prevention, the medical-legal aspects of emergency care and ethics, the Incident Command System, and managing resources at the emergency scene, particularly at scenes involving multiple ambulances and multiple agencies. Time is devoted to rescue operations, and an overview of hazardous material is presented. The student is made aware of their role in protecting the crime scene. An overview is provided in rural EMS, to raise awareness of the special circumstances that many providers face regarding distance, terrain, weather conditions, and EMS staffing.

Credits: 4

Semester Offered: F/S

Corequisites: BIO 100 or BIO 111, EMT 109, EMT 110, EMT 112, EMT 114

EMT 109 Pharmacology for Advanced Pre-Hospital Care

This course covers the general principles of pharmacology and the methods of calculating drug doses. The main focus is the nature and effects of drugs administered by paramedics in the treatment of patients in the clinical and field setting.

Credits: 2

Semester Offered: F/S

Corequisites: BIO 100 or BIO 111, EMT 108, EMT 110, EMT 112, EMT 114

EMT 110 Patient Assessment and Human Systems

This course covers the theory, skills, and terminology needed to perform physical assessment, including overview of basic anatomy and physiology, systematic assessment of the patient, the process of obtaining the patient's medical history, procedures in performing the physical examination and a concise method of recording the findings.

Credits: 2

Semester Offered: F/S

Corequisites: BIO 100 or BIO 111, EMT 108, EMT 109, EMT 112, EMT 114

EMT 112 Patient Assessment/Pharmacology Laboratory Component

This course provides a comprehensive laboratory experience designed to familiarize the student with the practical aspects of medical patient assessment, including primary and secondary survey. In addition, both drug dose calculations and medication administration are practiced. The recording of patient data and the oral patient report is emphasized and demonstrated.

Credits: 1

Semester Offered: F/S

Corequisites: BIO 100 or BIO 111, EMT 108, EMT 109, EMT 110, EMT 114

EMT 114 Life Span and Healthcare Issues for Pre-Hospital Care

This course provides an analysis of normal anatomy and physiology and the disease processes of the female reproductive system, life span development, geriatric patients, and those patients who are challenged. This course also views interventions for the chronic-care patient, and those who may be victims of abuse and neglect.

Credits: 4

Semester Offered: F/S

Corequisites: BIO 100 or BIO 111, EMT 108, EMT 109, EMT 110, EMT 112

EMT 115 Advanced Pre-Hospital Care

The first half of this course focuses on pathophysiology common to all disease processes: shock, acid-base, and airway. The second half covers the pathophysiology of the pulmonary, nervous, gastrointestinal, and genitourinary systems. It reviews IV fluid administration and medical math, briefly reviews the anatomy and physiology of each topic covered, and uses a scenario-based approach to assessment and management.

Credits: 4

Semester Offered: F/S

Prerequisites: EMT 108, EMT 109, EMT 110, EMT 112, EMT 114

Corequisites: BIO 100 or BIO 112, EMT 116, EMT 117, EMT 118, EMT 119

EMT 116 Cardiology and Advanced Cardiac Life Support

This course provides the student with the knowledge and skills needed to recognize and successfully manage cardiovascular emergencies encountered in the field. Following the standards of the American Heart Association, and the National Registry of EMTs, students learn cardiac anatomy and physiology, ECG recognition, and 12 lead ECG. Extensive coverage is devoted to the pharmacological and electrical management techniques used in treating acute cardiac events, including respiratory and cardiac arrest.

Credits: 4

Semester Offered: F/S

Prerequisites: EMT 108, EMT 109, EMT 110, EMT 112, EMT 114

Corequisites: BIO 100 or BIO 112, EMT 115, EMT 117, EMT 118, EMT 119

EMT 117 Trauma

This course is intended to present to the paramedic student a comprehensive insight into traumatic injury to the human body, its causes, types and implications. The impact on trauma survival and the concept of well-developed regional trauma systems will be discussed. An

emphasis will be placed upon the evaluation and management of both blunt and penetrating trauma in relationship to regional anatomy.

Credits: 3

Semester Offered: F/S

Prerequisites: EMT 108, EMT 109, EMT 110, EMT 112, EMT 114

Corequisites: BIO 100 or BIO 112, EMT 115, EMT 116, EMT 118, EMT 119

EMT 118 Neonatal and Pediatric Emergencies

This course provides the paramedic student with a general understanding of the newborn and the newly born with overviews of structure and function of the cardiovascular and respiratory system. Neonatal resuscitation will be presented, along with neonatal assessment. This course provides the paramedic student with a general understanding of the pediatric patient and the interaction that is necessary with their family members. Growth and development, anatomy and physiology review, pathophysiology, assessment and management of pediatric emergencies are stressed within this course.

Credits: 2

Semester Offered: F/S

Prerequisites: EMT 108, EMT 109, EMT 110, EMT 112, EMT 114

Corequisites: BIO 100 or BIO 112, EMT 115, EMT 116, EMT 117, EMT 119

EMT 119 Topics in Advanced Life Support

This course includes an overview of hematology along with the assessment and management of toxicological emergencies, infectious diseases, endocrine emergencies, allergic reaction and anaphylaxis, and environmental emergencies.

Credits: 3

Semester Offered: F/S

Prerequisites: EMT 108, EMT 109, EMT 110, EMT 112, EMT 114

Corequisites: BIO 100 or BIO 112, EMT 115, EMT 116, EMT 117, EMT 118

EMT 202 Clinical Placement for the Paramedic

This course gives the student the opportunity to deliver optimum patient care at several clinical hospital sites, using a preceptor approach. Clinical rotations occur within the following departments: Intensive/Critical Care Unit, Emergency Department, Anesthesiology (Operating Room), Pediatric Emergency Department, Emergency Mental Health, Labor and Delivery, and other departments as needed.

Credits: 7

Semester Offered: F/S

Prerequisites: EMT 115, EMT 116, EMT 117, EMT 118, EMT 119

Corequisites: EMT 203

EMT 203 Field Placement for the Paramedic

The paramedic Field Practicum provides the student with an opportunity to utilize and refine the skills and knowledge gained throughout the program in a realistic, pre-hospital setting, using a preceptor approach. Students will be assessed per rotation by the Field Coordinator for accuracy of field log, written patient assessments, stress management, and understanding of field principles.

Credits: 5

Semester Offered: F/S

Corequisites: EMT 202

Energy Utility Technology

EUT 101 Fundamentals of the Energy Industry

This course provides students with an overview of the energy utility industry and occupational opportunities, including but not limited to the history of natural gas and electrical service, regulatory influences, energy flow, basic natural gas and electrical terminology, typical conditions for employment, and career opportunities.

Credits: 4

Semester Offered: F

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

Please Note: Four hours lecture

EUT 110 Electrical Principles I

The course examines the foundations of basic DC circuit analysis concepts. Topics include voltage and current sources, Ohm's law, Kirchhoff's Laws, concept of resistance, conductance, capacitance, inductance, network topologies such as elements in series and parallel, Thevenin's and Norton's Theorems, and transient behavior of RC and RL circuits. Students utilize computer software tools and laboratory experiments to reinforce concepts.

Credits: 4

Semester Offered: F

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score, MAT 095 with a "C" or higher on the MAT 095 departmental final exam or appropriate placement score

Corequisites: EUT 101

Please Note: Three hours lecture, three hours laboratory

EUT 111 Electrical Principles II

This course presents the foundations of basic AC circuit analysis. Topics for parallel and series circuit include: voltage and current sources, phase and phasor relations, resistance, inductance and capacitance in sinusoidal drive circuits, and Bode plots. Thevenin's, Norton's Maximum Power and Superposition theorem are applied. Transient behavior of networks,

transformers and filters are analyzed. Computer software tools and laboratory experience are utilized to reinforce concepts.

Credits: 4

Semester Offered: S

Prerequisites: EUT 110

Please Note: Three hours lecture, three hours laboratory

EUT 115 Generation, Transmission and Distribution

This course presents an overview of the electrical generation process and power plant systems and functions. Students analyze transmission lines for impedance, reflection, and standing wave concepts. Students learn the operation and design of utility power distribution systems including planning; load characteristics; and the application of distribution transformers, substations, primary and secondary systems, and voltage regulation and voltage reductions.

Credits: 4

Semester Offered: S

Prerequisites: EUT 110

Please Note: Three hours lecture, three hours laboratory

EUT 120 Industrial Safety

This course provides an introduction to the principles of safety, guidelines for the design of equipment, and explanations of why certain practices should or should not be followed. This course will evaluate human reactions in normal and abnormal conditions. Students compare features required for safe working conditions to industry standards.

Credits: 3

Semester Offered: S

Prerequisites: EUT 101

Please Note: Three hours lecture

EUT 190 Energy Utility Technology Practicum

This course introduces students to the training labs of a major power transmission and distribution company. Students work in a facility learning how to splice wires, connect fuses and transformers and learn the industry standard techniques. Students become familiar and learn the safe use of the tools and equipments used in the power industry. Topics include: splicing, meters, underground, overhead lines, transformers, substation, circuit breakers and regulators. Note: This course may be conducted in two locations.

Credits: 3

Semester Offered: S

Corequisites: EUT 111, EUT 115, EUT 120

Please Note: Six hours practicum

Engineering

ERG 101 Engineering Graphics

This course focuses on engineering drawing utilizing computer-assisted drawing (CAD) techniques. It introduces descriptive geometry and the basic theory of orthographic projections. Students create orthographic, isometric, sectional views and assembly drawings and dimensioning using CAD software.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: MAT 124

ERG 211 Introduction to Materials Science

This course explores the fundamental properties of engineering materials utilizing micro and macro methods of material design. Students learn the atomic structures, chemical properties, and physical behavior of engineering materials, including biomaterials.

Credits: 3

Semester Offered: F/SU

Prerequisites: CHM 123, PHY 105

ERG 221 Statics

This course covers a vector approach in studying static systems. Areas of study include the resultant of concentrated and distributed force systems, two and three-dimensional equilibrium, trusses, plane friction, centeroids, and moments of inertia. Students learn how to use integral equations to determine centeroids and moments of inertia for various geometrical shapes and derive and graph equations of shear and moment.

Credits: 3

Semester Offered: F/IN

Corequisites: MAT 235, PHY 106

ERG 223 Thermodynamics

This course introduces the laws of thermodynamics through the study of systems and the flow of energy across system boundaries. Students learn the First Law of Thermodynamics (utilizing heat, energy, work, enthalpy) and the Second Law of Thermodynamics (and the property of entropy) and their macroscopic and microscopic implications. The course focuses on the application of thermodynamics to engineering systems.

Credits: 3

Semester Offered: S/SU

Prerequisites: CHM 124, MAT 235, PHY 106

ERG 225 Strength of Materials

This course emphasizes stress and strain and the mechanical properties of materials. Topics include axial load, torsion, bending and deflection of beams, Hooke's Law, Mohr's circle, transfer shear, combined loading, stress, strain transformation, design of beams, and buckling of

columns. Students use integral and differential equations to solve problems in design of beams and structures.

Credits: 3

Semester Offered: S/SU

Prerequisites: ERG 221, MAT 235

Corequisites: MAT 238

English

ENG 090 Basic Reading Skills

This course focuses on developing reading skills. Students locate main ideas, recognize supporting details, locate transitions, identify patterns of organization, analyze the use of inferences and vocabulary. They employ skimming and scanning techniques, analyze word meaning through contextual and word structure analyses, and develop dictionary skills. The minimal passing grade for developmental courses is a "C".

Credits: 3

Semester Offered: F/S/SU

Prerequisites: Appropriate placement score

Please Note: This developmental English course cannot be used to satisfy degree or certificate requirements

ENG 091 Intermediate Reading Skills

This course helps students to read independently in college level courses. Students acquire strategies for improving vocabulary and reading comprehension as well as critical thinking skills while emphasizing both academic reading and reading for studying. The minimal passing grade for developmental courses is a "C".

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 090 with a grade of "C" or higher; or appropriate placement score

Please Note: This developmental English course cannot be used to satisfy degree or certificate requirements

ENG 095 Basic Writing Skills

This course helps students develop competence in written communication by practicing writing clear sentences and paragraphs. Students learn how to recognize and use basic sentence patterns and to write coherent paragraphs containing a topic sentence, idea development, and a strong conclusion. Students complete a variety of writing assignments and develop the skills needed for ENG 096 Intermediate Writing Skills. Taking the departmental final examination is a requirement of the course. The minimum passing grade for developmental English courses is a "C".

Credits: 3

Semester Offered: F/S/SU

Prerequisites: Appropriate placement score

Please Note: This developmental English course cannot be used to satisfy degree or certificate requirements

ENG 096 Intermediate Writing Skills

This course helps students develop writing competence by practicing writing paragraphs and essays. Students learn to write unified, supported, coherent essays using grammatically sound sentences. Assignments focus on writing a variety of paragraphs and essays in order to prepare for college-level writing courses.

Taking the departmental final examination is a requirement of the course. The minimal passing grade for developmental English courses is a "C".

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 095 with a grade of "C" or higher; or appropriate placement score

Please Note: This developmental English course cannot be used to satisfy degree or certificate requirements

ENG 101 Composition I

In Composition I, students write a minimum of four essays in multiple drafts in addition to shorter writing assignments, such as journals or discussion posts, with emphasis on audience awareness; critical thinking and reading; thesis development; organization; and grammatical correctness. Readings from various disciplines provide writing models and material for analysis of ideas. Students also evaluate, incorporate, and document sources from print, Internet, and library databases to support their writing.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

ENG 102 Composition II

In Composition II, students produce a minimum of four essays of carefully crafted prose. Student writers practice integrating and citing readings from academic disciplines, including literature; their research-based documented essays are expected to reflect the ethical standards of formal argument.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 101

ENG 105 Technical Writing

This course focuses on writing letters, memos, resumes, lab reports, instructions/processes and technical descriptions, and design visual aids. Instructional emphasis is placed on clarity, correctness, conciseness, audience, precision, accuracy, organization, and document design in writing technical documents.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 101

ENG 200 Children's Literature

This course introduces students to the nature, variety, and artistry of children's stories.

Students examine various modes of the genre and investigate why stories are necessary and popular teaching vehicles for the intellectual growth and development of children. Students discuss and explore numerous tales, fables, myths, and literary archetypes. Special emphasis is placed on selected visually orientated stories and their context in today's society. Students write individual reports and interact in panel discussions, commentary, and discussions of the merits of contemporary works.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 102

ENG 202 Creative Writing

This course centers on weekly student writing of poems, short stories, plays or personal essays. Specific Projects will be determined by individual and group interests. Group discussion of works-in-process will aid the student to achieve a significant creative writing project for the semester. Examples of creative excellence will be read and discussed, with some attention to critical and aesthetic theory.

Credits: 3

Semester Offered: F/S

Prerequisites: ENG 102

ENG 203 Writing Poetry

This course focuses on writing fixed and free verse forms. Students learn the technical vocabulary of poetry and apply it to the work of classic and contemporary poets, as well as their own work and the work of their peers. Students present their poems in a group setting, and receive and provide both oral and written critiques.

Credits: 3

Semester Offered: F

Prerequisites: ENG 102

ENG 204 Writing Fiction

This course focuses on writing short story and/or novel prose. Students learn the technical vocabulary of the craft and apply it to the work of classic and contemporary fiction writers, as well as their own work and the work of their peers. Students present their writing in a group setting, and receive and provide both oral and written critiques.

Credits: 3

Semester Offered: S

Prerequisites: ENG 102

ENG 205 Technical and Workplace Writing

This course covers the theory and practice of writing appropriate to the workplace. While the course is designed for students interested in technical applications, it is useful for anyone who intends to enter an occupation that requires writing assignments such as resumes, reports, or proposals, instructions, web pages, abstracts, technical descriptions, and letters and memos

in either traditional or electronic format. Other technically-oriented assignments may be included as well. Students explore concepts such as critical thinking, empathy, style, tone, persuasion, precision, simplicity, readability, ethics, etiquette, graphics, electronic and hard copy elements of design, and collaborative writing. Students develop a portfolio to show prospective employers.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 102, Computer Literacy

ENG 212 Death & Dying in Literature

This course surveys the many issues suggested by death as a topic of writing. Students explore the literary treatment of death including suicide, the attitudes of societies toward the dying and the dead, and the answers provided by religions and philosophies. Through study of literary sources from ancient civilizations to modernity, students define "life" and "death" in order to understand significant attitudes and trends toward death in society.

Credits: 3

Semester Offered: F

Prerequisites: ENG 102

ENG 215 The Hero in Literature, Myth, and Film

This course covers various cultural concepts of the hero in fiction, nonfiction, myth, and film. Topics include the oral tradition, the nature of civilization, and heroic topics such as transformation of consciousness, initiation, illumination, search for identity, the quest, and continuity. Reading selections include passages from *The Odyssey*, *Beowulf*, *The Bagavad Gita*, and *The Táin Bó Cuailgne*. Typical film selections include *Star Wars*, *Lord of the Rings*, *Ghandi*, *Excalibur*, and *Sir Gawain*; plus background films on Celtic, Indian, Middle Eastern, and classical cultures. Students write several short papers and complete a final project demonstrating their understanding of universal heroic themes.

Credits: 3

Semester Offered: S

Prerequisites: ENG 102

ENG 231 Masterpieces of World Literature I

This course examines the history and growth of great books and ideas and their relevance to modern times. Students read literary selections from the ancient world to the 18th century to help them understand the sense and perspectives of major world writers. Students learn to demonstrate an understanding of both Eastern and Western literary traditions through class discussions and written assignments.

Credits: 3

Semester Offered: F

Prerequisites: ENG 102

ENG 232 Masterpieces of World Literature II

This course complements ENG 231 Masterpieces of World Literature I by examining the history, growth, and cross influences of ideas and their impact on views of the modern world. Students study major writings and writers of both Eastern and Western literature from the 18th century to the present. Students learn how to understand the universal themes of great literature and the relevance of those themes in the modern world.

Credits: 3

Semester Offered: S

Prerequisites: ENG 102

ENG 241 British Literature I

This course explores British literature from its beginnings to 1750. Students examine major representative authors of the Anglo-Saxon, medieval, Renaissance, metaphysical, and Restoration periods. Students study the major developments in English literature and develop an understanding of the relevancy of key themes of early British literature to present works. The course also explores the evolution of the English language from its beginnings in Old English to its modern-day form.

Credits: 3

Semester Offered: F

Prerequisites: ENG 102

ENG 242 British Literature II

This course explores British literature from 1750 to the present. Students explore key literary and cultural movements that occurred during the Romantic, Victorian, 20th century, and contemporary periods. Selected works cover several literary genres including poetry, drama, the essay, the short story, and the novel.

Credits: 3

Semester Offered: S

Prerequisites: ENG 102

ENG 251 American Literature I

This course examines American literature from approximately 1600-1870, covering poetry, fiction, essays, and autobiography. Students explore literary movements and major authors of major American time periods including the Puritan, colonial, Revolutionary, Romantic, Transcendentalist, and abolitionist eras. Students examine how writers influenced both their own times and subsequent generations.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 102

ENG 252 American Literature II

This course examines American literature from the mid-1800s to the present, including poetry, fiction, essays, and autobiography. Students explore literary movements, major authors, and trends of the various time periods. Topics include American regional writing; American Realism;

literature during and between the two world wars; the literatures of American minorities; and the contemporary literature of disillusionment. Students explore texts both as literary works and as products of historical forces.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 102

ENG 255 The American Short Story

This course focuses on reading and analyzing selected short stories of renowned American writers. Students participate in class discussions and write papers to demonstrate close reading skills, to express individual interpretation, and to understand the common themes and unique literary characteristics of the genre. Students view films based on the literary selections to enlarge their perceptions of themes, characters, and settings. The course also covers cultural and historical contexts that influenced the authors.

Credits: 3

Semester Offered: F/SU

Prerequisites: ENG 102

ENG 259 Contemporary American Women's Fiction: 1960-1990

This course examines recent fiction authored by American women. Topics include victimization, resistance to oppression, individual growth and awakened consciousness, and implications for social change in mainstream society. Students develop an understanding issues particular to American women through class discussions and papers that compare and contrast the central themes to their own experience. Students examine the impact of race, class, ethnicity, age, religion, specific cultural environments, and other attributes on authors' works.

Credits: 3

Semester Offered: F/S

Prerequisites: ENG 102

ENG 260 Special Topics in English

Special Topics in English provides an opportunity for specialized literary study of various topics from year to year. Special Topics may feature a particular literary theme, an historical era, a genre, a single author or group of authors, specific regional or national literature, or other topics defined by the teaching professor. Research papers or projects may constitute a significant portion of the course requirements. This course will vary in any number of ways according to the discretion of the instructor and the instructor's choice of text(s).

Credits: 3

Semester Offered: F

Prerequisites: ENG 102

English as a Second Language

ESL 103 English as a Second Language: Writing I

This course focuses on paragraph development, including an emphasis on sentence structure and the writing process. Students learn grammar in the context of specific writing activities. Students respond in writing to prompts and short readings. The minimal passing grade for ESL courses is a "C".

Credits: 3

Semester Offered: F/S

Prerequisites: Non-native speaker of English, High School Diploma or GED and appropriate placement score

ESL 104 English as a Second Language: Writing II

This course refines paragraph writing skills while introducing and developing the essay. Students learn more complex grammar and sentence structure. Students write paragraphs and essays, in response to simple prompts and readings. The minimal passing grade for ESL courses is a "C".

Credits: 3

Semester Offered: F/S

Prerequisites: Non-native speaker of English, High School Diploma or GED and ESL 103 passed with a grade of "C" or higher or appropriate placement score

ESL 105 English as a Second Language: Writing III

This course develops students' skills in essay writing. Students focus on writing and revising longer pieces using complex structures and appropriate rhetorical modes. The minimal passing grade for ESL courses is a "C".

Credits: 3

Semester Offered: F/S

Prerequisites: Non-native speaker of English, High School Diploma or GED and ESL 104 passed with a grade of "C" or higher or appropriate placement score

ESL 113 English as a Second Language: Reading I

This course focuses on reading skills and vocabulary development. Students develop and demonstrate reading comprehension through class discussions and written responses in complete sentences and short paragraphs. The minimal passing grade for ESL courses is a "C".

Credits: 3

Semester Offered: F/S

Prerequisites: Non-native speaker of English, High School Diploma or GED and appropriate placement score

ESL 114 English as a Second Language: Reading II

This course emphasizes reading longer passages and increasing academic vocabulary. Students develop and demonstrate comprehension and critical reading skills through class discussions and written responses in paragraphs and short essays. The minimal passing grade for ESL courses is a "C".

Credits: 3

Semester Offered: F/S

Prerequisites: Non-native speaker of English, High School Diploma or GED and ESL 113 passed with a grade of "C" or higher or appropriate placement score

ESL 115 English as a Second Language: Reading III

This course focuses on the critical reading skills necessary to understand content course readings. Students demonstrate their ability to comprehend, analyze and synthesize information through class discussions and more complex writing assignments. The minimal passing grade for ESL courses is a "C".

Credits: 3

Semester Offered: F/S

Prerequisites: Non-native speaker of English, High School Diploma or GED and ESL 114 passed with a grade of "C" or higher or appropriate placement score

ESL 133 English as a Second Language: Listening/Speaking I

This course focuses on the speaking and pronunciation skills that are necessary in an academic setting. Students practice speaking by responding to open-ended questions in response to class readings or discussions on a topic. Students prepare and give brief presentations in class using academic vocabulary. The minimal passing grade for ESL courses is a "C".

Credits: 3

Semester Offered: F/S

Prerequisites: Non-native speaker of English, High School Diploma or GED and appropriate placement score

ESL 134 English as a Second Language: Listening/Speaking II

Non-native speakers of English learn basic and intermediate spoken English skills necessary for social and academic interaction. The course explores American language customs, practical grammar, and correct pronunciation, including elements of intonation, stress, and rhythm.

Credits: 3

Semester Offered: F/S

Prerequisites: Non-native speaker of English, High School Diploma or GED and ESL 133 passed with a grade of "C" or higher or appropriate placement score

ESL 135 English as a Second Language: Listening/Speaking III

This course helps non-native speakers of English develop the oral language fluency necessary for social and academic interaction. Students gain advanced skills to understand spoken English and to increase their facility in spoken English. The course focuses on assisting students to acquire a larger vocabulary in order to participate more easily in social and academic situations.

Credits: 3

Semester Offered: F/S

Prerequisites: Non-native speaker of English, High School Diploma or GED and ESL 134 passed with a grade of "C" or higher or appropriate placement score

ESL 143 English as a Second Language: Note-Taking I

In this course, students learn to develop a system of note-taking while listening to short academic lectures. Students use their lecture notes and course reading to complete a variety of academic assignments, such as, responding to comprehension questions in sentence and paragraph form. The minimal passing grade for ESL courses is a "C".

Credits: 3

Semester Offered: F/S

Prerequisites: Non-native speaker of English, High School Diploma or GED and appropriate placement score

ESL 144 English as a Second Language: Note-Taking II

In this course, students continue to develop a system of note-taking while listening to academic lectures. Students use their lecture notes and course readings to summarize and synthesize information in paragraphs and short essays. The minimal passing grade for ESL courses is a "C".

Credits: 3

Semester Offered: F/S

Prerequisites: Non-native speaker of English, High School Diploma or GED and ESL 143 passed with a grade of "C" or higher or appropriate placement score

ESL 145 English as a Second Language: Note-Taking III

In this course, students refine their academic note-taking skills in preparation for content area courses. Students use their lecture notes and course readings to summarize, synthesize and evaluate information in paragraphs and essays. The minimal passing grade for ESL courses is a "C".

Credits: 3

Semester Offered: F/S

Prerequisites: Non-native speaker of English, High School Diploma or GED and ESL 144 passed with a grade of "C" or higher or appropriate placement score

ESL 155 English as a Second Language: Advanced Reading/Writing

This course emphasizes the critical reading and essay writing skills needed for college success. Students demonstrate their ability to comprehend, analyze, and synthesize information from course readings and to write essays displaying unity, support, and coherence. Students refine their understanding and use of academic vocabulary, correct sentence structure, and appropriate grammatical form.

Credits: 3

Semester Offered: F/S

Prerequisites: Non-native speaker of English, High School Diploma or GED and ESL 105 and ESL 115 or appropriate placement score

Finance

FIN 111 Personal Financial Planning

This course examines the tools, terminology, and applications necessary to successfully manage financial matters in our daily lives. Topics include the personal financial planning process, career strategies, money management, personal taxation, financial institution services, and consumer credit. Evaluation techniques related to housing, transportation, insurance, investments, real estate, and retirement planning are also covered.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: MAT 090 with a "C" or higher on the MAT 090 departmental final exam or appropriate placement score

FIN 221 The Stock Market and Investments

This course provides an introduction to financial investments and the stock markets. Students study the purposes and history of the stock markets and the primary investments they control including stocks, bonds, and mutual funds.

Credits: 3

Semester Offered: F/S

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score, MAT 090 with a "C" or higher on the MAT 090 departmental final exam or appropriate placement score

FIN 250 Principles of Finance

This course covers the principles and practices of financial management that are used in business. Topics examined include acquisition of funds, cash flow, financial analysis, capital budgeting, working capital requirements, and capital structure.

Credits: 3

Semester Offered: F/S

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score, MAT 099 with a

"C" or higher on the MAT 099 departmental final exam or appropriate placement score

Fire Science

FSC 101 Principles of Emergency Services

This course provides an overview to fire protection and emergency services; career opportunities in fire protection and related fields; culture and history of emergency services; fire loss analysis; organization and function of public and private fire protection services; fire departments as part of local government; laws and regulations affecting the fire service; fire service nomenclature; specific fire protection functions; basic fire chemistry and physics; introduction to fire protection systems; introduction to fire strategy and tactics; life safety initiatives. This course follows the curriculum established by the Fire and Emergency Services Higher Education (FESHE) network.

Credits: 3

Semester Offered: F/S

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

FSC 104 Fire Behavior and Combustion

This course explores the theories and fundamentals of how and why fires start, spread, and how they are controlled. This course follows the curriculum established by the Fire and Emergency Services Higher Education (FESHE) network.

Credits: 3

Semester Offered: F/S

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score, FSC 101

FSC 121 Building Construction for Fire Protection

This course provides the components of building construction related to firefighter and life safety. The elements of construction and design of structures are shown to be key factors when inspecting buildings, preplanning fire operations, and operating at emergencies. This course follows the curriculum established by the Fire and Emergency Services Higher Education (FESHE) network.

Credits: 3

Semester Offered: F/S

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score, FSC 101

FSC 151 Occupational Safety and Health for Emergency Services

This course introduces the basic concepts of occupational health and safety as it relates to emergency service organizations. Topics include risk and hazard evaluation and control

procedures for emergency service organizations. This course follows the curriculum established by the Fire and Emergency Services Higher Education (FESHE) network.

Credits: 3

Semester Offered: F/S

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

FSC 201 Principles of Fire and Emergency Services Safety and Survival

This course introduces the basic principles and history related to the national firefighter life safety initiatives, focusing on the need for cultural and behavior change throughout the emergency services. This course follows the curriculum established by the Fire and Emergency Services Higher Education (FESHE) network.

Credits: 3

Semester Offered: F/S

Prerequisites: FSC 104, FSC 121

FSC 203 Fire Prevention

This course provides advanced knowledge relating to the field of fire prevention. Topics include: history and philosophy of fire prevention; organization and operation of a fire prevention bureau; use and application of codes and standards; plans review; fire inspections; fire and life safety education; and fire investigation. This course follows the curriculum established by the Fire and Emergency Services Higher Education (FESHE) network.

Credits: 3

Semester Offered: F/S

Prerequisites: FSC 104, FSC 121, ENG 101

FSC 207 Fire Fighting Tactics and Strategy

This course reviews fire chemistry, equipment, and personnel. Students learn basic fire fighting tactics and strategies, methods of attack, and preplanning to prevent fire problems. Fire situations are presented for analysis and study of accepted fire fighting practices. This course follows the curriculum established by the Fire and Emergency Services Higher Education (FESHE) network.

Credits: 3

Semester Offered: F/S

Prerequisites: FSC 201, FSC 203

FSC 223 Fire Protection Systems

This course provides information relating to the features of design and operation of fire alarm systems, water-based fire suppression systems, special hazard fire suppression systems, water supply for fire protection and portable fire extinguishers. This course follows the curriculum established by the Fire and Emergency Services Higher Education (FESHE) network.

Credits: 3

Semester Offered: F/S

Prerequisites: FSC 203

FSC 230 Fire Investigation I

This course is intended to provide the student with the fundamentals and technical knowledge needed for proper fire scene interpretations, including recognizing and conducting origin and cause, preservation of evidence and documentation, scene security, motives of the firesetter, and types of fire causes. This course follows the curriculum established by the Fire and Emergency Services Higher Education (FESHE) network.

Credits: 3

Semester Offered: F/S

Prerequisites: FSC 104, FSC 121

FSC 241 Fire Protection Hydraulics and Water Supply

This course provides a foundation of theoretical knowledge in order to understand the principles of the use of water in fire protection and to apply hydraulic principles to analyze and to solve water supply problems. This course follows the curriculum established by the Fire and Emergency Services Higher Education (FESHE) network.

Credits: 3

Semester Offered: F/S

Prerequisites: MAT 095 with a "C" or higher on the MAT 095 departmental final exam or appropriate placement score

FSC 242 Hazardous Materials Chemistry

This course provides basic chemistry relating to the categories of hazardous materials including recognition, identification, reactivity, and health hazards encountered by emergency services. This course follows the curriculum established by the Fire and Emergency Services Higher Education (FESHE) network.

Credits: 3

Semester Offered: F/S

Prerequisites: FSC 203, MAT 095 with a "C" or higher on the MAT 095 departmental final exam or appropriate placement score

FSC 263 Introduction to Fire and Emergency Services Administration

This course introduces the student to the organization and management of a fire and emergency services department and the relationship of government agencies to the fire service. Emphasis is placed on fire and emergency service, ethics, and leadership from the perspective of the company officer. This course follows the curriculum established by the Fire and Emergency Services Higher Education (FESHE) network.

Credits: 3

Semester Offered: F/S

Prerequisites: FSC 203, SPH 101

French

FRC 111 Beginning French I

The course covers the fundamentals of French grammar as a foundation for speaking, understanding, reading, and writing the language. It includes brief readings in the everyday aspects of the French-speaking world. In addition to gaining an understanding of the fundamentals of French grammar, students develop a basic working vocabulary of 500 words. Previous knowledge of French is not required.

Credits: 3

Semester Offered: F

FRC 112 Beginning French II

Students progress further in the foundations of the language, including understanding, speaking, reading, and writing. Students improve reading and speaking skills through the study of short pieces on contemporary French life and culture. Students study the French grammatical structure and develop a working vocabulary of 850 words. They also read and respond to short, simple French texts.

Credits: 3

Semester Offered: S

Prerequisites: FRC 111

FRC 211 Intermediate French I

Students study French literature and culture through selected readings. They develop their reading, speaking, and comprehension skills of basic French and develop a working vocabulary of approximately 1,000 words.

Credits: 3

Semester Offered: F

Prerequisites: FRC 112

FRC 212 Intermediate French II

The students master a working vocabulary of approximately 1,400 words and engage in more intensive practice through oral/aural drill and reading and discussing selected graded texts.

Credits: 3

Semester Offered: S

Prerequisites: FRC 211

Geography

GEO 210 World Regional Geography

This course will give the student a foundation for understanding the geographic regions of the world. It will also introduce the basic methods of geographic analysis for understanding regional patterns, thereby enabling the student to gain insight into, and comprehension of, global culture and world events. Upon successful completion of the course, the student will be able to perform the following: locate and map basic place names of the globe (the continents, major realms and regions, major countries and cities, and major physical and cultural

features); compare, contrast, and interpret maps and geographic data, and articulate his/her understanding of current global problems from a regional perspective.

Credits: 3

Semester Offered: F/S

Corequisites: ENG 101

German

GER 111 Beginning German I

This course covers the fundamentals of German grammar as a foundation for speaking, understanding, reading, and writing the language. Students explore brief readings in the everyday aspects of the German-speaking world to develop a basic working vocabulary of 500 words. Previous knowledge of German is not required.

Credits: 3

Semester Offered: F

GER 112 Beginning German II

This course emphasizes understanding, speaking, reading, and writing German. Students learn and develop basic reading skills through study of short contemporary pieces on modern German life and culture. Students study German grammar structure and develop a working vocabulary of 850 words. They also read and respond to short, simple German texts.

Credits: 3

Semester Offered: S

Prerequisites: GER 111

GER 211 Intermediate German I

Students review the fundamentals of the German language and continue the study of German literature and culture through selected readings. Students continue to develop reading, speaking, and comprehension of German while acquiring a working vocabulary of at least 1,000 words.

Credits: 3

Semester Offered: F

Prerequisites: GER 112

GER 212 Intermediate German II

Students develop intermediate German skills through intensive oral/aural drills, reading assignments, and discussion of selected graded texts. Students learn how to read, speak, write, develop, and master a working vocabulary of at least 1,400 words.

Credits: 3

Semester Offered: S

Prerequisites: GER 211

Gerontology

GRT 101 Introduction to Aging

This course focuses on issues in gerontology and normal psychological, social, and physical

changes in the older adult. Students examine relevant theories in aging: disengagement, activity, developmental, and the concept of Shrinking Life Space. Students learn about problems facing the older person, such as isolation, dependency, illness, and institutionalization. External forces impinging on the aging individual will also receive attention. The course methodology includes guest lecturers from the community, visits to geriatric institutions, and experiences with the elderly population.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 096 with a grade of "C" or higher; or appropriate placement score

Heating Ventilation Air Conditioning

HVC 101 Basic Refrigeration Systems and Heat Theory

This course introduces students to the basic concepts of heat transfer that dictate the behavior and operation of both heating and cooling systems. Topics lay the groundwork for the basic refrigeration cycle, including sensible, latent, and specific heat. Temperature and pressure concepts are also applied to refrigeration system models. This course includes a laboratory component.

Credits: 4

Semester Offered: F

Prerequisites: Enrollment limited to HVC majors only

Please Note: Three hours lecture, three hours laboratory

HVC 102 Basic Electricity

Students are exposed to AC fundamentals, Ohm's Law, and other circuit rules effecting circuit behavior, as well as basic electrical components used to develop series and parallel control circuits. Laboratory exercises focus on creating wiring diagrams, and then applying them to actual wiring practices on working circuitry. Students are trained in the use of electrical meters to develop troubleshooting procedures. Electrical Safety is incorporated into all activities. This course includes a laboratory component.

Credits: 4

Semester Offered: F

Prerequisites: Enrollment limited to HVC majors only

Please Note: Three hours lecture, three hours laboratory

HVC 104 Massachusetts Refrigeration Code

This class explores the regulations of the American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE 15) and the Refrigeration Safety Code to ensure that systems are assembled and installed to code

specifications as well as being safe for buildings and its occupants. Laboratory exercises apply ASHRAE 15 and Environmental Protection Agency regulations to shop-built projects that illustrate compliance in both installation and service procedures. This course includes a laboratory component.

Credits: 4

Semester Offered: S

Prerequisites: HVC 101, Enrollment limited to HVC majors only

Please Note: Three hours lecture, three hours laboratory

HVC 105 Massachusetts Electrical Code

Wiring practices required by the Mass. Electrical Code (National Electrical Code) are detailed as they apply to the wide variety of heating, ventilation, air conditioning, and refrigeration equipment. Laboratory exercises demonstrate the application of these practices on controls, relays, timers, motors, circuit protection and electrical supplies for safety and functionality. This course includes a laboratory component.

Credits: 4

Semester Offered: F

Prerequisites: Enrollment limited to HVC majors only

Corequisites: HVC 102

Please Note: Three hours lecture, three hours laboratory

HVC 106 Comfort Heating Systems

This course is a study of mechanical energy systems that use gas, oil, and electricity for comfort heating applications. An emphasis on energy efficiency and awareness of energy costs is inherent in the content. Hands-on laboratories cover the installation and use of electrical controls, system evaluation, mechanical and electrical troubleshooting of residential and light commercial applications. This course includes a laboratory component.

Credits: 4

Semester Offered: S

Prerequisites: HVC 101, Enrollment limited to HVC majors only

Please Note: Three hours lecture, three hours laboratory

HVC 107 Comfort Cooling Systems

This course is a study of mechanical cooling equipment used in comfort cooling, heat pump, and other indoor environmental applications. Hands-on laboratories cover the installation and use of electrical controls, system evaluation, and mechanical and electrical troubleshooting of residential and light commercial applications. Strategies for energy efficiency maintenance procedures are matched to appropriate equipment. This course includes a laboratory component.

Credits: 4

Semester Offered: S

Prerequisites: HVC 101, Enrollment limited to HVC majors only

Please Note: Three hours lecture, three hours laboratory

History

HST 104 World History I: Beginning to 1500

This course examines the world's ancient and pre-modern peoples, cultures, and civilizations. It emphasizes themes such as the development of agriculture and rise of civilization, formation of empires, development of religions, and economic and cultural interaction between regions of the world.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 101

HST 105 World History II: 1500 to World War I

This course examines the convergence of the world's people, cultures, and civilizations on a global scale beginning around the 16th century. It emphasizes themes such as the emerging global economy, colonialism, revolution, industrialization, imperialism, and the rise of the nation-state.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 101

HST 106 World History III: World War I to Present

This course examines recent and current interactions between the world's peoples, cultures, and civilizations. It emphasizes themes such as nationalism, migrations, technology, and economic and cultural interaction on a global scale.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 101

HST 115 U.S. History: Beginnings to 1865

This course surveys the period from pre-Columbian times to the end of the Civil War. Topics include Native American cultures and societies; colonization; origins and development of slavery; American Revolution; establishment of the United States; industrialization and immigration; westward expansion; sectional politics and Civil War. Students examine the Constitution in light of politics, society, economy, and culture of the period.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 101

HST 116 U.S. History: 1865 to Present

This course surveys the period from the end of the Civil War to present-day. Topics include Reconstruction; Gilded Age, populism and progressivism; imperialism; World War I; Great Depression and New Deal; World War II; Cold War; the Sixties; conservatism; globalization and September 11th's aftermath. Students examine the Constitution in light of politics, society, economy, and culture of the period.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 101

HST 133 History of Puerto Rico

This course examines selected topics concerning Puerto Rico from the pre-Columbian period through Spanish conquest and colonization, and considers its relationship with the United States since the Spanish American War. Students develop an understanding of the Native American, Spanish, and African heritage of Puerto Rico. Sections are offered in Spanish.

Credits: 3

Semester Offered: S

Prerequisites: ENG 101

HST 152 The Holocaust & World War II

This course examines the rise of Nazism in Germany and the two-fold war of aggression it spawned against Germany's neighbor states and the world's Jewish community. Topics include the long history of militarism, nationalism, racist theory, and religious prejudice upon which Nazism was based, and the ways in which the Holocaust and World War II continue to affect our world.

Credits: 3

Semester Offered: S

Prerequisites: ENG 101

HST 153 The Bible as History

This course explores scripture both as a source of evidence and as a subject of study. Students examine history by applying the assumptions, tools, and methods of modern historical criticism to selected books and passages of the Old and New Testaments; identify the human authors of these documents; and evaluate the historicity and purpose of their narrative content. Students also examine the origins, history, and relationship of the Jewish and Christian faiths and their respective critical analyses and interpretations of scripture.

Credits: 3

Semester Offered: S

Prerequisites: ENG 101

HST 157 Genocide

This course examines the historical phenomenon of genocide - an attempt to annihilate an entire race, nation, culture, ethnicity, religion, or other identifiable human group. Students identify common characteristics of all genocides, focus on particular examples, and consider more

recent manifestations of the phenomenon including hate crimes.

Credits: 3

Semester Offered: F

Prerequisites: ENG 101

HST 202 Topics in the History of Civilization

This course examines in-depth a selected topic from the history of civilization. Students develop greater knowledge, insight, and sophistication than might be obtained from a survey course while retaining historical and chronological perspectives. Topics vary from semester to semester.

Credits: 3

Prerequisites: ENG 101

HST 203 African American History I: Beginnings to 1865

This course examines the history of African Americans from their African origins and forced migration to and settlement in America to the end of the Civil War. Topics include the development of slavery, conceptions of race, struggle for freedom, development of African American culture, and life of free blacks before the Civil War.

Credits: 3

Semester Offered: F/S

Prerequisites: ENG 101

HST 204 African American History II: 1865 to the Present

This course examines the history of African Americans from the end of the Civil War to present day. Topics include Reconstruction, Jim Crow, the Great Migration, black nationalism, the Harlem Renaissance, black culture and society, the civil rights and restorative justice/reparations movements, and the role African Americans today play in the economic, political, and social life of the United States.

Credits: 3

Semester Offered: F/S

Prerequisites: ENG 101

HST 206 History of Latin America I: Pre-Contact to 1825

This course examines the emergence of Latin America from the first Mesoamerican and Andean civilizations to the wars of independence in the nineteenth century. The course examines the pre-contact civilizations of Latin America, and traces the process by which Spain and Portugal established colonies in the region. Topics include colonization, Indian and African resistance and rebellion, colonial gender roles, the role of the Catholic Church in colonial societies, and the nineteenth-century economic and political decline of colonial systems in Latin America.

Credits: 3

Semester Offered: F

Prerequisites: ENG 101

HST 207 History of Latin America II: 1825 to Present

This course examines the forces and events that have shaped Latin America from the early nineteenth century to the present. It analyzes Latin America's experiences with independence movements, nationhood, dictatorships, revolution, and democracy. Through this analysis, students explain the political, economic, and social conditions present in modern Latin America.

Credits: 3

Semester Offered: S

Prerequisites: ENG 101

HST 212 The United States Constitution

This course examines the events and writings, which influenced the framers of the United States Constitution. It covers the principles, philosophies, and reasoning on which the Constitution is based, and how historical events, court cases, amendments, and evolving interpretations have made it a living document for each generation of Americans. Students consider the intent of the framers of the Constitution and judge the extent to which it has realized their expectations.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 101

HST 215 American Ethnic History

This course explores the pluralistic dimension of American history. Students examine the experience of various racial, ethnic, and immigrant peoples in the political, economic, social, and cultural development of the United States.

Credits: 3

Semester Offered: F/S

Prerequisites: ENG 101

HST 216 History of Native Americans in North America

This course explores the history of Native Americans in North America from earliest archeological periods to the present. Students examine the migration and settlements of native peoples, development of Native American societies and cultures in the pre-Columbian era, their encounters with Europeans and Africans, and their responses to the challenges of conquest, dispossession, and colonialism in North America.

Credits: 3

Semester Offered: F/S

Prerequisites: ENG 101

HST 221 History of Science

This course is an introductory survey of science across diverse cultures in world history. Students examine the development of sciences, such as astronomy, mathematics, medicine, chemistry, and agronomy, and address the social, cultural and political influences on the development of science and the impact of science on society.

Credits: 3

Prerequisites: ENG 101

HST 232 Worcester's History

This course traces the social, industrial, and political transformations in the "Heart of the Commonwealth" from the initial encounters of native Nipmuc people with Europeans in the 1600s to Worcester's present. Students examine the city's local perspective on important topics in American History including colonial town life; the American Revolution; the anti-slavery, women's rights and other reform movements; the Civil War; industrialization; immigration; ethnic diversity; and labor.

Credits: 3

Semester Offered: F

Prerequisites: ENG 101

HST 241 History of Chinese Civilization

This course surveys Chinese civilization from its origins to the present. Students examine geography, economy, society, culture, and politics. Students explore and discuss significant features of Chinese civilization to understand the ways that it deals with the same basic human problems as Western civilizations.

Credits: 3

Semester Offered: S

Prerequisites: ENG 101

Hospitality & Recreation Management

HRM 101 Introduction to Hotel/Restaurant Management

This course covers the hospitality industry, including food service, lodging, tourism, casinos, recreation, and convention management. Students learn the departments of hotels, restaurants, and travel organizations both individually and in relation to each other. Students examine the management process as it applies to the hospitality industry in order to select an area of interest for their own careers.

Credits: 3

Semester Offered: F/S

HRM 111 Basic Foods: Basic Boucher & Patisier

This course introduces commercial food preparation and production management. Students learn basic principles of commercial cookery, including methods of preparation, nutrition, cost, and organization and management of commercial kitchens. Topics

include the purpose and use of recipes; portion control techniques; and the selection, cooking, and handling of stocks and sauces, soups, meat, poultry, fish, vegetables, starches and salads. Students learn basic principles of kitchen operation and management and the safe usage of food service equipment. Students individually plan, produce, and serve products in the student-run diner at the Worcester Senior Center.

Credits: 4

Semester Offered: F

Corequisites: HRM 115

HRM 112 Basic Foods: Garde-Manager & Saucier

In the laboratory portion, students in a restaurant setting produce food, including appetizers, soups, salads, entrees, vegetables, and desserts. In the classroom portion, students calculate potential and actual operating food costs, assess and design menus and operations methods, and modify recipes for special diets or quantity production.

Credits: 4

Semester Offered: S

Corequisites: HRM 115

HRM 115 Sanitation Certification

This course examines the principles of sanitation in the hospitality and food service management fields. It focuses on sanitation and health, serving sanitary food, keeping a sanitary food environment, and managing a safe hospitality property. Students learn the skills necessary to gain certification in the National Restaurant Association Safe Serve Examination.

Credits: 1

Semester Offered: F

HRM 121 Hospitality Law and Ethics

This course examines the U.S. laws that most impact hospitality operations in the areas of lodging, beverage service, foodservice, casino management, and convention planning. Using case studies, students learn hospitality management policies in order to minimize legal liability; the responsibilities and legal rights under the law for innkeepers, bartenders and employers; and the consequences of failing to meet those responsibilities.

Credits: 3

Semester Offered: F/S

HRM 131 Food and Beverage Cost Control

This course provides experience in identifying, analyzing, and creating controls for production, labor, and revenues necessary to ensure profitable foodservice operations. The main topics studied are forecasting, budgeting, and analyzing costs of food, beverages, and labor, in addition to the internal controls required for effective cost management. This course is required for both the foodservice track certificate and the foodservice track degree.

Credits: 3

Semester Offered: S

HRM 135 Front Office Operations

This course focuses on operations and procedures of lodging management for inns, hotels, resorts, clubs, and casinos in order to relate front office operations to other departments. Using property management software, students learn the mechanics of the front office in two general areas - customer service and financial management. In customer service, the course focuses on reservation inquiries, recording, availability, denials, check-ins, rate selection, walk-ins, and room status. Students also learn procedures related to special equipment needs, housekeeping, settlement, and checkout. In the financial management section, students learn guest accounting, night audits, and revenue.

Credits: 3

Semester Offered: F

HRM 136 Front Office Management

This course focuses on the application of hospitality service principles related to customer service including planning, organization, implementation and management of service systems and staff. Through case studies, students experience communication, problem solving, and decision-making as related to the effective management of the front office. The course also stresses customer-centered concepts in the areas of hiring, training, and motivating employees. Students participate in the International Customer Service Association's CS certification program.

Credits: 3

Semester Offered: S

HRM 137 Introduction to Casino and Gaming Operations

This course uses a combination of lecture, guest speakers, experiential learning and independent study to examine the theory, practice and business of gambling. Students discover how the gambling industry operates, analyze many of the popular games, and explore the phenomenon and impact of legalized commercial gaming.

Credits: 3

HRM 139 Bar and Beverage Management

This course focuses on the management of beverage operations including wine, beer, and spirit liquor. Students study grape growing, fermentation, aging, production, and primary taste characteristics of wine; beer-brewing techniques and brew houses; and the main ingredients and production of whiskeys, bourbon, tequila, gin, and vodka. Students also learn the components of beverage operations including production, control, storage, and purchasing; and the marketing, service, and accounting functions. The course emphasizes the legal and social responsibilities of managing beverage operations.

Credits: 3

Semester Offered: S

HRM 201 Hospitality Accounting

This course covers managerial accounting in the hospitality industry including financial statement interpretation and cost accounting internal control. The course emphasizes the ability to analyze financial statements through the use of financial ratios. Students learn the use of the balance sheet, income statement, and the statement of cash flow; examine financial control systems used in the food and beverage management; and understand the budget cycle, sales forecasting, and the capital budgeting process in specific hospitality operations.

Credits: 3

Semester Offered: S

Prerequisites: ACC 101

HRM 215 Contract Foodservice Management

This course covers the basic systems found in contract foodservice operations such as schools, healthcare facilities, and corporate environments. Students examine consumer needs with an emphasis on planning cyclical and pre-set menus, kitchen layout and design, and facilities planning and equipment selection. Students also review the foodservice and prototype contract, the contracting process, and catering services as a function of contract foodservice operations. Students attend a restaurant trade show or conduct research and complete a project on equipment and/or facility design.

Credits: 3

Semester Offered: F/S

Corequisites: HRM 115

HRM 216 Nutrition for Foodservice Management

This course is an introduction to human nutrition in foodservice management, focusing on basic nutrition including macro and micronutrients, recipe development and modification, and nutrient analysis. It also covers food purchasing, receiving, storage, and preparation for optimum nutrient retention. It emphasizes menu planning and food preparation for foodservice managers in healthcare, institutional settings, and spas. Students plan the development and marketing of healthful menu alternatives, understand special diets, and understand the roles of culture and religion in diet and menu preparation.

Credits: 3

Semester Offered: F

Corequisites: HRM 111 or HRM 112

HRM 218 Dining Room and Banquet Management

This course covers dining room staffing and employee training; basic service rules, techniques and styles (American, French, Russian, a la carte, buffet, butler); proper

table setting, plating and presentation; and table etiquette. Students understand menu types (static, cycle, and market menus) and managing by menu. Using the student-run restaurant, students plan a merchandising and sales promotion and plan and develop special events, with emphasis on management approaches that achieve good customer relations and satisfaction.

Credits: 3

Semester Offered: S

HRM 232 Hotel Meetings: Sales and Operations

This course focuses on front-of-the-house operations, from meeting the client through planning and selling an event. Topics include deciding room size and set up, food and beverage requirements, guest services, special equipment requirements, cost, and contracting for the event. The course also covers back-of-the-house operations including accounting, contracting with vendors, and staff scheduling and management. Students learn the marketing, planning, and management of large and small hotel meetings, functions, and conventions.

Credits: 3

Semester Offered: F

HRM 235 Management in the Hospitality Industry

This course is a capstone course for hospitality management students. It is designed to enhance leadership ability while focusing on the principles of effective management in the context of the hospitality industry. Students study how to develop, motivate and empower high performance teams and to put quality management tools into action to increase sales and customer service. An assessment tool developed by the American Motel/Hotel Association (AMHA) enables students to develop an understanding of and skills in the following areas: coaching and counseling, communication, managing change, performance management, setting goals and standards, managing conflict, problem solving, and decision making.

Credits: 3

Semester Offered: S

HRM 236 Destination Marketing and Management

Students develop an understanding of destination marketing to a level where they are able to make marketing strategy recommendations for the promotion of tourism for a variety of visitors. A partnership with the Central Massachusetts Visitor and Convention Bureau serves as an experiential lab to promote the examination of the role of tourist, the tourism manager, and the central Massachusetts region as a destination. Topics covered in this course may change according to the current demand, events, or issues.

Credits: 3

Semester Offered: F

HRM 299 Hotel/Restaurant Management Cooperative Education Experience

This course provides a blend of classroom theory and practical job experience through periods of on-campus instruction and supervised off-campus employment. Cooperative Education helps students decide if they have selected a profession to which they are willing to commit themselves. Bringing field experience into the classroom discussion takes a new relevancy, and learning is enhanced. Individualized outcomes are developed among the student, a faculty supervisor, and the employer.

Credits: 2-6

Semester Offered: F/S/SU

Prerequisites: Approval of Program Coordinator

Human Services

HUS 101 Introduction to Human Services

This course focuses on the historical, political and social aspects of human services. Students gain core knowledge of common problems in living, consumer populations, helping models. Students learn about the agencies and services available in the Worcester area and identify strategies for effective delivery of human services. Upon completion students will be able to explain the value of participant empowerment, access appropriate supportive services, and expeditiously navigate the human service system.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 096 with a grade of "C" or higher; or appropriate placement score

HUS 121 The Helping Relationship: Delivering Human Services

This course explores the knowledge, skills and personal characteristics that are critical for an effective helping relationship. The helping relationship is one that partners with and empowers others. Course material is built upon research about human behavior, life stage theory, intervention strategies and strength-based practice. Using demonstration, lecture, role-play and hands on experience, students learn the fundamentals of: basic helping skills, crisis intervention, behavior modification, case management and accurate recordkeeping.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 096 with a grade of "C" or higher; or appropriate placement score

HUS 125 Group Process for Human Services

This course examines the theory, process, and practice of group work in human services through lecture and experiential methods. Students learn the value of groups, the stages

of group development, the roles and tasks of the group facilitator, and the strategies for dealing with common group problems. Course material will focus on the unique issues of groups commonly found in human service programs: education, discussion, growth, support, and self-help. The experiential component provides students the opportunity to participate in a group with the goal of enhancing self-awareness of personal qualities and skills required for effective group leader roles.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: HUS 101, HUS 121

HUS 131 Introduction to Developmental Disabilities

This course examines a variety of developmental disabilities such as mental retardation, autism, syndromes (e.g., Down Syndrome, Fetal Alcohol Syndrome), neurological, sensory, and health impairments, learning disabilities, and emotional and behavioral disorders. The course incorporates a sociopolitical perspective laws, legislation, court cases, and attitudes on the treatment and support of people with developmental disabilities. Effective teaching and intervention strategies are explored. Special attention is devoted to addressing barriers to integration and the impact on the individual and his/her family. Students explore their own beliefs and biases regarding people with disabilities and their possible role as change agents in society.

Credits: 3

Semester Offered: F/S

Prerequisites: HUS 101

Corequisites: ENG 101

HUS 141 Community Service: Delivering Human Services

This course includes fieldwork in human service agencies in the Worcester area. Students learn about the various roles of the human service practitioner and explore multiple aspects of service delivery through the observation and "shadowing" of professionals. Students select three areas of interest within mental health, substance abuse, homeless/outreach, developmental disabilities, gerontology, adolescent behavior management and family/community based services. Visiting a minimum of three agencies during the semester increases students' awareness of community resources and understanding of services provided to agency participants. The course also covers effective communication styles, agency systems and system theory, effective joining styles, establishing strong work habits and ethics, assertiveness skills, self-awareness, and self-management.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 101, HUS 101, HUS 121

HUS 143 Direct Support Practicum

Students contract for a minimum of 10 hours per week at a practicum placement and a weekly seminar at the College. Practicums are supervised by an agency staff person and by the course instructor, who visits the sites and maintains weekly contact with the students. Students demonstrate sensitivity to diverse populations and satisfactory proficiency in developing, interpreting, implementing, and documenting helping interventions. They understand the appropriate use of supportive services, group facilitation, conflict resolution, and system change strategies; and use appropriate written and verbal communication skills to document their work.

Credits: 3

Semester Offered: F/S

Prerequisites: HUS 101

HUS 145 Special Topics in Developmental Disabilities

This course is designed for human service professionals who work as direct support workers for the Department of Development Disabilities. Students enrolled in this course will gain a deeper understanding and appreciation of issues that may have been presented in previous human service classes. In addition, they will further develop their skills in working with both clients and their families. Topics covered in this course include person centered thinking, teaching and learning, diversity, health and wellness, sexuality, humans rights, grief and loss, and working with families.

Credits: 3

Semester Offered: S

Prerequisites: HUS 101, HUS 131

HUS 151 Families and Children with Special Health Care Needs

This course focuses on understanding family systems and development for families with children who have special healthcare needs. Family-centered, strength-based model provides the foundation of the course. Students explore the impact of disabilities and special healthcare needs on family development and functioning; cultural and societal dynamics; home-based intervention and respite care; and the role of service providers in creating professional partnerships. Students receive 20 hours of practical experience including agency orientation, parent networking and self-advocacy groups.

Credits: 3

Semester Offered: F/S

Prerequisites: HUS 101

HUS 221 Cultural Competence for Human Service Workers

This course prepares human service workers in developing awareness and skills to provide culturally competent services to meet the needs of a changing population. Students examine three core principles: the worker must be self-

reflective and examine biases within themselves and their profession; the worker must have core knowledge about minority group value systems, beliefs about health and personal problems, histories, traditions and natural systems of support inherent in one's culture; and the worker must be able to demonstrate an integration of this knowledge and personal reflection with practice skills.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 101, HUS 101, SOC 101

HUS 231 Legal and Ethical Concepts in Human Services

This course examines ethical and legal issues that confront human service workers. Students begin by investigating the core values that are the foundation of helping services and examine the issues of social justice and consumer rights. Topics of consumer privacy, confidentiality, duty to disclose, and boundary dilemmas are covered in depth. Examples from Massachusetts's laws and cases are used to help learners understand their legal responsibilities and effectively collaborate with professionals from the justice system. Throughout the course, students develop an understanding of the legal system and how it impacts human service issues.

Credits: 3

Semester Offered: F/S

Prerequisites: HUS 101, HUS 121, HUS 141

HUS 243 Human Services Practicum I

This course provides training in technical competency and skills building through 120 hours of directed, professionally supervised individual and group work in a human service agency. Students demonstrate sensitivity to diverse populations and satisfactory proficiency in developing, interpreting, implementing, and documenting helping interventions. They understand the appropriate use of supportive services, group facilitation, conflict resolution, and system change strategies; and use appropriate written and verbal communication skills to document their work. (Only open to students enrolled in the Human Services Program).

Credits: 4

Semester Offered: F

Prerequisites: HUS 101, HUS 141, PSY 231

HUS 244 Human Services Practicum II

This course provides a continuation of the technical competency and skills building through 130 hours of directed, professionally supervised individual and group work in a human service agency. Students demonstrate sensitivity to diverse populations and proficiency in developing, interpreting, implementing, and documenting helping interventions. Students understand the appropriate use of supportive services, group facilitation, conflict resolution, and system change strategies; and use appropriate written and verbal communication skills to document their work.

Credits: 4

Semester Offered: S

Prerequisites: HUS 243

Humanities

HUM 101 Critical Thinking and Problem Solving

This course focuses on the development of reasoning and problem solving skills by analyzing controversial public issues and practical everyday problems. Students explore problem solving strategies, argumentation, cultural differences in reasoning, inductive and deductive logic, cause and effect reasoning and the role of perception in thinking. Other topics include studying the scientific method, propaganda, manipulation of language in advertising and political speeches, and the use of emotional appeals in public discourse. Students write argumentative essays to explore different facets of the course topics.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

HUM 105 Introduction to Humanities

The course focuses on both western and non-western cultures and their intellectual traditions through the study of literature, philosophy, visual and performing arts, theater, music, science and religion. Students explore how human knowledge has developed and grown through history by reading a variety of ancient and modern texts, listening to music, viewing artworks, watching film excerpts, and participating in discussions and experiential learning activities.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 101

HUM 142 Internet Communications

This course examines humans' relationship to cyberspace by analyzing the content and development of Web sites, search services, and e-mail. Students focus on material published in the humanities and evaluate sources from online databases to write a research project. Course topics include privacy and security issues, cyber ethics, copyright, online learning, censorship, Internet access, and Internet standards. Students create an online portfolio of course projects to demonstrate their ability to navigate the Internet with efficiency and to gain awareness of its power and limitations.

Credits: 3

Semester Offered: S/SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score, Computer Literacy

HUM 151 Forbidden Subjects

This course explores censorship. Students gain a comprehensive overview of past and present censored material through extensive readings. Particular censored works are examined and discussed in class to enable students in developing rational thought processes.

Credits: 3

Semester Offered: SU

Prerequisites: ENG 101

HUM 210 Journaling in Context: New England's Great Thinkers

This course introduces the New England Transcendental diarists of the nineteenth century, including: Henry David Thoreau, Ralph Waldo Emerson, Margaret Fuller, and Bronson Alcott. Students read significant journal entries written by these authors, and learn how to develop their own personal journal. Students take part in investigative exploration of journal entries from the nineteenth century with the objective of understanding chronological events, gathering insight regarding local and national matters, and correlating past cultural events to contemporary issues. Topics of discussion and research will consist of: social activism, utopian communities, societal experimentation, consumerism and industrialism, and personal philosophy.

Credits: 3

Semester Offered: F

Prerequisites: ENG 101

HUM 211 The Sixties in America

This course introduces students to the dramatic events occurring in the decade of the 1960s. Students examine significant developments of the era through an exploration of various cultural media including texts, videos, art, music, and theater. The course covers Civil Rights and Black Power movements; the war in Vietnam and related controversies; the rise of the counterculture; the contemporary Women's Movement; the student revolution; and the beginnings of the Environmental Movement. Students examine the relevance of the events of the 1960s to the issues facing the 21st century.

Credits: 3

Semester Offered: F/S

Prerequisites: ENG 101

HUM 214 Great Debates of the Western World

This course focuses on presenting opposing views of controversial questions. Students discuss classic issues such as romanticism vs. classicism, militarism vs. pacifism, and liberalism vs. conservatism. Students also examine topics including abortion, pornography, and genetic engineering. They learn how to explore the variety and complexity of human values while maintaining a framework of a rational and fair-minded approach to all sides of every dispute.

Credits: 3

Semester Offered: S
Prerequisites: ENG 101

HUM 232 Survey of Hollywood Film: 1920 to Present

This course offers a foundational survey of Hollywood film from its inception through the present. Students study a chronological series of films selected to represent the ethno-cultural diversity of that history, films that demonstrate major developments in Hollywood film art over time. Students become familiar with the language of film, and the theoretical approaches and critical terminology used by film scholars to analyze the form. Students learn how to apply the theories and terms learned by use of them in class presentations and in class discussion, as well as in the writing of essays in the genre of film analysis.

Credits: 3
Semester Offered: F
Prerequisites: ENG 101

HUM 233 Play Production: Theory

This course introduces students to the various aspects of play production: play writing, acting, directing, makeup, business matters, and dramatic criticism. It focuses on providing a basic appreciation of the whole dramatic experience and developing expertise in several areas of play production. Students rehearse and perform a scene from a play and to demonstrate an understanding of blocking techniques, character identification, line memorization, timing and rhythm, and creative problem-solving techniques.

Credits: 3
Semester Offered: F/S
Prerequisites: ENG 101

Interactive Media Digital Design

IMD 114 Digital Design Concepts I

This course explores the fundamentals of digital design and its application in two-dimensional space. Students learn the principals and elements of design and color theory to create vector drawing and graphics associated with digital media. Students complete assignments using industry-standard software and hardware.

Credits: 3
Semester Offered: F/SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

IMD 115 Digital Design Concepts II

This course builds on the foundations of Digital Media Design Concepts I. Students expand their knowledge of design, color and light theory relevant to the application of two-dimensional space. They investigate the use of form, line, volume and void using complex concepts in vector drawing and graphics. Students complete

assignments using industry-standard software and hardware.

Credits: 3
Semester Offered: S/SU
Prerequisites: IMD 114

IMD 121 Graphic Design I

This course introduces fundamentals of design and use of design principles to create forms of graphic communication. It emphasizes problem solving by design, visualization of problems and their solutions, and correlation between forms and their content, function, and context. Students study advertising and related commercial print media and create solutions to design problems.

Credits: 3
Semester Offered: F
Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

IMD 122 Graphic Design II

This course builds on the foundation of IMD 121. Topics include using typography effectively in design; visualizing communication problems and solutions; and, the correlation between type forms and content, function, and context. Students expand their understanding of the relationship between formal design and typography and the components of layout, photography, and illustration.

Credits: 3
Semester Offered: S
Prerequisites: IMD 121

IMD 154 Digital Imaging and Media

This course introduces the observational and perceptual skills necessary to construct complex and detailed drawings, illustrations, montages, and collages using digital media. Students experiment with line, space, form, volume and color to manipulate and create effects associated with electronic imaging. Students complete assignments using industry-standard software and hardware.

Credits: 3
Semester Offered: F/SU
Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

IMD 155 Digital Illustration and Animation

This course explores illustrative and animation based design processes to create original compositions and narrative styles for digital media production. It introduces cell and timeline computer animation applications to explore concepts of space, motion, and perspective. Students complete assignments using industry-standard software and hardware.

Credits: 3
Semester Offered: S/SU

Prerequisites: IMD 154

IMD 161 Digital Photography

This course covers the digital camera, including the artistic, theoretical, technical, and career aspects of photography. Students learn the relationship between the key features of light, composition, film usage, computer manipulation, scanning, resolution, and the final digital print. Students must have access to a medium-to-high resolution digital camera. Students learn how to use the controls of any digital camera; use computer technology to scan, digitize, and manipulate images; and, prepare images for professional display.

Credits: 3
Semester Offered: F
Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

IMD 171 Fundamentals of 3D Digital Design

This course is an introduction to three-dimensional modeling, rendering, and animation. Students further expand their knowledge of design theory and the application of 3D design. Students develop skills in 3D software topics including interface, modeling, texturing, lighting, rendering, and hierarchy in preparation for game design and development. Students complete assignments using industry-standard software and hardware.

Credits: 3
Semester Offered: S
Prerequisites: IMD 154, IMD 161

IMD 222 Publication Design

This course examines the fundamentals of publication design with multi-page design concepts. It covers the research, development, organization, and visual presentation of complex printed documents. Comprehensive aspects of design, content and image are addressed. Students complete assignments using industry-standard software and hardware.

Credits: 3
Semester Offered: F
Prerequisites: IMD 115, IMD 122

IMD 263 Digital Video Fundamentals

This course gives students an overview of the theoretical, aesthetic, and practical elements of digital video pre-production, production, and post-production. Through a series of creative exercises, lectures, and classroom critiques, students gain and understanding of the fundamental skills required in storyboarding, scripting, directing, shooting, lighting, and editing digital video productions for a variety of purposes and audiences. Students complete assignments using industry-standard software and hardware.

Credits: 3
Semester Offered: F

IMD 271 Typography

This course introduces typographic form and design. It covers fundamental concepts from theoretical, historical, and technological contexts. It emphasizes principles of composition, spacing, and effective typographic expression as it applies to page layout with particular focus on basic letterform design, typesetting, and construction. Students complete assignments using industry-standard software and hardware.

Credits: 3

Semester Offered: F

Prerequisites: IMD 115, IMD 121

IMD 275 Motion Graphics

This course introduces the theory and practice of motion graphic production by integrating digital animation and interactive multimedia. Students explore creative and narrative aspects of digital imaging, sound, animation, and motion editing effects to produce innovative digital spaces and experiences for web and video presentation. Students complete assignments using industry-standard software and hardware.

Credits: 3

Semester Offered: F

Prerequisites: IMD 154, IMD 155

IMD 286 Interactive Media Processes Portfolio

This capstone course prepares the student to develop a presentation portfolio utilizing the media design processes of an interactive portfolio web/epublishing presence and DVD. It covers digital animation, motion graphics, and multimedia for interactive portfolio preparation. Emphasis is placed on the relationship between technical, creative and critical thinking skills as students plan, design, launch and maintain a complete interactive media environment for final portfolio evaluation. Students complete assignments using industry-standard software and hardware.

Credits: 4

Semester Offered: S

Prerequisites: IMD 275

IMD 287 Graphic Design Processes Portfolio

This capstone course prepares the student to develop a presentation portfolio utilizing print and PDF applications based on industry standards. It covers advanced concepts and processes of graphic design and portfolio preparation. Projects address pre-press and PDF production for new media. Emphasis is placed on the relationship between technical, creative and critical thinking skills. Students prepare a body of their best work for final evaluation using industry-standard software and hardware.

Credits: 4

Semester Offered: S

Prerequisites: IMD 222, IMD 271

Interactive Media Game Design**IMG 100 Drawing the Human Form**

This course provides the student with specific drawing media experiences to build basic perceptual skills in terms of drawing from the human figure. Students review basic knowledge of the elements of art: line, value, shape/volume, texture and color to lead to manipulation for different types of spatial illusion and expressive meaning including the study of proportion, light, shade and simple anatomy to develop an understanding of the human figure. A variety of traditional and digital imaging tools and materials are explored. Digital assignments are completed using industry-standard software and hardware.

Credits: 3

Semester Offered: F

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score, Admission to Interactive Media - Game Design Option program

IMG 101 Fundamentals of Game Design and Development

This course introduces the fundamentals of electronic game design and development. It covers the history and evolution of games, the production process and current issues and practices in the game development industry including business and technical perspectives. Topics include the design process, marketing and the application of interactive communication.

Credits: 3

Semester Offered: F

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score, Admission to Interactive Media - Game Design Option program

IMG 102 Introduction to Game Design

This course provides students an overview of the theoretical, aesthetic, and practical elements of game design pre-production. Through a series of creative exercises, lectures, and classroom critiques, students will gain an understanding of the fundamental skills required in character development, storyboarding, scripting, creation strategies, camera angles, lighting, and editing game design pre-production for a variety of purposes and audiences. Assignments are completed using industry-standard software and hardware.

Credits: 3

Semester Offered: S/SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score, Admission to Interactive Media - Game Design Option program

IMG 203 Intermediate Game Design

This course continues the development of the theoretical, aesthetic, and practical elements of game design pre-production and production. Through a series of creative exercises, lectures, and classroom critiques, students will further their understanding of the skills required in character development, storyboarding, scripting, creation strategies, camera angles, lighting, and editing game design pre-production and production for a variety of purposes and audiences. Assignments are completed using industry-standard software and hardware.

Credits: 3

Semester Offered: F

Prerequisites: IMG 100, IMG 101, IMG 102, IMD 155

IMG 272 3D Modeling for Game Design

This course covers the principles and techniques involved in creating 3-dimensional media for Game Design. Students will learn the step-by-step processes of 3D modeling including NURBS, polygons, subdivisions, environments and character development using sophisticated industry-level 3D modeling software. Students acquire skills in texture design, mapping, cameras, lighting, scene setup and rendering.

Credits: 3

Semester Offered: F

Prerequisites: IMG 100, IMG 102, IMD 155

IMG 288 Interactive Game Design Portfolio

This capstone course prepares the student to develop a presentation portfolio utilizing the game design processes of an interactive game portfolio for multi-platform and device presentation. It covers digital animation, motion graphics, and multimedia for an interactive game design portfolio preparation. Emphasis is placed on the relationship between technical, creative and critical thinking skills as students plan, design, launch, and maintain a complete interactive game design environment for final portfolio evaluation. Assignments are completed using industry-standard software and hardware.

Credits: 4

Semester Offered: S

Prerequisites: IMG 203, IMG 272

Interdisciplinary Studies**IDS 101 Valuing Diversity**

This course focuses on multiculturalism and emphasizes the value of understanding and respecting cultural diversity in today's pluralistic societies. Students explore and discuss issues of race, ethnicity, gender, social class, religion, access, ability, sexual preference or orientation, language, age, size, and appearance.

Credits: 3

Semester Offered: F/S

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or

appropriate placement score

IDS 113 Ethical Issues in Business & the Professions

This course is designed to examine the ethics of professional conduct, evaluate business practices and organizations, using the case study methods and confront students' ethical challenges facing the professional in the light of current business goals, values, and practices in relation to the constantly changing societal expectations.

Credits: 3

Semester Offered: F

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

IDS 200 Honors Colloquium: Special Topics

This course is a team-taught seminar that serves as a capstone experience for students in the QCC Honors Program. Students examine timely issues from many disciplines using a variety of perspectives. The seminar provides a stimulating and challenging experience, covers a broad area of knowledge, and emphasizes inquiry, discovery, critical thinking, and discussion methods to encourage meaningful participation from both students and faculty.

Credits: 3

Semester Offered: S

Prerequisites: Enrollment in Honors Program or permission of Honors Program Coordinator, ENG 102-Honors, 30 college credits

IDS 215 Bioethics

This course provides an introduction to ethical thinking as it relates to the life and health sciences. Students examine ethical issues surrounding continuing developments in biology and biomedicine; identify ethical components in the application of biological knowledge to areas of human activity; analyze an ethical problem in biology and human activity; and, analyze a problem in biology and medicine to arrive at an ethically valid course of action for the individual or society.

Credits: 3

Semester Offered: S

Corequisites: ENG 101

Liberal Arts

LIB 101 Introduction to Liberal Arts

This course introduces the liberal arts intellectual tradition, the purpose of which is to help students on the journey of learning how to learn. It draws from the humanities, mathematics, natural, social, and behavioral sciences. Students examine a broad range of knowledge and possible professions, explore how human knowledge has developed and grown through history, and develop the ability to discuss multicultural relationships and

connections among the various liberal arts through written and oral participation and reading from original sources.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

Logistics

LOG 105 Introduction to Business

Logistics

This course provides students with an understanding of the key functional areas of logistics, including transportation, distribution, warehousing and inventory management. The course explores how these functions interact, their importance to the overall organization, and the major cost components within each area. The course introduces many potential career opportunities available in this field.

Credits: 3

Prerequisites: ENG 096 with a grade of "C" or higher; or appropriate placement score, MAT 090 with a "C" or higher on the MAT 090 departmental final exam or appropriate placement score

Management

MGT 101 Introduction to Business

This course provides a broad overview of the business world. Students learn to apply basic business concepts and principles to a variety of business situations. Topics include business terminology, the legal forms of business organizations, the impact of the economy on business, and the basic functions of management including marketing, banking and financing, accounting, and technology.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

MGT 211 Principles of Management

This course examines the primary functions of management. Students increase self-awareness; develop personal and interpersonal skills, lead group activities, and organize discussions. They learn how to analyze various business situations, defend possible solutions to problems, and communicate their ideas in effective written and oral formats.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

MGT 215 Human Resource Management

This course focuses on the role of the human resources department, its function in the organization and how it supports the success of people at work. Students learn how companies recruit and select new employees, determine who gets promoted, and how salary and job performance measurement decisions are made. Students learn the importance of benefits and non-financial factors in selecting an employer, the impact of laws that protect employee rights, and how employees should use the HR staff for guidance on career development, education and training opportunities, grievances, coping with change, and personal issues that affect their jobs.

Credits: 3

Semester Offered: F/S

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

MGT 216 Entrepreneurship and Small Business Management

This course examines the leadership and management skills needed to succeed in starting, managing and growing a small business. Students learn about the challenges of being an entrepreneur/small business owner, examining the advantages and disadvantages, the risks and rewards. Students develop an understanding of business ethics, strategic planning, small business marketing concepts, stakeholder relationship management, basic accounting principles, and administrative processes. Topics studied include the various types of small business ownership, from startups and franchises, to buying an existing business or taking over a family owned operation. Other topics include how to research and write a business plan and identifying sources of financing.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

MGT 222 International Business & Management

This course emphasizes the study and analysis of the nature, structures and strategies of international/global businesses. Students examine international markets, economic systems, value-chains and core competencies of a firm.

Credits: 3

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

Manufacturing Technology

MNT 100 Manufacturing Safety

This course provides an introduction to the principles of safety, guidelines for the design of equipment, and explanations of why certain

practices should or should not be followed in the manufacturing environment. Students evaluate human reactions in normal and abnormal conditions, and compare features required for safe working conditions to industry standards. Students sit for the OSHA 30 General Industry Certification Examination.

Credits: 3

Semester Offered: F/S

Prerequisites: ENG 095 with a grade of "C" or higher; or appropriate placement score, MAT 095 with a "C" or higher on the MAT 095 departmental final exam or appropriate placement score

MNT 101 Mechanical CAD I

This course introduces computer-aided design (CAD) software. Students develop an understanding of the commands needed to produce a two-dimensional drawing. Topics include drawing setup, geometry creating, editing functions, layer techniques, dimensioning, model and paper space, title block creation, and plotting a completed drawing. Other related topics include multi-view drawings, selection and arrangement of orthographic views, section and auxiliary views, and isometric and oblique drawings. Students gain proficiency in the operation of a PC-based CAD system and a functional understanding of basic computer-aided drafting techniques.

Credits: 3

Semester Offered: F/S

Prerequisites: MAT 095 with a "C" or higher on the MAT 095 departmental final exam or appropriate placement score

MNT 102 Mechanical CAD II

Students study attributes, blocks and Externally Referenced drawing files (XREF), advanced dimensioning, manipulating geometry, slide creation, multi-view layouts, and an overview of three-dimensional operations. The major focus of the course is an individual design project and presentation achieved through extensive hands-on exercises. Students are prepared to take a CAD certification exam and to manage a computer-aided design project in industry.

Credits: 3

Semester Offered: S

Prerequisites: MNT 101

MNT 103 Solid Modeling

This course focuses on computer aided design topics needed to produce parts, assemblies and drawings using industry prevalent Solid Modeling software. Students become familiar with screen layout, cursor feedback symbols, feature manager, constraint geometry, editing functions, and template creation. Extensive hands-on exercises allow students to create complex 3D extrusions from a series of 2D sketches and apply fillets, rounds, chamfers, and patterns. Additional topics include revolving sketches and extruding using shelling, ribbing, sweeping and lofting. Upon completion of this course, students are proficient in creating and animating drawing

assemblies and associated part drawings, and producing a bill of materials, and have functional understanding of 3D parametric modeling software. Students sit for the Certified SolidWorks Associate examination.

Credits: 3

Semester Offered: F/S

Prerequisites: ERG 101 or MNT 101

MNT 106 Manufacturing Quality Assurance & Control Techniques

This course enhances the use of blueprint reading skills through the study of geometric dimensioning and tolerances. Students analyze the dimensional and performance requirements of individual parts or components. Students utilize industry-standard practices in the field of inspection to qualify component part conformance to a given blueprint. Quality control techniques drive the success of engineering and manufacturing companies. This course provides students with an understanding of the critical nature of quality, and recognizing potential problems before they appear. Students use high precision measuring equipment and statistical process control (SPC) methods to determine and support quality control requirements.

Credits: 4

Semester Offered: S

Please Note: Three hours lecture, three hours laboratory

MNT 108 Basic Machine Operation

This course introduces some of the fundamentals of machine tool technologies. It is focused on hands-on activities that are essential to a successful career in a manufacturing industry. Students learn from highly qualified instructors how to use bench working practices as well as operate lathes and milling machines. A variety of assignments challenge students to produce high precision parts while learning mechanical inspection techniques. Finally, students are introduced to the fundamentals of CNC programming and CNC equipment. Students sit for the MACWIC Level 1 Credentialing Examination.

Credits: 3

Semester Offered: F/S

Prerequisites: MAT 095 with a "C" or higher on the MAT 095 departmental final exam or appropriate placement score

MNT 110 Manufacturing Processes I

This course examines present day manufacturing processes and occupations. Students learn various manufacturing processes including forming, additive, and machining processes. Students gain an understanding of the properties of materials, the fundamentals of static forces of structures, and the basics of cost estimating. In addition, students learn a practical approach to managing a project to provide the technical experience necessary in current manufacturing industries.

Credits: 3

Semester Offered: F/S

MNT 115 Maintenance and Instrumentation in Manufacturing

This course analyzes modern maintenance applications along with instruments that are frequently used in manufacturing industries to monitor machinery. Students obtain a detailed understanding of modern maintenance applications and the mechanical theory behind the procedures. Emphasis is placed on the operational aspect of monitoring equipment such as pressure gauges, transducers, strain gauges, electronic recorders, and controllers with a strong emphasis placed on safety. Class projects help students develop the analytical ability necessary for the operation and maintenance of manufacturing equipment.

Credits: 3

Semester Offered: F/S

MNT 210 CNC Programming

This course introduces the essential concepts of computer numerical control (CNC) and its impact on manufacturing and productivity. The course focuses on manual programming of different types of CNC systems, with a strong emphasis on the understanding of G and M codes used in current applications. Students learn to write a variety of part programs for both milling and turning operations. Students sit for the MACWIC Level 2 Certification Examination.

Credits: 4

Semester Offered: F

Corequisites: MNT 101, MNT 108

Please Note: Three hours lecture, three hours laboratory

MNT 215 Computer-Aided Manufacturing

This course explores the fundamental concepts of computer-aided manufacturing through lectures and laboratory experience. Topics include machining using a graphical software package to generate part programs for a CNC mill and a thorough review of manual part programming with emphasis on how to use the CNC program. Students learn how to integrate the program with the machine to fabricate the part. Students develop proficiency in editing graphics and using turning software to create part programs for full-size CNC turning centers.

Credits: 4

Semester Offered: S

Prerequisites: MNT 101, MNT 210

Please Note: Three hours lecture, three hours laboratory

MNT 216 Manufacturing Processes II

This course develops and expands skills learned in previous manufacturing courses. Students solve problems in manufacturing through analysis, measurement, and implementation of computer aided design (CAD), computer

aided manufacturing (CAM), statistical process control (SPC), and computer numerical control (CNC) applications. Students participate in group projects to gain proficiency in various methods and tools. Students gain competency in critical thinking, working in teams, and project management skills applicable to process creation, maintenance, and development.

Manufacturing Processes Final Project Example

Credits: 4

Semester Offered: S

Prerequisites: MNT 102 or MNT 103, MNT 210

Please Note: Three hours lecture, three hours laboratory

MNT 217 Process Automation & Robotics

This course provides students with an overview of the systems and concepts involved in today's highly automated manufacturing environments. Robotic systems, an important component of an automated system, are also studied. Topics include automation design, robotic systems, manufacturing execution systems (MES), and statistical process control (SPC). Students learn and practice systematic troubleshooting, using a highly automated manufacturing system as well as robotic systems.

Credits: 3

Semester Offered: F

Prerequisites: CIS 111

Corequisites: MNT 115

MNT 218 Lean Manufacturing and Six Sigma

This course focuses on entry-level knowledge of the "Lean Manufacturing" methodology and includes the fundamentals of "Six Sigma". It familiarizes students with the fundamental philosophy of "Lean Manufacturing" and provides them with the tools that enable the identification, measurement, and elimination of non-value-added activities in a manufacturing setting. Students gain the understanding that "Lean Manufacturing" maximizes product profit, has a positive effect on product quality, and reduces overhead costs. Students develop a working knowledge of the best practices in quality and process management. Students sit for the SME Lean Bronze Certification Examination.

Credits: 3

Semester Offered: S

Prerequisites: MNT 106

MNT 299 Cooperative Work Experience & Seminar

This course provides students with a structured learning experience while applying classroom theory to a practical work experience. Students participate in a seminar to exchange information about their work experience. The number of credits earned is determined by the number of weeks and hours per week required by the cooperative work experience and the established learning objectives.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: Approval of Program Coordinator

Marketing

MRK 111 Principles of Real Estate

This is an introductory course covering the legal and economic factors involved in the buying and selling of real estate. The course will benefit anyone planning to take the salesperson's real estate examination. The successful student learns licensing laws, concepts of property, deeds and contracts, mortgages, financing, purchase and sale agreements, appraisals, and commission structures.

Credits: 3

Semester Offered: F/S

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

MRK 201 Principles of Marketing

This course presents an overview of marketing management in modern organizations including an introduction to the concept of marketing, the role of marketing in society and the firm, marketing terms, and the various factors that influence marketing decision-making. Students learn how to apply those factors to analyze customers, competition, marketing strengths, and marketing weaknesses. Students study market research and selection, consumer buying behavior, and product development including pricing, promotion, distribution, and global marketing strategies.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

MRK 221 Sales & Sales Management

This course examines the selling function in companies with emphasis on the dynamics of the sales process. Students learn how to qualify sales prospects, plan a presentation, secure and open the sales interview, deliver a product demonstration, handle objections, and close a sale. Areas of study include compensation, management of a field sales force, the development of leads, sales training, and leadership styles. Students also prepare a resume, learn job interview techniques, and gain an understanding of a career in sales.

Credits: 3

Semester Offered: F/S

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

MRK 231 Advertising

This course focuses on the role and importance of advertising in the marketing plan of an organization. Students learn how to prepare

a detailed advertising plan using the most appropriate media. Topics covered include the history of advertising, selecting effective media, creating an advertising message using the selected media, and how an advertising agency functions.

Credits: 3

Semester Offered: F

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

MRK 241 Social Media Marketing

This course examines how social media is used to achieve today's marketing goals. Students gain a perspective on how traditional marketing professionals have viewed social media, myth busters, and how social media is integral to building a marketing strategy. Students explore how to use social media tools, set social media goals that align with the business's goals, and analyze and understand metrics. This class encompasses developing a social media strategy, goals and metrics for business or professional career development, as well as hands-on work in a computer lab.

Credits: 3

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

Mathematics

MAT 090 Basic Mathematics Skills

This course is designed for students with little or no background in mathematics. Major topics include the following: whole numbers, fractions, decimals, percents, ratios, proportions, basic statistics (finding mean and reading graphs, charts and tables) and an introduction to algebra. Technology tools are utilized in this course. All students are required to participate in a unified comprehensive final exam to be administered during final exam week and achieve a "C" or higher on this exam (or appropriate placement on the placement exam) in order to move on to the next level of math courses.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: Appropriate placement score

Please Note: This developmental mathematics course cannot be used to satisfy degree or certificate requirements

MAT 095 Beginning Algebra

This course covers all basic operations of real numbers, linear and literal equations, graphing lines (using tables, x and y-intercepts), the arithmetic of polynomial expressions including properties of exponents, solving and graphing linear inequalities, perimeters and areas of basic figures, scientific notation and intrasystem metric conversions. Technology tools are utilized in this course. All students are required to participate in a unified comprehensive final exam to be administered during final exam week and achieve a "C" or

higher on this exam (or appropriate placement on the placement exam) in order to move on to the next level of math courses.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: MAT 090 with a "C" or higher on the MAT 090 departmental final exam or appropriate placement score

Please Note: This developmental mathematics course cannot be used to satisfy degree or certificate requirements

MAT 098 Math Skills for Allied Health Careers

This course focuses on practical and useful applications of mathematics for students intending to enter the health science fields. Students examine mathematical topics as they relate to health application. Topics include: basic arithmetic computations in health applications; review of algebra; systems of measurement; medication labels; prescriptions, and syringe calculations; modeling health applications with ratios and proportions; dosage calculations; and basics of statistics.

Credits: 3

Semester Offered: F/S

Prerequisites: MAT 095 with a "C" or higher on the MAT 095 departmental final exam or appropriate placement score

Please Note: This developmental mathematics course cannot be used to satisfy degree or certificate requirements

MAT 099 Intermediate Algebra

This course covers major topics in the study of algebra. Students learn to factor polynomials (common factor, grouping, difference of squares and trinomials), perform arithmetic operations on rational expressions and complex fractions, and solve rational, quadratic (by factoring and formula) and literal equations. The course also covers applications including the use of the Pythagorean theorem, understanding the definition of radical expressions, simplifying radical expressions containing numerical and variable radicands, graphing linear equations using slope-intercept concepts, and solving 2x2 systems of linear equations by graphing and elimination. Technology tools are utilized in this course. All students are required to participate in a unified comprehensive final exam to be administered during final exam week and achieve a "C" or higher on this exam (or appropriate placement on the placement exam) in order to move on to the next level of math courses.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: MAT 095 with a "C" or higher on the MAT 095 departmental final exam or appropriate placement score

Please Note: This developmental mathematics course cannot be used to satisfy degree or certificate requirements

MAT 100 College Algebra

This course continues the areas of study presented in Intermediate Algebra with more advanced treatment. Students perform arithmetic operations on rational expressions; solve equations with fractions; factor expressions; simplify complex fractions; simplify exponential expressions, roots, radicals, and rational exponents; solve linear systems using several techniques; use the midpoint and distance formulas; recognize and graph the equation of a circle; solve linear and absolute value inequalities; solve quadratic equations by completing the square and by using the quadratic formula; solve equations containing radicals or absolute values; and perform arithmetic operations on radical expressions and complex numbers.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: MAT 099 with a "C" or higher on the MAT 099 departmental final exam or appropriate placement score

MAT 103 Mathematics for Business

This course introduces the mathematical processes and techniques currently used in the fields of business and finance. Students use practical examples throughout to illustrate the relevance of analyzing and interpreting data in business and financial management. Students learn sound decision making skills that will aid them in fulfilling their roles as citizens, consumers, employees, employers, investors, and entrepreneurs. The course introduces business statistics and continues with business and financial topics including bank services, business and consumer loans, simple and compound interest, payroll taxes, risk management, the mathematics of buying, break-even and cost-volume-profit analysis, discounts, markups and markdowns, inventory control, stocks and bonds, annuities and sinking funds, depreciation, interpreting financial statements and financial analysis.

Credits: 3

Semester Offered: F/S

Prerequisites: MAT 099 with a "C" or higher on the MAT 099 departmental final exam or appropriate placement score

Restriction: Restricted to Business Administration Career (BB and BBAP) and Business Administration Certificate (BAC) students

MAT 108 Applied Technical Mathematics I

This course covers major topics in the study and applications of algebra and trigonometry. Students will review fundamental concepts of algebra and approximate numbers with problem-solving strategies. Students will learn to graph and write linear equations in several forms; graph functions; solve and apply systems of linear equations; apply perimeter, area, and volume to basic geometric shapes; factor polynomials; perform arithmetic operations on algebraic fractions; solve and apply quadratic equations; solve and apply right triangle

trigonometry; be introduced to vectors. Technology tools are utilized in this course.

Credits: 4

Semester Offered: F/S

Prerequisites: MAT 095 with a "C" or higher on the MAT 095 departmental final exam or appropriate placement score

MAT 111 Mathematics for Educators I

This course focuses on the critical Mathematical concepts necessary for students who are pursuing the Elementary Education Transfer Option in the General Education-Associate in Arts degree program. Students construct and apply problem solving techniques to solve problems, apply arithmetical operations on integers, rational numbers and decimals, and develop an understanding of mathematical relationships using equations, draw conclusions based upon geometric pattern and interpret data. Students construct geometric patterns and graphical data into algebraic equations; construct a geometric or graphical model given an algebraic equation. Instructor modeling is an integral component of the course.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: MAT 099 with a "C" or higher on the MAT 099 departmental final exam or appropriate placement score

Restriction: Restricted to General Studies - Elementary Education Transfer Option and ECE Program students

MAT 112 Mathematics for Educators II

This course continues the comprehensive focus on the critical Mathematics concepts necessary for students who are pursuing and Early Childhood and/or General Studies Elementary Education degree. Students develop an understanding of the principles of Euclidean geometry and use them to prove theorems. In addition, students apply Euclidean geometry to analyze the characteristics and properties of two and three-dimensional shapes, coordinate geometry, and transformations. Fundamental principles of probability and statistics explored. Students develop a deep level of understanding of geometry, probability, and statistics in order to become successful elementary and middle school teachers. Instructor modeling is an integral component of the course.

Credits: 3

Semester Offered: F/S

Prerequisites: MAT 111

Restriction: Restricted to General Studies - Elementary Education Transfer Option and ECE Program students

MAT 121 Topics in Mathematics

This course explores various areas in contemporary mathematics and consists of two components: required topics and optional topics. Required topics include mathematical patterns and problem solving, consumer finance, probability, statistics and Euclidean

and transformational geometry. Optional topics may be chosen from the following: linear functions and applications; numeration systems; sets; logic; graph theory; election theory; apportionment; tessellations and fractals; and cryptography; in addition, instructors may also choose to expand upon the required topics.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: MAT 099 with a "C" or higher on the MAT 099 departmental final exam or appropriate placement score

MAT 122 Statistics

This course covers the essentials of statistics. Students learn descriptive and inferential statistics; charts (histograms, frequency polygons, ogives, and pie charts); measures of central tendency (mean, median, mode, and weighted mean); and measures of dispersion (range, variance, and standard deviation). Additional areas of study include discrete and continuous random variables; basic probability theory; the binomial distribution and its application in binomial experiments; standard and non-standard normal distributions; the Central Limit Theorem; confidence intervals for means, proportions, and variances; linear correlation and regression; and the one sample hypotheses test for mean (large and small sample), proportions, and variances.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: MAT 099 with a "C" or higher on the MAT 099 departmental final exam or appropriate placement score

MAT 123 College Mathematics I: Pre-Calculus

This course focuses on the knowledge and skills necessary for advanced mathematics. Students expand binomial expressions using the binomial theorem; solve non-linear, and rational inequalities and write their solutions using interval notation; determine and write linear equations in several forms; explain the concept of function; graph functions using symmetry test; recognize and graph functions, including constant, linear, quadratic, polynomial, rational, exponential, and logarithmic functions; use function transformation techniques; perform composition and arithmetic operations on functions; find and graph inverses of functions; use properties of logarithms; and solve logarithmic and exponential equations.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: MAT 100 or appropriate placement score

MAT 124 College Mathematics II: Trigonometry

Students solve right and oblique triangles and related applications; perform vector computations and use vector concepts to solve applications; determine the values of

trigonometric ratios of angles and the values of inverse trigonometric ratios of real numbers; work with angles measured in degrees-minutes-seconds or radians; solve uniform circular motion problems; learn the traditional trigonometric identities and use them to prove other identities; perform transformations of basic trigonometric graphs; write equations to describe specific instances of harmonic motion; and solve trigonometric equations.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: MAT 123 or appropriate placement score

MAT 125 Discrete Mathematics

This course provides an introduction to the basic concepts in Discrete Mathematics. Topics include predicate and propositional calculus, sets, proof techniques, permutations and combinations, probability, relations, closure, partial order, functions, graph connectivity and shortest paths, and an introduction to languages, grammars and nondeterministic finite-state machines.

Credits: 3

Semester Offered: F/S

Prerequisites: MAT 123 or appropriate placement score

MAT 231 Applied Calculus

This course begins with a review of the basic concepts of functions and function notation. After introducing the limit and continuity theorems on an intuitive basis, the study of differentiation begins. Typical derivative formulae are applied to polynomial, rational, implicit, exponential and logarithmic functions. Application topics include extreme, related rates, biochemical reaction, cost-benefit analysis, growth and decay, maximizing revenue, elasticity of demand, inflation, amortization, drug concentration, drug reaction, and continuous probability models. The basic rules of integration and the substitution method are introduced along with Riemann Sums and the Fundamental Theorem of Calculus. This course is designed for students considering a major in business, pharmaceutical, social, and life sciences.

Credits: 3

Semester Offered: F/S

Prerequisites: MAT 123 or appropriate placement score

MAT 233 Calculus I

This course begins with a review of functions and functional notation. After introducing the limit and continuity theorems on an intuitive basis, the study of differentiation begins. Typical derivative formulae are applied to polynomial, rational, trigonometric, and implicit functions. Application topics include extreme, related rates, curve sketching, and velocity and acceleration. The basic rules of integration and the substitution method are introduced along with Riemann Sums and the Fundamental Theorem of Calculus.

Credits: 4

Semester Offered: F/S/SU

Prerequisites: MAT 124

MAT 234 Calculus II

This course focuses on expanded methods of integration and their application. Derivatives of the exponential, logarithmic and inverse trigonometric functions as well as their antiderivatives will be examined. Students learn to compute the customary antiderivatives of functions and apply antidifferentiation to such areas as volumes, moments, centroids, arc lengths and surfaces of revolution. Students will be introduced to differential equations. The use of L'Hopital's Rule and the evaluation of improper integrals are examined. The convergence tests of infinite series as well as the Power, Taylor and Maclaurin series are analyzed.

Credits: 4

Semester Offered: F/S/SU

Prerequisites: MAT 233

MAT 235 Calculus III

This course covers conic sections, rotation of axis, plane curves, parametric equations, vectors; polar, cylindrical, and spherical coordinates and graphs; vector-valued functions, differentiation, and integration; functions of several variables, partial derivatives, gradients; applications of extrema of functions, Lagrange multipliers; multiple integrations; area, volume, center of mass, moment of inertia, change of variables, Jacobians; Green's divergence and Stokes' theorems. Students learn to use calculus to solve engineering and scientific problems. The course concludes with some elementary differential equations.

Credits: 4

Semester Offered: F/S

Prerequisites: MAT 234

MAT 237 Probability & Statistics for Engineers and Scientists

This course focuses on statistics and engineering. It covers interpretation, description, and treatment of data; probability and probability distributions; binomial, geometric, and hypergeometric methods; poisson processes; gamma, beta, and weibull distribution; populations and samples; inferences, hypotheses, and significance tests; Bayesian estimates; curve fitting; the method of least squares; curvilinear regression, correlation, and experimental design. Students use calculators and statistical software to solve statistical problems.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: MAT 234

MAT 238 Differential Equations

This course covers definition of differential equations, solution of differential equations, separation of variables, homogeneous and nonhomogeneous solutions, Wronskian, second and higher order equations, solution of systems

of linear differential equations, numerical methods, linear independence, the Laplace transform, transforms of derivatives, derivatives of transforms, the Gamma function, inverse transforms, and convolution theorem. Students use mathematical software to solve differential equations for numerical methods.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: MAT 235

MAT 243 Linear Algebra

This course covers systems of linear equations, matrices, reduced echelon forms, vectors in R^n , linear independence and transformations, matrix operations, inverse of a matrix, determinants, vector space, rank, subspaces, bases, eigen vectors and eigen values, the characteristic equations, diagonalization, complex eigen values, numerical methods for solving linear systems, and orthogonality. Students learn to use linear algebra to solve problems in differential equations, statistics, and engineering design. Students also use mathematical software to solve higher order systems of equations and matrices.

Credits: 3

Semester Offered: F/S/SU

Corequisites: MAT 238

Medical Support Specialist

MSS 151 Clinical Procedures I

This course covers introductory theory and techniques of medical assisting used to perform fundamental clinical assisting procedures. Topics include aseptic technique with infection control; measuring vital signs; preparing/maintaining treatment areas; interviewing techniques and recording of patient histories; preparing and assisting patients for procedures, electrocardiograms and monitoring test results.

Credits: 4

Semester Offered: F

Corequisites: ALH 151

MSS 251 Clinical Procedures II

This course covers advanced theory and techniques of medical assisting skills including diagnostic testing procedures of hematology, blood chemistries, blood drawing (capillary and venous); emergency/first aid skills in the medical office; preparing for radiography; minor office surgery techniques and the physical agents that promote tissue healing.

Credits: 4

Semester Offered: S

Prerequisites: MSS 151

MSS 252 Principles of Pharmacology for Medical Assistants

This course is designed to provide instruction in concepts and application of pharmacological principles. The focus of this course is on drug classifications, principles and procedures of

medication administration, mathematical systems and conversions, calculation of drug problems and medico-legal responsibilities of the medical assistant. This course provides demonstration and techniques of administration of medications in the medical office setting, including intradermal, subcutaneous, and intramuscular routes as well as oral, topical, sublingual, vaginal and rectal administration. Students are to be expected to perform to competency level the pharmacological skills in check-off format outlined by the instructor.

Credits: 3

Semester Offered: F

Corequisites: MSS 151

MSS 299 Fieldwork Experience

This is a 12-week, 180-hour unpaid externship at an appropriate, approved clinical site. Students participate in an integrated experience in which they apply the skills and knowledge learned in the medical assisting program.

Credits: 4

Semester Offered: F/S

Prerequisites: BIO 100 or BIO 140, ENG 101, MSS 151, MSS 251, PSY 101

Music

MUS 103 The Fundamentals of Music

This course covers music fundamentals, including notation, rhythm, scales, intervals, chords, basic harmonic progressions, melodic composition, and sight singing.

Credits: 3

Semester Offered: F/S

MUS 115 Music of the Twentieth Century

This course surveys major representative works by Mahler, R. Strauss, Debussy, Ravel, Stravinsky, Bartok, Schoenberg, Berg, and Webern, as well as principal American composers, emphasizing music appreciation and development of listening skills.

Credits: 3

Semester Offered: S

MUS 121 Jazz in America

This course introduces the various forms and styles of jazz (ragtime, Dixieland, swing, bebop, and modern) and the musicians and composers of each style, including Scott Joplin, Louis Armstrong, Duke Ellington, Charlie Parker, and George Shearing. Students develop a better understanding of the sources and roots of the various jazz styles and stylists.

Credits: 3

Semester Offered: F/S/SU

MUS 123 Bach to Rock: Changing Styles in Music

This course introduces students to music history and appreciation through an analysis of changing styles in music from the Baroque period to the

20th century. It is designed as an introduction to the language and art of listening to music. Students develop knowledge of the major forms, styles, and genres of music.

Credits: 3

Semester Offered: F/S

MUS 135 Music Ensemble I

This course examines the basic performance of different genres of music: Jazz, Rock, Funk, Blues, and Latin. Students examine concepts of ensemble playing and responsibilities. Course materials cover basic performance techniques such as: instrument techniques, music reading, scales, chords, ear training, rhythm and teamwork. Students focus on building camaraderie, cohesiveness, listening, rhythm/tempo, musicality, preparedness, and harmonic/melodic elements.

Credits: 1

Semester Offered: F/S

Prerequisites: MUS 151

MUS 136 Music Ensemble II

This course focuses on the performance of: Jazz, Rock, Funk, Blues, Samba/Bossa Nova, and Afro-Cuban. Students build on the concept of ensemble playing and responsibilities from MUS 135. Students examine intermediate performance techniques such as: instrument techniques, music reading, scales, chords, ear training, rhythm and teamwork. Students focus on building camaraderie, cohesiveness, listening, rhythm/tempo, musicality, preparedness, and harmonic/melodic elements.

Credits: 1

Semester Offered: F/S

Prerequisites: MUS 135

MUS 137 Music Ensemble III

This course focuses on advance performance of different genres of music: Jazz, Rock, Blues, World Music Samba/Bossa Nova, and Afro-Cuban. Students examine advance performance techniques such as: instrument techniques, music reading, scales, chords, ear training, rhythm and teamwork. Students focus on building camaraderie, cohesiveness, listening, rhythm/tempo, musicality, preparedness, and harmonic/melodic elements.

Credits: 1

Semester Offered: F/S

Prerequisites: MUS 136

MUS 151 Music Theory I

This course focuses on the fundamentals of Western music, including writing, understanding and analysis of notation. Students examine rhythm, meters, clefs, keys signatures, major/minor scales, triads and chord inversions. Students study music symbols, intervals seventh chords, tonality, forms, harmonization, and keyboard layout. The laboratory component of this course covers basic piano skills to reinforce the concepts taught in music theory lectures.

Credits: 4

Semester Offered: F/S/SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

Please Note: Three hours lecture, three hours laboratory

MUS 152 Music Theory II

This course emphasizes diatonic harmony, including seventh chords, figured bass, and cadences. Students study voice leading, outer-voice framework, four-voice part writing, the choral, and dominant and non-dominant seventh chords are introduced. Students examine chromatic harmony, secondary functions, secondary dominants, secondary leading-tones chords, melody harmonization, modulation, binary, and ternary forms. Students focus on listening, analysis, and composition. The laboratory component of this course covers aural/visual development and proficiency skills to reinforce the concepts taught in music theory lectures.

Credits: 4

Semester Offered: F/S/SU

Prerequisites: MUS 151

Please Note: Three hours lecture, three hours laboratory

MUS 203 Beyond the Fundamentals

This course, a level 2 theory course, reviews briefly triads and 7th chord construction and continues with their inversions and application in four part voice leading. This course also covers figured bass realization, root movement, secondary dominants, modulation and modes.

Credits: 3

Semester Offered: F

Prerequisites: MUS 103

MUS 261 Music History I

This course covers the foundational historical events of traditional Western European classical music through 1750. Students focus on the music of ancient Greece, Medieval, Renaissance, and Baroque. Students examine the foundation of historical context, aesthetic awareness, and music vocabulary. Students listen to and analyze different genres, styles and forms of music.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

MUS 262 Music History II

This course covers the foundational historical events of traditional Western European classical music from 1750 to the Twentieth Century. Students examine the Classical Styles, Romantic, Twentieth Century and Beyond. Students listen to and analyze different genres, styles and forms of music.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: MUS 261

Nurse Education

NUR 100 Paramedic to ADN Bridge

This one credit course focuses on curriculum topics that are essential for those students who hold a Paramedic certification in the state of Massachusetts and who are seeking Advanced Placement into the QCC Associate of Science Degree Nurse Education Evening Program. Topics include: Foundations of Nursing Practice, Nursing Theory and Evidenced Based Practice, Scope of Practice, Legal, Ethical and Advocacy Issues, Roles basic to nursing care, role transition, actions basic to nursing care and promoting healthy psychosocial responses. Introduction to the nursing process is also discussed. Clinical lab content includes basic nursing skills practice and competency. This course also includes clinical practice of basic skills in the long term care setting. Successful completion of this one credit course with a "C+" or higher enables students to enter the NUR 101 Advanced Placement Nursing I course.

Credits: 1

Semester Offered: F

Prerequisites: Passing both BIO 111 and BIO 112 with a "C" or higher, PSY 101, ENG 101

Restriction: This course is restricted to those students who have met admissions requirements for the Associate in Science in Nurse Education Program and hold a current Paramedic Certification in the State of Massachusetts

NUR 101 Advanced Placement Nursing I

This one credit course is designed for all qualified Licensed Practical Nurses and Paramedics who are seeking advanced placement into the Evening Associate of Science Degree Program, NUR 105 course. The course focuses on curriculum topics that are essential for the first semester Associate Degree nursing student. Topics include: Nursing philosophy of the profession and of the QCC Associate of Science degree Nurse Education Program, nursing process application, decision making, critical thinking and priority setting, Orem's Theory of Self Care and Erickson Theory of Human Development. The course also reinforces roles basic to nursing care, health promotion and complementary alternative medicine, physical assessment and fluid and electrolytes. The clinical component includes practice and competency of all lab modules including asepsis, wound care, and other assigned modules. Successful completion of this one credit course with a "C+" or higher is required.

Credits: 1

Semester Offered: F

Prerequisites: Passing BIO 112 with a "C" or higher, PSY 101, NUR 100 or Admission to Advanced Placement Nurse Education LPN to ADN Program

Restriction: This course is restricted to

those students who have met admissions requirements for the Associate Degree in the Nursing Program and are licensed to practice as a Licensed Practical Nurse (LPN) in the State of Massachusetts

NUR 103 Current Concepts in Nursing & Health Care I

Current Concepts in Nursing and Health Care is the study of contemporary nursing in relation to historical development, social trends, and healthcare changes. The student discusses influences of the past on present day nursing, health care trends and legislation, challenges and issues for today's nurse, and future predictions for nursing. Successful completion of this one credit course with a "C+" or higher is required.

Credits: 1

Semester Offered: F/S

Prerequisites: Passing BIO 111 with a "C" or higher, ENG 101

Corequisites: BIO 112, PSY 101, NUR 104

NUR 104 Fundamentals of Nursing

This course provides an introduction to the role of the nurse in the health care system. Orem's Theory of Self-Care and Erickson Theory of Human Development are introduced and utilized as organizing frameworks. Students also learn the concept of therapeutic self-care demands. Students develop an understanding of and ability to use the nursing process as a method for assisting patients to meet self-care needs. Students develop basic communication skills in order to promote effective relationships with patients, families and members of the health team. Students participate in Nursing Practice Laboratory and planned clinical experiences to learn nursing skills. Successful completion of this seven credit course with a "C+" or higher is required.

Credits: 7

Semester Offered: F/S

Prerequisites: Passing BIO 111 with a "C" or higher, ENG 101

Corequisites: BIO 112, PSY 101, NUR 103

NUR 105 Medical Surgical Nursing I/ Maternal Newborn

The course focuses on content related to caring for perinatal patients and patients who have health care deviations that require specific nursing system interventions. Content will include health concerns related to the perioperative experience, cellular proliferation, nutrition, metabolic activity, cardiovascular disorders, substance abuse, reproductive issues, domestic violence and maternal-infant health. Students will use a developmental focus and a life span approach to concepts of health promotion, developmental needs, and health deviations. The course is based on Orem's Theory of Self Care, Erickson Theory of Human Development and the Nursing Process. Emphasis is placed upon meeting needs of patients whose therapeutic self-care demands exceed their capacity to engage in self-care

activities. Selected learning experiences are provided in the care of perinatal patients and adult patients in the acute care, rehabilitation and community settings.

Credits: 8

Semester Offered: F/S

Prerequisites: NUR 101 with a grade of "C+" or higher; or NUR 103 and NUR 104 with a grade of "C+" or higher

Corequisites: BIO 232, PSY 121

NUR 201 Medical Surgical Nursing II/ Pediatric

The course focuses on content related to caring for children and adult patients who have health care deviations that require specific nursing system interventions. Topics include growth and development, respiratory and cardiac deviations, dermatologic conditions and burns, gastrointestinal system deviations, genito-urinary deviations, musculoskeletal deviations, specific neurological deviations and hematologic and immunologic deviations. The course is based on Orem's Theory of Self Care, Erickson Theory of Human Development and the Nursing Process. Selected learning experiences are provided in the care of adult and children in the acute care, rehabilitation settings and/or health care agencies.

Credits: 10

Semester Offered: F/S/SU

Prerequisites: BIO 112, BIO 232, PSY 121, a grade of "C+" or higher is required in NUR 105

Corequisites: ENG 102, any HST, SOC 101 or SOC 111

NUR 202 Advanced Medical Surgical Nursing III/Mental Health

This course focuses on content related to mental health issues and the care of patients who experience health care deviations that require complex nursing interventions. Principles of pathophysiology, pharmacology, teaching, and management are incorporated into each unit. Specific topics include health care deviations related to oxygen, nutrition, elimination, protection from hazards, solitude and social interaction. The course is based upon Nursing Process, Orem's Theory of Self-Care and Erickson Human Development Theory. Students participate in clinical experiences with patients in acute, community, and psychiatric care settings. The clinical experience emphasizes application of nursing process, leadership, and management of complex patients. Successful completion of this 10 credit course with a "C+" or higher is required.

Credits: 10

Semester Offered: F/S

Prerequisites: ENG 102, any HST, SOC 101 or SOC 111, a grade of "C+" or higher is required in NUR 201

Corequisites: NUR 203, Humanities Elective

NUR 203 Current Concepts in Nursing & Health Care II

Current Concepts in Nursing and Health Care is the study of contemporary nursing in relation to historical development, social trends, and health care changes and ethical issues. The student will discuss influences of the past on present day nursing, health care trends and legislation, challenges and issues for today's nurse. Management and delegation responsibilities of the professional practitioner will be included with theoretical content and application through vignettes and case study. As a result, the student will be able to describe the role and responsibilities of the Registered Nurse. The student will assess his/her career potential and future employment status. Student participation and presentation is required. Successful completion of this two credit course with a "C+" or higher is required.

Credits: 2

Semester Offered: F/S

Prerequisites: A grade of "C+" or higher is required in NUR 201

Corequisites: NUR 202

Occupational Therapy

OTA 101 Introduction to Occupational Therapy: Concepts & Interventions

This course provides an introduction to the occupational therapy profession. Students study the history, philosophy, and ethics of the profession. Students develop an understanding of the concept of occupation, and how activity is used to provide treatment interventions. The course examines the different settings in which a Certified Occupational Therapy Assistant can work, and teaches the basic written and oral communication skills required by the healthcare profession.

Credits: 3

Semester Offered: F

OTA 103 Group Process and Interventions

This course describes group dynamics and processes and examines how groups are used to provide occupational therapy treatment. Students learn how to plan, lead, and facilitate educational and task groups. In the laboratory, students practice planning and leading a variety of therapeutic groups. The course includes 15 hours of Level I fieldwork leading groups in a community setting.

Credits: 4

Semester Offered: S

Prerequisites: OTA 101, PSY 101

OTA 105 Developing Professional Behaviors

This course examines the professional behaviors that are required in a health care setting. Students learn the importance of

ethical behavior, dependability, cooperation, empathy, and other behaviors that health care professionals must demonstrate. Students learn how to establish and maintain a therapeutic relationship, how to communicate clearly when speaking and writing, and how to pursue continuing education. This course also covers the development of a professional portfolio, resume writing, and interview skills to help graduates obtain employment.

Credits: 3

Semester Offered: S

Prerequisites: OTA 101

OTA 131 Occupational Therapy: Methods and Modalities I

This course provides an introduction to the use of daily living tasks, group skills, and crafts as therapeutic tools. Students learn specific treatment techniques valuable to the occupational therapy profession and perform an in-depth study of several activities to determine their therapeutic value. Students assume the role of teacher to instruct others in various activities, and to explore how these activities can be used therapeutically with clients. The course consists of two hours of lecture and three hours of laboratory per week.

Credits: 3

Semester Offered: F

Corequisites: OTA 101

OTA 211 Occupational Therapy with the Older Adult

This course examines the basic concepts of aging, including theories, trends, and policies. Students study the concepts of wellness and disease prevention, major developmental theories of aging, and how to apply these theories to occupational therapy practice with adults. Students write a research paper on one aspect of aging.

Credits: 3

Semester Offered: F

Prerequisites: OTA 101, PSY 121

OTA 215 Developmental Problems and Practice with Children

This course examines the role of occupational therapy practitioner in medical and educational settings for children. Students study normal child development and how to provide services to children who have exceptional needs. Students learn to communicate with families, teachers, doctors, and other professionals on behalf of children and are introduced to the federal laws that apply to provision of services to children. The laboratory component includes a minimum of 15 hours Level I fieldwork, which consists of observation and supervised practice in an off-campus child-centered facility.

Credits: 4

Semester Offered: F

Prerequisites: OTA 101, PSY 121

OTA 221 Concepts and Occupational Therapy Interventions in Mental Health

This course examines a range of common psychiatric disorders and prepares OTA students to distinguish between normal and dysfunctional behavior. Students learn to develop observational skills and explore evaluation and treatment techniques. In the laboratory component, students practice evaluation and treatment activities. The laboratory includes a minimum of 15 hours Level I fieldwork, which consists of observation and supervised practice in an off-campus mental health facility.

Credits: 4

Semester Offered: F

Prerequisites: OTA 101, OTA 103, PSY 101

OTA 223 Concepts and Occupational Therapy Interventions with the Physically Challenged

This course examines the characteristics of physical disabilities. Students study disabilities and the impact of these disabilities on the client's ability to perform routine activities. Students learn evaluation and treatment techniques that are used to help adults with physical disabilities to live independent and productive lives. The laboratory component includes a minimum of 15 hours Level I fieldwork, which consists of observation and supervised practice in an off-campus facility that treats adult physical disabilities.

Credits: 4

Semester Offered: S

Prerequisites: BIO 111, OTA 101, OTA 131

OTA 231 Occupational Therapy: Methods and Modalities II

This course assists advanced students to master occupational therapy treatment techniques. Students learn the application of occupational therapy techniques in simulated therapy situations; review and develop treatment plans, evaluations and documentation reports; and, practice written and verbal communication used in the practice of occupational therapy. The course consists of two hours of lecture and three hours of laboratory per week.

Credits: 3

Semester Offered: F

Prerequisites: OTA 101, OTA 131

OTA 241 Occupational Therapy Field Placement I

This course is an experienced-based learning opportunity in which students put theory into practice. Students provide occupational therapy treatment and practice professional skills necessary to fulfill the role of an entry-level therapist in this field while working under the supervision of an experienced occupational therapist. This experience will take place in a different practice setting from OTA 242.

Credits: 7

Semester Offered: S

Prerequisites: BIO 112, ENG 102, OTA 105, OTA 211, OTA 215, OTA 221, OTA 223, OTA 231

OTA 242 Occupational Therapy Field Placement II

This course is an experienced-based learning opportunity in which students put theory into practice. Students provide occupational therapy treatment and practice professional skills necessary to fulfill the role of an entry-level therapist in this field while working under the supervision of an experienced occupational therapist. This experience will take place in a different practice setting from OTA 241.

Credits: 7

Semester Offered: S

Prerequisites: BIO 112, ENG 102, OTA 105, OTA 211, OTA 215, OTA 221, OTA 223, OTA 231

Orientation

ORT 107 Strategies for College and Career: College Orientation

This course is designed for first time college students who want to become familiar with college resources, procedures, and the overall college environment. Topics include understanding course syllabi, course schedules and college terminology; identifying and utilizing college resources; and strategies to become a successful college student.

Credits: 1

Semester Offered: F

ORT 108 Strategies for College and Career: Learning & Study Skills

This course will assist students in gaining the necessary study and learning skills to succeed in college. Topics include identifying learning styles and strategies; developing time management and organizational skills; improving note-taking, reading comprehension, and test-taking skills.

Credits: 1

Semester Offered: F

ORT 109 Strategies for College and Career: Career & Academic Planning

This course will assist the student in developing an individualized, web-based career and academic plan. Students will gain knowledge of career assessment results, career information, labor market trends, decision-making skills, and QCC programs of study. Students will formulate realistic short and long-term career and academic goals.

Credits: 1

Semester Offered: F

ORT 110 Strategies for College and Career

First time college students who want success and direction in their college experience gain practical skills that are directly applied to selection of a college major and future career paths. Students also gain effective learning strategies, and information on how to navigate and use college procedures and resources. Specific topics include promoting self knowledge through assessments, researching and obtaining career information, developing and practicing study and time management skills, and improving communication and decision making skills. Students integrate information about self, careers, and college in an academic and career plan.

Credits: 3

Semester Offered: F/S/SU

Corequisites: ENG 090 and ENG 095 or appropriate placement score

Philosophy

PHI 102 Introduction to Philosophy

This course introduces students to the chief branches of the discipline of philosophy - that is, logic, epistemology, ontology, and metaphysics - through study of the primary works and main ideas of a representative selection of the world's great philosophers. This survey covers the period from the ancient world through to the present, and may include both Western and Eastern philosophical traditions. Students explore the development of such fields as political philosophy, the philosophy of aesthetics, the philosophy of science, and linguistic philosophy. Student assessment includes a combination of Socratic dialogue, formal debate, formal presentations, unit tests, journal work, and research-supported philosophical essay writing.

Credits: 3

Semester Offered: S

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

PHI 104 Introduction to the Art of Loving

This course examines the various attitudes toward love and objects of love in the world from the interdisciplinary perspectives of philosophy, literature, and psychology. Students consider the philosophical complexities of love in the context of social, cultural, and psychological issues.

Credits: 3

Semester Offered: F

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

PHI 121 World Religions

This course examines the nature of religious experience through the history of the world religions and their cultural contexts. Students study the essential nature of the religious experience, the origin and role of religion,

major religions and their personalities, and the essential world views of cultures.

Credits: 3

Semester Offered: SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

PHI 123 Native American Belief Systems

This course examines the belief systems of Native Americans of North, Central, and South America. Students study the nature and role of beliefs systems, such as world views, their spiritual and philosophical dimensions, and those factors which shaped such beliefs in Native American societies.

Credits: 3

Semester Offered: S

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

PHI 131 Introduction to Ethics

This course focuses on philosophical principles for human action. Students critically examine major issues in ethics, morality, and values such as: What is a human act? To what extent are we free and have choices? What is the nature of responsibility? What constitutes happiness, good, and evil?

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

PHI 201 Judaism, Christianity and Islam

This course examines three western religions which trace their history back to Abraham: Judaism, Christianity and Islam. Students study the terminology and concepts used in the academic study of religion and apply them to the study of Judaism, Christianity and Islam with respect to: major beliefs, spiritual practices, sacred texts, organizational structure, historical development and cultural influences. Students analyze the role(s) of religion with respect to some current issues and global conflicts.

Credits: 3

Semester Offered: F/S

Prerequisites: ENG 101

PHI 203 Philosophy of Technology

This course examines from a philosophical perspective uses of technology, cyberspace, technological forms of communication, ethical and ecological implications of technology, and technology's effects on human bodies. Students consider how technological objects influence who possesses knowledge and power; what they insinuate about gender, race, and class; and how they impact social practices. Students explore various definitions of the term "technology," and reassess their relationship to technology.

Credits: 3

Semester Offered: S

Prerequisites: ENG 101

PHI 250 Special Topics in Philosophy

This course critically examines in-depth a selected topic in philosophy. Students read intensively and produce a significant work of scholarship on the topic. The topic may vary from semester to semester.

Credits: 3

Semester Offered: S

Prerequisites: ENG 101, Two Philosophy courses

Physical Education

PHE 103 Standard First Aid and Personal Safety

This course focuses on the mastery of skills for the administration of Cardio-Pulmonary Resuscitation (CPR), the use of Automatic External Defibrillation (AED), Basic First Aid, and Personal Safety. Students will learn how to recognize life-threatening emergencies, provide basic life support and react to situations related to airway obstruction. Additionally, students will learn how to prevent accidents through safety education by recognizing signs and symptoms and how to provide first aid treatment in emergency situations. Upon successful completion, students earn a nationally recognized certification for First Aid and CPR and AED.

Credits: 3

Semester Offered: F/S

Physics

PHY 101 Physics I

This course focuses on the basic concepts of measurement, kinematics, dynamics, work, energy, power, momentum, rotational motion, thermodynamics, and waves through working with problems and laboratory experiments. Students perform related laboratory experiments and write research-quality laboratory reports. This course is not required for Engineering but may be recommended for students who have not yet completed calculus.

Credits: 4

Semester Offered: F

Corequisites: MAT 124

PHY 102 Physics II

This course focuses on selected topics in the areas of waves, optics, and electromagnetism. Students learn how to apply the basic principles of problem-solving techniques. Students perform related laboratory experiments and write research-quality laboratory reports.

Credits: 4

Semester Offered: S

Prerequisites: PHY 101

PHY 103 Physics for Respiratory Care

This course emphasizes those areas applicable to fluids and their properties. Basic concepts of the course are related to clinical practice. The following topics are covered: states of matter, change of state, gas behavior under changing conditions, fluid dynamics, temperature and heat, and fluid pressure.

Credits: 2

Semester Offered: S

Prerequisites: MAT 095 with a "C" or higher on the MAT 095 departmental final exam or appropriate placement score

PHY 105 General Physics I

This course covers measurement, kinematics, vectors, dynamics, Newton's laws, circular motion, gravitation, work and energy, conservation of energy, linear momentum and collisions, rotational motion about a fixed axis, moments of inertia, and angular momentum and its conservation. Students perform related laboratory experiments.

Credits: 4

Semester Offered: F/S/SU

Prerequisites: MAT 233

PHY 106 General Physics II

This course covers general rotation, static equilibrium, elasticity, stress and strain, fluids, density, pressure, oscillations, simple harmonic motion, wave motion, sound, temperature, ideal gas law, kinetic theory of gases, heat and the Laws of Thermodynamics, entropy, and the Carnot engine. Students perform related laboratory experiments.

Credits: 4

Semester Offered: F/S/SU

Prerequisites: MAT 234, PHY 105

PHY 205 General Physics III

This course covers electric charge, electric field, Gauss' Law, electric potential, capacitance, dielectrics, electric currents, resistance, Ohm's Law, DC circuits, magnetism, sources of magnetic field, electromagnetic induction and Faraday's Law. Other topics include inductance, AC circuits, Maxwell's equations, light, lenses and optical instruments, wave nature of light, diffraction and polarization, special theory of relativity, and quantum theory and models of the atom. Students perform related laboratory experiments.

Credits: 4

Semester Offered: F/S/SU

Prerequisites: MAT 235, PHY 106

Corequisites: MAT 238

Political Science

PSC 201 United States Government

This course examines the structure and operation of the United States government as it has developed within the framework of

the Constitution. Students explore topics such as civil liberties, political parties, the election process and contemporary problems in government and politics.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 101

PSC 212 The United States Constitution

This course examines the events and writings that influenced the framers of the United States Constitution. It studies the principles, philosophies, and reasoning on which it is based, and how historical events, court cases, amendments, and evolving interpretations have made it a "living" document for each generation of Americans. Students consider the intent of its framers and judge the extent to which it has realized their expectations.

Credits: 3

Prerequisites: ENG 101

PSC 221 State & Local Government

This course examines the development, organization and function of state and local governments within the United States. Students analyze and compare functions of the governors, state legislatures and courts, as well as explore the relationships among local, state and federal governments.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 101

Practical Nursing Program

PNP 101 Practical Nursing I

This course examines contemporary basic nursing practice and the role of the practical nurse. Students study nursing theory and techniques of fundamental nursing skills concurrently in classroom, laboratory, and long-term and rehabilitation clinical practice settings. The course emphasizes health assessment, health maintenance, and adaptation to illness with the older adult. Nursing process is introduced as the framework for meeting the client's identified self-care needs. Students acquire a level of competency in basic skills.

Credits: 10

Semester Offered: F

Prerequisites: Acceptance to the PNP Program

Corequisites: BIO 100 or BIO 140

PNP 111 Introduction to Pharmacology

This course examines fundamental pharmacological concepts, drug sources and forms, controlled substance schedules, pregnancy categories, and drug references. Students learn the ethical and legal responsibilities associated with medication administration; and, review basic math concepts, common systems of measurement, and calculation of drug dosages. The course focuses on nursing principles essential to safe

administration of medication. Anti-infective and immunologic agent drugs serve as the model for discussion and demonstration.

Credits: 3

Semester Offered: F

Prerequisites: Acceptance to the PNP Program

Corequisites: BIO 100 or BIO 140

PNP 200 Practical Nursing II: Medical/Surgical/Mental Health Nursing

This course focuses on medical surgical and mental health deviations affecting all body systems. Students begin to integrate nursing skills while recognizing mental health needs of the client. The nursing process is used as the basis for discussion of assisting clients in adapting to acute or chronic health deviations, and interventions that facilitate client movement to self-care. Health deviations are presented in a systematic approach by building upon knowledge of applied and social sciences. Students participate in learning experiences on selected clinical units in health care facilities in the Worcester County area.

Credits: 11

Semester Offered: S

Prerequisites: PNP 101, PNP 111, PSY 121

Corequisites: PNP 210, PNP 222, PNP 233

PNP 202 Practical Nursing III: Pediatric/Maternal/Newborn/Leadership Management Nursing

This course focuses on the specialties of maternal-newborn, pediatric, and leadership nursing. Topics include growth, development, and physiologic needs of the client throughout pregnancy, labor, delivery, and during the post-partum period; and health problems common to children from infancy through adolescence. Students also study health maintenance, accident prevention, the emotional impact of hospitalization; and roles, responsibilities and typical job functions of the graduate practical nurse. Students participate in selected clinical experiences within affiliating acute, long-term care and community agencies.

Credits: 8

Semester Offered: SU

Prerequisites: BIO 100 or BIO 140, PNP 200, PNP 210, PNP 222, PNP 233, PSY 121

PNP 210 Nutrition Concepts in Health and Illness

This course focuses on concepts of normal nutrition, principles related to health maintenance, and nutritional modifications required during states of illness. Students correlate principles of normal nutrition with therapeutic diets needed to promote health in culturally diverse individuals experiencing health deviations. Students acquire knowledge of dietary management of clients with a variety of pathological conditions.

Credits: 1

Semester Offered: S

Prerequisites: BIO 100 or BIO 140, PNP 101, PNP 111

Corequisites: PNP 200, PNP 222, PNP 233

PNP 222 Clinical Pharmacology

This course examines the actions, uses, common side effects, adverse reactions, contraindications, and average dosage of the most commonly prescribed drugs, utilizing the framework of the nursing process. Students study drug classifications and the effects of drugs on the body systems, with emphasis on techniques used for solving dosage problems. Students learn three systems of measurement associated with medication administration and dosage calculation.

Credits: 2

Semester Offered: S

Prerequisites: PNP 111

Corequisites: PNP 200, PNP 210, PNP 233

PNP 233 Trends in Practical Nursing

This course focuses on topics that prepare students both personally and vocationally for entrance into the nursing profession. It expands on legal and ethical considerations discussed in PNP 101 Practical Nursing I and introduces students to expectations placed on the graduate practical nurse. Topics include social issues that impact the health care system such as domestic abuse and homelessness, and the role of social service agencies. Students explore skills necessary for entry into the nursing workforce, including job search skills, resume and cover letter development, interviewing skills, and legal and licensure considerations.

Credits: 1

Semester Offered: S

Prerequisites: PNP 101, PNP 111

Corequisites: PNP 200, PNP 210, PNP 222

Psychology

PSY 101 Introduction to Psychology

In this survey course, the student becomes aware of and appreciates the various influences upon behavior. The topics covered include, but are not limited to, the nervous system, sensation and perception, motivation, learning, emotion, and personality. Through an investigation of these areas, within a multiplicity of cultural contexts, the student understands the diversity of the human condition.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

PSY 115 Self-Assessment and Career Planning

This course emphasizes self-discovery, the workplace, life decisions, and career/future planning within a multicultural framework. Students explore psychological theories and apply those theories to their own personal situations to formulate career/life plans. Students identify their abilities and explore their values, interests, motives, motivations, behaviors, personalities, and interaction styles. Students acquire and develop skills for career planning, job searching and understanding job satisfaction. Students develop an e-portfolio that integrates information developed through the self-assessment and career development process.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

PSY 117 Human Relationships & the Family

This course examines the factors that affect dating, courtship, commitment, marriage, and cohabitation in order to understand the dynamics of the family and human relationships. Topics include communication, intimacy, jealousy, abuse, termination of a relationship, differences of gender, race, religion, socio-economic level, and the effect of stereotypes.

Credits: 3

Semester Offered: S

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

PSY 118 Psychology of Interpersonal Relations

This course examines behavior in a variety of interpersonal situations including groups, family and the workplace. Students explore the dynamics of communication, group process, and other behavioral concepts. They share experiences in the classroom and participate in group projects that combine theory and practice. The course emphasizes varied and changing work environments. Students utilize a wide range of interpersonal skills to gain a more complete learning experience, greater personal satisfaction, and improved work efficiency in a variety of situations.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

PSY 119 Psychology of Personal Influence & Self-Improvement

This course emphasizes the basics of operant and classical conditioning and how each can be used in practical ways. Students learn to relax and desensitize to certain conditioned stimuli; to identify behaviors clearly; and to define, measure and state criteria for reinforcement. They create graphs concerning measured behavior and analyze the graphs in order to determine the effectiveness or need for reinforcement of the behaviors. The course also covers research methods, the ethics of behavior modification, the influence of cultural differences upon the consequences of behavior and upon conditioned stimuli, and the impact of predispositions and past experiences.

Credits: 3

Semester Offered: S

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

PSY 121 A Survey of Life Span Development: Conception to Death

This course examines the span of human development from conception to death. Students explore the processes that occur throughout the life stages, the continuity of the life span, and general development and its surrounding issues and events. Students acquire accepted vocabulary for this area of study and relate course topics to their own lives.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: PSY 101

PSY 123 Human Development I: Conception to Adolescence

This course surveys human development from conception through the middle years. Topics include the central issues of biological, psychological, sociological, and cognitive development. Students explore the theories of Freud, Erikson, Piaget, and others. Students examine both stage and behavioristic approaches of viewing human development; the interaction between physical and psychological growth; the relationships and differences between the developing child and societal settings; and cross-cultural research.

Credits: 3

Semester Offered: F/S

Prerequisites: PSY 101

PSY 124 Human Development II: Adolescence

This course covers the adolescent years and stresses biological, psychological, sociological, and cognitive development. Topics include the adolescent in present-day society and important psychological and sociocultural factors and theories that explain adolescent development. Students examine several theories relating

adolescent growth and development.

Credits: 3

Semester Offered: F/S

Prerequisites: PSY 101

PSY 142 Human Sexuality

This course covers social, cultural, and psychological perspectives of human sexuality. Students explore differences related to gender role formation, sexual orientation, sexual attraction, premarital sex, teenage pregnancy, sexually-transmitted diseases, and other related topics within a context of multicultural diversity. Students study specific topics of human sexuality and the research and the professionals in that field. Students examine their own values, beliefs, and behaviors with respect to these topics, and establish ways of applying this information to their own sexuality.

Credits: 3

Semester Offered: F/S

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

PSY 158 Human Relations in Organizations

This course examines the nature of organizations to facilitate students' entry into, and success within, organizational settings. Topics include the factors that influence individual behavior in organizations and the interrelationships between psychological and other social sciences. Students learn how these sciences contribute to overall organizational experiences and self-development. They examine types of organizations, effective motivational techniques, communication essentials, team development, and leadership practices. Students also examine global and multicultural influences that contributing to the nature of organizations and organizational success.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

PSY 211 The Psychology of Group Dynamics

This course examines behaviors and dynamics of groups. Students examine the theories and research findings used to make groups effective and learn skills to apply this knowledge to practical situations of small group interactions.

Credits: 3

Semester Offered: F

Prerequisites: PSY 101

PSY 231 Introduction to Counseling

This course provides an overview of the major theoretical approaches to conducting counseling and psychotherapy. Students critically examine the theories and research as it applies to counseling and psychotherapy. Topics include the basic skills necessary to be an effective counselor; assessment, goal setting and intervention; ethics; diversity; and self-awareness as a beginning professional. Students learn beginning counseling skills and develop an appreciation of the current and relevant issues in the field.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: PSY 101

PSY 235 Counseling Methods

This course presents methods of counseling. Students use an experiential approach to understand and practice specific techniques used in the counseling process including listening, giving and receiving feedback, problem definition, contracting, responsibility, commitment, and evaluation.

Credits: 3

Semester Offered: S

Prerequisites: PSY 231

PSY 250 Psychological Statistics

This course covers how quantitative methods are used to answer questions in psychology. Students examine psychological applications of measures of central tendency, measures of variability, and standardization of scores (z-scores). Students learn to conduct, interpret, and report effect sizes and significance testing for comparing means (t-tests and ANOVAs with one and two factors), assessing relationships (bivariate correlation and regression), and comparing frequencies based on nominal data (chi-squared) within research scenarios commonly encountered in psychology. Additionally, students are introduced to advanced statistical techniques used in psychology such as reliability analysis, factor analysis and path analysis. Special attention is given to identifying the appropriate statistics to use for a given research question and data set, to ethical issues in data analysis, and to the use of statistical software.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 101, MAT 122, PSY 101

PSY 251 Research Methods in Psychology

Through instruction in research design and the application of the scientific method to psychology, students learn to evaluate the validity of claims about behavior and mental processes as they appear in both popular media and the professional scientific literature, to

design and conduct psychological research, and to report on the results of psychological investigations using APA style. Topics covered include measurement and validity, ethics, survey research, correlational research, experiments with one and with multiple independent variables, identification and control of confounds, and quasi-experiments. Students conduct hands-on psychological studies involving appropriate statistical analyses that will be written up as APA style reports.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: PSY 250

PSY 252 Introduction to Cognition

This course serves as an introduction to the field of cognitive psychology, familiarizing students with theories and research regarding learning, memory, and thinking. Topics include: the history and foundations of cognitive psychology; neural bases; learning, memory and knowledge; language; reasoning and problem-solving; social and emotional influences, and changes in cognition across the lifespan.

Credits: 3

Prerequisites: ENG 101, PSY 101

PSY 253 Social Psychology

This course introduces students to the scientific study of how humans influence, relate to, and think about each other as practiced in social psychology. Major topics covered include social cognition, attributions, the self, attitudes and persuasion, conformity, group dynamics, interpersonal relationships, helping behavior, aggression, and prejudice. Themes emphasized throughout the course include the role of culture in influencing social psychological phenomena, the application of the scientific method to the study of social behavior, and the use of social psychological theories to better understand behavior encountered in daily life and in the world around us.

Credits: 3

Prerequisites: ENG 101, PSY 101

PSY 261 Theories of Personality

This course introduces personality theories and theorists, definitions of personality, development and structure of personality, motivation, and concepts of self. Students examine various theories of structure and development of personality, human motivation, concepts of self, and the mature personality as proposed by Freud, Skinner, Jung, Fromm, Allport, Rogers, Frankl, and Perls.

Credits: 3

Semester Offered: S

Prerequisites: PSY 101

PSY 262 Abnormal Psychology

This course focuses on issues of mental health and mental illness. Topics include examination of various symptoms and causes of mental illness, current trends in treatment, and new developments in community health resources. Students explore the various approaches used to define and treat abnormal behaviors, including the statistical and absolute models, in order to understand and adopt a sensitive approach toward individuals whose behaviors are symptomatic of a disorder.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: PSY 101

PSY 273 Chemical Dependency

This course covers the biological, psychological, and social factors involved in licit and illicit drug use and abuse. Students examine the types of drugs most commonly used and abused; psychosocial consequences of prolonged drug use and abuse; Federal, state, and local regulations governing drug use; efforts made to deal with drug use and abuse and drug related problems; and the nature and varied patterns of drug use and abuse in today's society. The course emphasizes types of drug treatment and counseling and the probable effects of different treatments upon the drug-dependent client.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: PSY 101

PSY 277 Neurology of Behavior

This course examines the physiological, biological, and molecular bases of a variety of human and animal activities. Students explore learning, memory, aging, pathology, sleep, dreaming, emotion, motivation, personality, sexuality, addiction, and aggression. Topics include genetics, neuroanatomy, neurophysiology, and neuropharmacology.

Credits: 3

Semester Offered: S

Prerequisites: PSY 101

PSY 280 Issues in the Profession of Psychology

This course examines issues of psychology which require critical thinking, awareness of pertinent research, and importance of underlying assumptions. Students explore areas of standardized testing, diagnostic labeling, psychosurgery, and electroconvulsive therapy. Additional course topics include deception in research, the disease model, religious values in psychotherapy, genetic influences upon behavior, and issues that influence the future of the field. Students develop research skills by investigating issues of cultural diversity as well as students' own values and biases.

Credits: 3

Semester Offered: S

Prerequisites: PSY 101 and a second Psychology course

PSY 281 Methods in Psychology

This course focuses on short experiments and hands-on research projects. Topics include development, implementation, and evaluation of research designs; learning and memory; sensation; perception; social psychology; and other subjects covered in introductory-level psychology courses. Students explore topics first-hand to understand the methods used by psychologists to study behavior.

Credits: 3

Semester Offered: S

Prerequisites: PSY 101

Public Health

PHA 100 Survey of Personal Health

This course examines the concept of health and how it relates to all aspects of life. Students gain perspective in assessing and promoting health and healthy lifestyles. Students learn methods to prevent violence and injury, along with reducing risks in specific diseases.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

PHA 101 Introduction to Public Health

This course provides an initial overview of public health concepts and practice. The course examines the philosophy, purpose, history, organization, function, tools, and activities of public health practice. Case studies and a variety of practice related exercises serve as a basis for student participation and interaction. The course identifies problems and issues currently facing public health. This course aims at enhancing, facilitating and promoting the use of technologies for obtaining and sharing information.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

PHA 102 Introduction to Global Health

This course guides students to the main concepts of global health and the critical links between public health and social and economic development. Students think about the determinants of health, how health status is measured, and what key factors influence disease burdens. This course introduces

students to key concerns regarding reproductive health, child survival, nutrition, communicable diseases, and chronic diseases. The course stimulates interaction around problems and issues currently facing global health. This course aims at enhancing, facilitating and promoting the use of technologies for obtaining and sharing information.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

PHA 103 Public Health Epidemiology

This course provides students with a general introduction to Epidemiology, the central research discipline in the field of public health. This course covers the methods used in Epidemiology and introduces students to the findings of epidemiological research in key aspects of health and disease. Students learn about problems and issues currently facing public health and Epidemiology and gain experience in reading and understanding basic Epidemiology articles.

Credits: 4

Semester Offered: F/S/SU

Prerequisites: CHM 101, MAT 122, PHA 100, PHA 101, PHA 102

PHA 299 Public Health Co-Operative Externship

This course provides students with real world experience in health careers in a public health setting. Students learn the job hunting process, identification of their skill set, resume and cover letter preparation, job interviewing skills, networking, negotiation, interpersonal skills development, business etiquette, ethics, and presenting themselves for success. Co-op Placement: Students develop a learning agreement with the instructor, stipulating learning goals and outcomes based on the position description. Students are required to successfully satisfy the terms of the learning agreement and complete a 300-hour unpaid or 450-hour paid cooperative work experience related to their particular major. The faculty member and career placement services can provide Co-op placement assistance, but students are ultimately responsible for securing a timely Co-op placement.

Credits: 6

Semester Offered: F/S/SU

Prerequisites: BIO 241, HST 212, PHA 103

Radiologic Technology

RDT 102 Patient Care & Ethics in Radiology

This course introduces students to the professional, ethical, and legal framework of current radiology and healthcare practices, including the role of the radiographer within this system. Students learn to solve problems of possible ethical and/or legal situations through course activities. Students learn basic patient care principles and skills needed for their initial clinical experiences including monitoring breathing, heart rate and blood pressures; recognizing changes in a patient's well-being; safe transport of patients; effective communication with various types of patients; and current information on infection disease control and basic medications as they pertain to radiology.

Credits: 3

Semester Offered: F

Prerequisites: Accepted to RT Program

RDT 104 Radiographic Medical Terminology

This course introduces students to the basic medical and technical terminology inherent to the profession of Radiologic Technology. The content includes radiographic positioning terminology, professional organization acronyms and purposes of these agencies, basic medical terminology and abbreviations. Students use this information to effectively communicate within the healthcare setting.

Credits: 1

Semester Offered: F

Prerequisites: Accepted to RT Program

RDT 110 Fundamentals of Radiographic Equipment and Medical Imaging

This course introduces the principles of medical imaging with emphasis on basic radiation safety practices, the components of radiographic imaging equipment, how x-rays are produced and the selection of exposure factors. Lab sessions provide students with hands-on practice of the concept presented in class.

Credits: 3

Semester Offered: F

Prerequisites: Accepted to RT Program, MAT 122

RDT 112 Medical Imaging II

This course continues to instruct the student on the principles of medical imaging to include accessory imaging devices and the principles of digital image acquisition, processing and display. Image analysis methods are introduced and practiced to develop students' ability to recognize suboptimum images and determine appropriate corrective action(s). Lab activities

allow students to implement the principles discussed in class and demonstrate the effects of correct and incorrect utilization of imaging equipment and techniques.

Credits: 3

Semester Offered: S

Prerequisites: RDT 110

RDT 121 Radiographic Positioning & Anatomy I

This course provides initial information related to proper positioning of the human body for medical diagnostic imaging. Students study intricate anatomy and specific positioning procedures of the upper and lower extremities, chest, and abdomen. Students practice these skills through laboratory activities before performing them on live patients in their clinical assignments. Students learn the skeletal anatomy of specified body parts, identify specific structures within these anatomical regions, and simulate any exam procedure discussed during the course.

Credits: 3

Semester Offered: F

Corequisites: RDT 102, RDT 104

RDT 122 Radiographic Positioning & Anatomy II

This course continues to develop students' positioning skills with focus on specific anatomy and positioning procedures of the pelvis, hip, bony thorax, lumbo-sacral, thoracic and cervical spine, GU and GI systems. Students practice these skills through laboratory activities before performing them on live patients in their clinical assignments. The course focuses on problem solving for atypical imaging conditions requiring modification to the usual positioning procedure. Students learn the skeletal anatomy of specified body parts, identify specific structures within these anatomical regions, and simulate any exam procedure discussed during the course.

Credits: 3

Semester Offered: S

Prerequisites: RDT 121, SPH 101

RDT 131 Medical Radiography Clinic I

This course focuses on developing basic skills for the practice of radiography. Students learn proper methods to radiograph and care for patients with emphasis on equipment manipulation, patient care, darkroom procedure, and chest and abdomen radiography. Students develop these skills at a clinical site under direct supervision. They advance from observation and assisting with procedures, to performing the exam with indirect supervision. Students assess radiographic images for quality, accuracy, and to suggest options for improvement.

Credits: 2

Semester Offered: F

Corequisites: RDT 110, RDT 121

RDT 132 Medical Radiography Clinic II

This course expands students' clinical skills through their participation in more varied and complex radiographic procedures with emphasis on imaging the upper/lower extremities, pelvis, spinal column and GU and GI systems. Students gradually advance to perform these procedures on more acute patients and under atypical conditions. Students continue to develop their ability to critique images of procedures learned during the previous and current semesters. This course extends beyond the spring semester to include the month of June (40 hours/week). During this period, students focus on fluoroscopy exams of the GI system and are introduced to mobile and surgical radiography procedures.

Credits: 5

Semester Offered: S

Prerequisites: RDT 131

RDT 141 Radiation Science

This course covers the properties of particulate and electromagnetic radiations, sources of exposure, the biological implications of irradiation, the medical uses of radiation, and dose limitation methods. Students learn how to answer patients' questions regarding exposure and how to provide appropriate protection for themselves, their patients, the clinical staff, and the general public.

Credits: 2

Semester Offered: S

Prerequisites: RDT 110

RDT 231 Medical Radiography Clinic III

This course focuses on the development of students' clinical skills with emphasis on performing fluoroscopy, mobile, and surgical exams, as well as imaging the bony thorax, facial bones, and sinuses. Students expand their skills with trauma procedures; are introduced to pediatric imaging; assume independent care of stable and mildly acute patients; and closely assist with more severely acute patients. Students use problem solving and critical thinking skills in the management of non-typical imaging situations and the continued assessment of image quality.

Credits: 5

Semester Offered: F

Prerequisites: RDT 132

RDT 232 Medical Radiography Clinic IV

This course concentrates on refining students' skills in performing all mandatory and elective procedures required for graduation and eventual employment as an entry-level radiographer. Upon completion of this course, students are eligible for examination for certification by the

American Registry of Radiologic Technologists. Students work independently, with indirect supervision, on all exams for which they have been evaluated as competent. Advanced imaging procedures are presented and include specialized cranio-facial imaging, basic special procedures, trauma, pediatric, and surgical exams. Students are encouraged to experience advanced modalities such as CT, MR, angiography, nuclear medicine, and sonography.

Credits: 4

Semester Offered: S

Prerequisites: RDT 231

RDT 240 Imaging Applications

This course integrates imaging concepts related to image assessment and the determination of corrective actions to achieve optimal image quality. Evidenced-based learning strategies require students to demonstrate their problem-solving skills in the process of modifying exam procedures to accommodate patient limitations as experienced with trauma, surgical, pediatric and mobile imaging. Imaging of craniofacial anatomy is also covered.

Credits: 4

Semester Offered: F

Prerequisites: RDT 112, RDT 122

RDT 245 Medical Radiographic Equipment & Quality Assurance

This course includes the principles of mechanics, electrostatics, electrodynamics, magnetism, electromagnetism, and circuitry. Students examine these concepts in detail and apply them to the design and operation of radiographic and fluoroscopic systems. Students also learn how radiologic quality assurance programs are developed and implemented. Laboratory sessions feature hands-on demonstrations of the principles discussed in lecture and allow students to perform quality control tests on the campus ionized radiographic unit and accessory equipment.

Credits: 3

Semester Offered: F

Prerequisites: RDT 112

RDT 252 Radiology Seminar

This course provides a series of discussions, presentations and group projects to further develop students' knowledge and skills as health care providers with an emphasis on medical ethics and cultural diversity related to healthcare delivery in the radiology setting. A capstone component requires students to integrate their practical skills and knowledge through image critiques, career exploration and professional development activities to clarify their professional responsibilities and awareness for lifelong learning in preparation for employment as entry-level radiologic technologists.

Credits: 4

Semester Offered: S

Prerequisites: BIO 112, RDT 231, RDT 240

RDT 254 Radiologic Pharmacology and Pathology

This course covers the basic concepts of health, illness and disease processes affecting various bodily systems with special emphasis on the nature of pathologic processes and the radiographic appearance commonly presented and experienced during medical imaging procedures. The fundamental pharmacology of medications and contrast agents routinely administered as part of imaging procedures is discussed.

Credits: 3

Semester Offered: S

Prerequisites: BIO 112, RDT 231, RDT 240

RDT 260 CT & Cross-Section Anatomy

This course expands students' knowledge on imaging principles and equipment relative to Computed Tomography (CT) and provides instruction on anatomy in cross-section format. Students learn to differentiate between the transverse, sagittal and coronal appearance of anatomy of the head, chest, abdomen and pelvis. The fundamentals of venipuncture technique and related patient care skills are reviewed and practiced.

Credits: 2

Semester Offered: S

Prerequisites: BIO 112, RDT 231, RDT 240

RDT 262 Cross-Sectional Anatomy

This course focuses on the appearance and relationships of anatomical structures in multiple projections. It emphasizes anatomy commonly examined through the imaging modalities of CT, MR and ultrasound. Course materials are presented in lecture form. Students will schematically draw organ relationships at various levels in the body and in various projections. Students develop a working knowledge of multiplanar anatomy, applicable for any imaging modality.

Credits: 3

Semester Offered: S

Prerequisites: BIO 112 or permission of Program Coordinator, Alternate Springs

Respiratory Care

RCP 103 Fundamentals of Respiratory Care

This course covers the theoretical knowledge base upon which entry-level clinical practice is founded. Topics include physical principles relevant to Respiratory Care, including: gas and fluid dynamics; medical gas regulation;

delivery and basic therapeutics; aerosol and humidity delivery and basic therapeutics; and principles of infection control and sterilization. A student-directed medical terminology course is also included.

Credits: 2

Semester Offered: F

Corequisites: RCP 121

RCP 104 Fundamentals of Respiratory Care II

This course introduces theoretical concepts, which are the basis for select therapeutic modalities employed in Respiratory Care. Students learn: medical gas therapy (hyperbaric, nitric, helium and carbon dioxide therapy); chest physical therapy; airway clearance techniques; monitoring of gas exchange; and lung expansion therapy. The concept of mechanical ventilation is introduced and explored.

Credits: 2

Semester Offered: S

Prerequisites: RCP 103, RCP 121

Corequisites: RCP 122

RCP 111 Medical Lectures I

This course covers normal pulmonary and cardiovascular anatomy and physiology, ventilation, oxygen transport, carbon dioxide transport, and oxygen saturation. An introduction to the pathophysiology associated with oxygen deficiency will also be included.

Credits: 3

Semester Offered: F

RCP 112 Medical Lectures II

This course provides an introduction to acid-base physiology and blood gas interpretation. Topics covered in the course include: oxygenation and external respiration; oxygen transport and internal respiration; blood gas classification; the assessment/treatment of hypoxemia and shunting; the assessment and treatment of hypoxia; acid-base homeostasis; the regulation of acids, bases and electrolytes; the differential diagnosis of acid-base disturbances; recognition of mixed acid-base disturbances and their treatment; and introduction to non-invasive blood gas monitoring. Clinical case studies relevant to the topic(s) under discussion will be reviewed.

Credits: 3

Semester Offered: S

Prerequisites: RCP 111

RCP 113 Medical Lectures III

This course is designed to familiarize students with the following areas of medical assessment: physical examination (both chest and general); laboratory (including arterial blood gases); electrolytes; chemistry; hematology; chest

radiography; preoperative; neurological and cardiovascular assessment.

Credits: 3

Semester Offered: F

Prerequisites: BIO 112, RCP 112

RCP 114 Medical Lectures IV

This course explores the etiology, clinical presentation, pathologic features, diagnostics, and treatment of diseases commonly encountered in Respiratory Care practice. The focus is on cardiopulmonary and other system's disorders as they present in the adult client. Agents of bioterrorism including smallpox, anthrax, botulism, ricin, sarin, and plague are also introduced. Case studies/independent research/writing, and physician lectures are utilized to promote the student's understanding and to develop the student's critical thinking skills.

Credits: 3

Semester Offered: S

Prerequisites: BIO 112, RCP 113

RCP 121 Clinical I

This course introduces students to the basic principles involved in the administration of Respiratory Care. Topics include routine patient care, medical gas therapy, oxygen administration devices, infection control, emergency procedures, and chemical disinfection and sterilization. In the lab component, students review and apply relevant theory, assemble/disassemble and troubleshoot equipment, and practice client care skills in a clinical simulation environment.

Credits: 3

Semester Offered: F

Corequisites: RCP 103

RCP 122 Clinical II

This is a supervised clinical rotation in an affiliating hospital. Students continue to build on competencies acquired during the first semester while acquiring additional experience in chest physical therapy, arterial blood gases, lung inflation techniques, tracheobronchial aspiration, and airway clearance. The emphasis is on day-to-day therapeutic respiratory procedures. The laboratory component provides a clinical simulation environment and covers equipment and procedural skills related to the lecture materials in RCP 104 Fundamentals of Respiratory Care II. Students review, demonstrate, and apply relevant theory, assemble/disassemble and troubleshoot equipment, and practice client care skills related to course topics. Skills checklists are completed.

Credits: 3

Semester Offered: S

Prerequisites: RCP 103, RCP 121, RCP 141

Corequisites: RCP 104

RCP 131 Cardiopulmonary Technology

This course covers pulmonary function testing, invasive and non-invasive diagnostic procedures, and techniques utilized to assess patients with pulmonary or cardiovascular diseases and sleep disorders.

Credits: 2

Semester Offered: F

Prerequisites: BIO 112, RCP 122

RCP 141 Pharmacology

This course covers basic principles of general pharmacology and is designed to meet the needs of the Respiratory Care practitioner. Topics covered in this course include: basic principles of pharmacology; specific modes of drug action; and indications, contraindications, potential side effects and dosages of drugs commonly utilized in the treatment of respiratory, cardiovascular and critical care patients.

Credits: 3

Semester Offered: F

Corequisites: RCP 111

RCP 221 Clinical III

This course is an advanced, supervised clinical experience in intensive medical, surgical, pediatric, and neonatal intensive care units. Students develop practical skills in all aspects of ventilatory management, monitoring, arterial blood gases, and all other therapeutic modalities provided in intensive care.

Credits: 5

Semester Offered: F

Prerequisites: BIO 112, RCP 122

RCP 222 Clinical IV

This course is an advanced, supervised clinical experience. Students acquire practical skills in critical care, pulmonary rehabilitation, neonatal, pediatrics, and other specialty areas. Students correlate theoretical principles to practical applications.

Credits: 5

Semester Offered: S

Prerequisites: BIO 112, RCP 221

RCP 230 Critical Care I Laboratory

The course provides a laboratory environment in which students will learn the theoretical foundations and practical skills necessary to provide Respiratory Care to an adult client in a critical care setting. Topics to be covered include: the initiation, maintenance and discontinuation of mechanical ventilatory support; airway care; and monitoring. Additional topics may be added as time permits.

Credits: 1

Semester Offered: SU

Prerequisites: BIO 112, RCP 122

RCP 231 Critical Care II

This course covers a variety of topics relevant to critical, adult Respiratory Care practice. Topics include: a review of techniques/protocols used in the initiation; monitoring and discontinuance of mechanical ventilator support; monitoring of the adult patient in the ICU, including hemodynamic, neurological, renal, hepatic, and nutritional support; physiologic significance of pulmonary artery blood gases; interpretation and significance of ventilatory waveforms; calculations and formulas relevant to practice and credentialing examinations; chest tubes and pleural drainage systems. ECMO, IAB counterpulsation, and liquid ventilation are also introduced.

Credits: 3

Semester Offered: F

Prerequisites: RCP 230

RCP 243 Neonatal and Pediatric Respiratory Care

This course covers the normal and pathophysiological events that affect the cardiopulmonary status of the fetus, infant, and child. Students study fetal development, the nature and physiology of neonatal and pediatric pathology, and the application of this information in the clinical setting. Other topics include neonatal resuscitation and advanced pediatric life support.

Credits: 3

Semester Offered: S

Prerequisites: BIO 112, RCP 221

RCP 245 Respiratory Care Seminar

This course is intended to strengthen student skills and knowledge in the processes of Respiratory Care and to build proficiency, professionalism and community spirit. It is specifically designed to prepare the Respiratory Care student to take the N.B.R.C. credentialing examinations. Preparation for the clinical simulation component of the registry examination is provided through academic software. Students will complete a Senior Project meant to encourage student involvement in the Respiratory Care profession while promoting the importance of community service.

Credits: 2

Semester Offered: S

Prerequisites: BIO 112

Corequisites: RCP 222

Science

SCI 103 Earth Science

This course is an introduction to the science of Earth. Students apply fundamental physics and chemistry to the study of Earth's composition, origin and development. Topics include geology, oceanography, hydrology, earthquakes, volcanoes and other natural hazards.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score, MAT 095 with a "C" or higher on the MAT 095 departmental final exam or appropriate placement score

SCI 104 Climate and Weather: Causes and Effects

The focus of this course is the science related to weather and climate, how humans affect weather and climate, and weather and climate's effect on humans. Students use basic laws and theories of physics and chemistry to describe and explain the composition, structure, and energy distribution of Earth's atmosphere plus atmospheric phenomena, such as global warming/cooling, the greenhouse effect, ozone depletion, air pollution, severe storms, rainbows, auroras, weather, and climate. Students examine climate change and techniques to measure climate change and compare Earth's atmosphere to that of other planets.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score, MAT 095 with a "C" or higher on the MAT 095 departmental final exam or appropriate placement score

SCI 105 Integrated Science: Earth and Space

This course focuses on the basic concepts of astronomy and earth science. Students apply fundamental physics and chemistry to the study of the physical world they live in, and, through the laboratory component, gain an understanding of the methods and applications of science. The course is designed for but not limited to students in Elementary and Early Childhood Education programs.

Credits: 4

Semester Offered: F/S/SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score, MAT 095 with a "C" or higher on the MAT 095 departmental final exam or appropriate placement score

SCI 106 Integrated Science: The Living World

This course covers the basic concepts of life science and examines the interactions of living organisms with the physical world they inhabit. Students apply fundamental physics and chemistry to various topics in biology and environmental science, and, through the laboratory component, gain an understanding of the methods and applications of science. This course is designed for but not limited to students in Elementary and Early Childhood Education programs.

Credits: 4

Semester Offered: F/S/SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score, MAT 095 with a "C" or higher on the MAT 095 departmental final exam or appropriate placement score

SCI 107 Science of Technology: Vision and Light

This course provides an introduction to the way that science, through technology, enhances human life. This course has a particular emphasis on innovations that impact vision and allow humans to extend a person's natural ability to visually explore the world and exchange ideas. Students learn scientific principles that underlie many technological devices that enhance human ability, as well as the complimentary roles of the Scientific Method and the Engineering Design Process. Students gain an understanding of methodologies used in scientific investigations through the laboratory portion of the course.

Credits: 4

Semester Offered: F

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score, MAT 095 with a "C" or higher on the MAT 095 departmental final exam or appropriate placement score

SCI 108 Science of Technology: Hearing and Sound

This course provides an introduction to the way that science, through technology, enhances human life. This course has a particular emphasis on innovations that impact hearing and allow humans to extend a person's natural ability to explore the world and exchange ideas through sound. Students learn scientific principles that underlie many technological devices that enhance human ability, as well as the complimentary roles of the Scientific Method and the Engineering Design Process. Students gain an understanding of methodologies used in scientific investigations through the laboratory portion of the course.

Credits: 4

Semester Offered: S

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score, MAT 095 with a "C" or higher on the MAT 095 departmental final exam or appropriate placement score

SCI 109 Environmental Science: Biological Topics

This course covers selected biological topics of environmental science. Students learn about the interactions between humans and the environment and gain the ability to connect the issues to a framework of ideas and values that allow them to become part of the solution to environmental problems. Topics include the themes of environmental science, the definition, functioning and changing of ecosystems, human population, wild species and biodiversity and pests and their control. Lab exercises are designed to reinforce and expand on topics covered in lecture. Students are required to participate in off-campus field work for some of the class/laboratory activities.

Credits: 4

Semester Offered: F/S

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score, MAT 095 with a "C" or higher on the MAT 095 departmental final exam or appropriate placement score

SCI 110 Sustaining Earth's Environment

This course focuses on the basic concepts of environmental science. Students apply fundamental physics and chemistry to the study of the physical world they live in, and, through the laboratory component, gain an understanding of the methods and applications of science. Topics include consumption and conservation of Earth's natural resources, the impact of the humans on the environment, waste management and renewable energy sources.

Credits: 4

Semester Offered: F/S

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score, MAT 095 with a "C" or higher on the MAT 095 departmental final exam or appropriate placement score

SCI 135 Introduction to Astronomy

This course consists of a survey of historical knowledge about astronomy, as well as recent developments in the field. Topics include constellations, coordinates, light, Solar System planets, the sun, stars, galaxies, and conditions for life on other planets. Students perform out-of-class projects including observational aspects of astronomy, such as the night sky, moon phases, and the seasons.

Credits: 3

Prerequisites: ENG 101, MAT 090 with a "C" or higher on the MAT 090 departmental final exam or appropriate placement score

SCI 140 Astronomy I: Close to Home

This course emphasizes the scientific basis of introductory astronomy concepts, using labs and algebra to demonstrate the processes. Students learn physics concepts essential to continued study of astronomy, including Newtonian gravity, planetary motion, the electromagnetic spectrum, optics, and theories of the solar System and its contents. Labs are a mixture of daytime astronomy and physics related topics, and required night-time on-campus observational astronomy sessions. Students are required to observe on campus at night a minimum of (1) time during the semester; a choice of dates will be provided.

Credits: 4

Semester Offered: F

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score, MAT 099 with a "C" or higher on the MAT 099 departmental final exam or appropriate placement score

Social Science**SOS 090 People in Society**

This course examines how economic, social, and political systems affect human life. Students explore how to apply this knowledge to improve their everyday life. The course emphasizes building skills for coping with life experiences and prepares students for college level courses in the social sciences.

Credits: 3

Semester Offered: S

SOS 211 Death & Dying

This course examines the death and dying process within personal and professional frameworks. Students learn differences in cultural attitudes toward death and dying; the origins of death anxiety; the processes involved in dying, grieving, and mourning; and the community resources available to address these processes. Topics include cultural attitudes, models of dying and grieving, children and death, suicide, and euthanasia.

Credits: 3

Semester Offered: F/S

Prerequisites: ENG 101

Sociology**SOC 101 Introductory Sociology (Principles)**

This course introduces basic theories and vocabulary of sociology including its historical origins and research process. It examines the

major principles that govern the structure and function of society, its institutions, groups, and processes. Students learn people in society decide to meet the social, psychological, economic and everyday needs of its members. The course emphasizes making connections between students' personal lives and the social change occurring around them.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

SOC 106 The Sociology of Difference and Inequality

This course examines the social construction of categories of difference, such as race, class, sexual orientation, and gender, and how those categories are transformed into systems of inequality from a sociological perspective. Special attention is paid to the role of social institutions, such as family, education, and mass media in the creation and maintenance of difference-based inequalities. Students critically examine their own experiences within the broader social context and explore strategies for individual and social change.

Credits: 3

Semester Offered: F/S

Corequisites: ENG 101

SOC 111 Social Problems & Social Change

This course examines how social change in the United States produces social problems such as prejudice and poverty, and how these problems affect families and the quality of life in a multicultural society. Students learn to recognize and understand the relationship between on-going social change and the problems that accompany change. Students examine major problems facing society today, separate myth from fact, and analyze these problems and their solutions objectively.

Credits: 3

Semester Offered: F/S/SU

Corequisites: ENG 101

SOC 115 Sociology of Sex and Gender

This course explores peoples' gender experiences in society from a sociological perspective. A sociological perspective is particularly important to gender studies because it situates individual experience within the context of social institutions. This course addresses how the varied experiences of women and men are constructed within social institutions and, therefore, can be transformed through institutional change. Students develop critical and analytical skills through reading and writing assignments. Students learn actively to

incorporate aspects of social stratification and the differences it engenders in women's and men's experiences.

Credits: 3

Semester Offered: F/S

Prerequisites: ENG 101

SOC 131 Films in Social Psychology

This course presents various topics in social psychology via films and full-length movies. The topics vary from semester to semester and include child rearing practices, divorce, human relations, nuclear proliferation, economics, sex role stereotyping, sexuality, aggression, and social norms. Students gain an understanding of these topic areas as well as how the popular media portrays them.

Credits: 3

Semester Offered: F/S/SU

Corequisites: ENG 101

SOC 201 Global Society and Global Culture

This course introduces students to social-science approaches to globalization. Students examine the challenges and opportunities of global society and culture from particular perspectives of the Global South (Latin America and the Caribbean, most of Asia, or Africa). General topics include social problems and social change, difference and inequality, continuity and conflict. Students also explore what it means to be a global citizen with respect to various social institutions such as family, education, and work.

Credits: 3

Prerequisites: ENG 101

SOC 211 The Dynamics of Racial & Ethnic Relations

This course examines racial and ethnic relations and the major sociological theories used to analyze them, and provides an overview of assimilation and melting pot theory. It emphasizes multiculturalism and focuses on sociological explanations of dominant group/minority group encounters within the contexts of power, poverty, and segregation. Students study contemporary and historical examples of institutional discrimination, and discuss policies and issues related to improving race relations in the United States.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 101

SOC 212 Juvenile Delinquency & the Juvenile Justice System

This course explores the underlying causes of youth crime as they relate to contemporary methods of social control of delinquency. Students examine biological, psychological,

and sociological factors affecting deviant behavior as a broad framework for understanding the response of the juvenile justice system to that behavior.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 101

SOC 220 American Deaf Culture

This course provides a historical and contemporary perspective of American deaf culture using a socio-cultural model. Students examine deaf culture and make comparisons and contrasts with other cultures. Topics include communication, language, cultural identity and values, group norms, traditions and the world view of deaf people.

Credits: 3

Semester Offered: F

Prerequisites: SOC 101

SOC 221 The Family

This course examines ideas about the nature and structure of the family and how they have changed over time. Students debate whether or not the family is dying as an institution, and how best to restore the family to its place in society. Students explore how economic and social forces affect families; and examine personal and social values about dating, mating, and family life.

Credits: 3

Semester Offered: F/SU

Prerequisites: ENG 101

Spanish

SPN 111 Beginning Spanish I

This course introduces the fundamentals of the Spanish language. Students examine brief readings on the everyday aspects of the contemporary Spanish-speaking world. Students use common conversation, tell time, make comparisons, discuss the weather, and recognize and use basic tenses for common verbs. Previous knowledge of Spanish is not necessary.

Credits: 3

Semester Offered: F/S

SPN 112 Beginning Spanish II

This course is a continuation of SPN 111 Beginning Spanish I. Students continue to progress in the fundamentals of understanding, speaking, reading, and writing the Spanish language. The course emphasizes the development of reading skills through the study of enjoyable, short, and timely articles on contemporary life and culture in the Spanish-speaking world. The course covers more complex verb and pronoun forms.

Credits: 3

Semester Offered: F/S

Prerequisites: SPN 111

SPN 211 Intermediate Spanish I

This course is a continuation of SPN 112 Beginning Spanish II. It reviews the fundamentals of the language and emphasizes conversational Spanish. Students study the culture of the Spanish-speaking world and current events through the use of newspaper and magazine articles edited for student use. Students form and use more complex verbs. They also summarize a ten-minute talk given by the instructor, participate in a variety of situational conversations, answer questions about readings, and write an in-class composition about a topic studied during the semester.

Credits: 3

Semester Offered: F/S

Prerequisites: SPN 112

SPN 212 Intermediate Spanish II

This course is a continuation of SPN 211 Intermediate Spanish I. The course reviews key points of the language and emphasizes conversational fluency. Students engage in intensive oral practice through the reading and discussion of well-edited texts in Spanish. Students summarize a 20-minute talk given by a native speaker, read and answer questions on a magazine article, present a five-minute talk on a chosen topic, and write a summary of the talk in Spanish.

Credits: 3

Semester Offered: F/S

Prerequisites: SPN 211

Speech

SPH 101 Speech Communication Skills

This course covers organization and delivery skills, and the development of confidence necessary for effective oral communication. Students organize speeches for both specific and general audiences; and prepare and present extemporaneous and impromptu speeches on a variety of contemporary issues. Students implement principles and practices of public communication through evaluated classroom activities including the use of PowerPoint® presentations.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

Surgical Technology/ Perioperative Nursing

SUR 101 Perioperative Issues

This course provides knowledge in the areas of patient care directly associated with the surgical experience. Included are an in-depth overview of the hospital, the operating room and its equipment, and the individual roles of the surgical team; principles of patient safety: identification, transportation, and positioning; and, surgical pharmacology.

Credits: 3

Semester Offered: F

Prerequisites: BIO 100 or BIO 140, SUR 115

Corequisites: SUR 111

SUR 111 Operating Room Techniques

This course introduces techniques and procedures utilized during the surgical experience. Topics covered include scrubbing, gowning, and gloving; and the establishment of the sterile field with its armamentarium of sutures, instruments, supplies and equipment. The course includes an in depth discussion of laparoscopic equipment and supplies, laser, and emergency preparedness. The laboratory component allows the student to observe and demonstrate the principles and procedures taught in the classroom in a non-patient contact environment.

Credits: 5

Semester Offered: F

Prerequisites: SUR 115, ALH 102

Corequisites: SUR 101

SUR 115 Asepsis

This course covers the principles and practices of surgical asepsis that must be maintained in the clinical setting. Included are the study of microscopic life forms, the relationship of microbes to disease and illness, the principles and techniques of disinfection, sterilization, antisepsis, and the development of the "surgical conscience".

Credits: 2

Semester Offered: SU

Prerequisites: Enrollment limited to Surgical Technology majors only

SUR 121 Surgical Procedures I

This course explores the diagnostic and surgical interventions of general, OB/GYN, orthopedic, EENT, dental/oral/maxillofacial, plastic/reconstructive and GU. Additionally this course covers laparoscopic and robotic procedures for each specialty. Ethical, legal and moral values relating to the individual patient as well as the operating room procedures are included.

Credits: 8

Semester Offered: F

Prerequisites: BIO 100 or BIO 140, SUR 115

Corequisites: SUR 111

SUR 199 Clinical I

Students are assigned to surgical settings within the greater Worcester area. Clinical experience provides students with supervised applications of the theory, principles, and procedures taught in the classroom. Students experience patient contact as a member of the operating room team. This experience takes place in hospitals and clinics and focuses on minimally complex surgical cases.

Credits: 4

Semester Offered: S

Prerequisites: SUR 101, SUR 111, SUR 121, SUR 230

SUR 221 Surgical Procedures II

This course explores the diagnostic and surgical interventions of specialized surgeries including thoracic, neurosurgery, peripheral and cardiovascular surgeries.

Credits: 3

Semester Offered: S

Prerequisites: SUR 121

SUR 230 Ethics

This course introduces the student to ethical issues which relate to patient care in a hospital surgical setting. Legal issues and moral values relating to patient rights and operating room procedures will be discussed. Cultural, ethnic, and age issues will be considered as appropriate.

Credits: 1

Semester Offered: F

SUR 250 Perioperative Nursing

This course is designed to provide the learner with an understanding of the operating room nurse's role and responsibilities as a scrub nurse and as a circulating nurse. Instruction includes components of the basic sciences, surgical asepsis/sterile technique, the Operating Room environment, surgical procedures, anesthesia, professionalism, clinical practices and the assessment of the patient's physical, emotional and spiritual needs. The content is based on the standards and recommended practices established by the Association of Operating Room Nurses (AORN).

Credits: 3

Semester Offered: F/S

Prerequisites: Admission to Perioperative Nursing Certificate

SUR 251 Perioperative Nursing Externship

This course is designed to introduce the RN to perioperative nursing skills associated with caring for the surgical patient in the Operating Room. Students demonstrate the Operating Room nurse's role and responsibilities as a scrub nurse and circulating nurse in lab. Students perform these skills with a preceptor at selected area hospitals.

Credits: 7

Semester Offered: F/S

Prerequisites: Admission to Perioperative Nursing Certificate

Corequisites: SUR 250

SUR 290 Clinical II

This course involves the practical application of the skills, knowledge, and abilities developed in SUR 121 with a specific focus on moderately complex surgical cases, such as ophthalmology, ears/nose/throat, dental/oral/maxillofacial, plastic/reconstructive and genito-urinary. This clinical experience requires appropriate case scheduling.

Credits: 6

Semester Offered: S

Prerequisites: SUR 199

SUR 299 Clinical III

This course involves the practical application of the skills, knowledge, and abilities taught in the classroom via patient contact as a member of the operating room team. This clinical experience focuses on more complex surgical procedures.

Credits: 6

Semester Offered: S

Prerequisites: SUR 290

Theater

THA 101 Theater Production

This course covers the basic level of technical experience in various aspects of production design and emphasizes a working knowledge of the hands-on participation skills needed to mount and run theatrical productions. Students focus on crafting an industry standard production book and work on that semester's theater productions in assigned areas.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 091 with a grade of "C" or higher, ENG 096 with a grade of "C" or higher; or appropriate placement score

THA 102 Stage Movement

This course examines the basic techniques of movement with emphasis on developing each student's potential for effective physicalization

of character. This course focuses on tempo, rhythm, period movement, mask, Mythic Gesture; personal mannerisms and their essence are defined and explored.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: THA 101

THA 103 Stage Voice

This course focuses on developing experience in various aspects of vocal performance techniques that include but are not limited to: International Phonetic Alphabet (IPA), diction, breathing, nerves, vocal constructs, personal atmosphere and isms. Students examine characteristics of vocal techniques that include: foundation, structure, emotion, vocal gesture, physical expression, delivery, eye-contact, continuity, and composition. Students study techniques used in public/professional presentation and/or performance.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: THA 101

THA 201 Acting

This course covers the art and craft of acting, both as a participant and an observer. Students are introduced to the language, terms, and concepts of theater, as well as the process and techniques by which actors work. Students demonstrate their ability to use their "self" in an authentic way, as well as his/her willingness and resilience to transform that "self" beyond its pre-established boundaries.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: THA 102, THA 103

THA 202 Stage Management

This course focuses on principles, practices, industry vocabulary and standards of theatrical stage management. Students study the duties, responsibilities, procedures and theater etiquette from pre-production to post-production that comprise stage management.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: THA 102, THA 103

THA 203 Playwriting

This course focuses on instructing students in the method of crafting plays for production. Students examine processes that include, but are not limited to: conceptualization, dramatic form and structure, and character development. Students study the method for creating a first through final draft process, casting, and staged-readings leading to formal play production.

Credits: 3

Semester Offered: F/S/SU

Prerequisites: ENG 101, THA 201, THA 202

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B.F.A., Massachusetts College of Arts; M.A.,
San Francisco Art Institute

BARBARA WILSON, Business

B.S., Regis University

MARY ELLEN WOLFE, Mathematics

B.S., Arizona State University; M.A.T.,
Manhattanville College

DEBORAH WOODWARD, Nurse Education

B.S.N., Worcester State University

SUSAN WOZNIAK, English

B.A., Marygrove College; M.A., Wayne State
University; A.L.M., Harvard University

JAMEELI WOZNIAK, Nurse Education

A.S., Quinsigamond Community College;
B.S., Anna Maria College

STEPHEN WRIGHT, Biology

B.S., University of California in Berkeley;
O.D., University of California in Berkeley;
Ph.D., University of Oregon

DAVID YACAVACE, English

B.A., Assumption College; M.A.,
Assumption College

ESSETTE YESIHAK, English as a Second
Language

A.S., Roxbury Community College; B.S.,
Worcester State University; M.A., University
of Massachusetts-Boston

SAMUEL YOUNG, Psychology

B.A., Bates College

RICHARD ZAJCHOWSKI, Human Services

B.A., Amherst College; M.A., Claremont
Graduate School and University Center

DAVID ZAMPESE, Dental Hygiene

A.B., Boston College; D.M.D., Tufts
University Dental School

RANDEEN ZANCA, Developmental English
and English

B.A., University of British Columbia; M.Ed.,
Framingham State University

ELDA ZEKO-UNDERWOOD, Psychology and
Orientation

B.A., Tirana University; M.A., Assumption
College

KAI ZHAO, Accounting

A.S., Quinsigamond Community College;
B.S., University of Massachusetts-Amherst

ERIC ZOHOUN, Computer Systems
Engineering

B.A., Assumption College

EMILY MYRIAH ZWICKER, Nurse Education

B.S., Hartwick College

Program Advisory Committees

Automotive Technology

Ernie Darrow, Mazda, USA; Michelle Hoey-Sloan, Hoey Tire; Jim Kelley, Sentry Lincoln-Mazda; Charles Lahti, Harr Motor Group; John Paul, AAA Southern New England; John Pignataro, Sentry Lincoln-Mazda; Ron Todisco, Ford Motor Company.

Business Administration

Robert Aspell, SCORE; Christine Case, St. Vincent Hospital; Joseph Coderre, Savers Bank; Robin Cohen, Robert Half International; Shirley Dempsey, QCC; James Gaffney, Saint-Gobain Abrasives; Ed Haddad, Industry Advisor; James Hoogasian, Spencer Financial; Michael Mahler, Hometown Bank; Richard McGrath, McGrath Insurance Group, Inc.; Alan Peppel, Dexter Russell, Inc.; Larry Sasso, Larry Sasso Insurance & Financial Services.

Children's School

Clarence Ates, QCC; Elizabeth Austin, QCC; Elisabeth Borg, QCC; Daniel de la Torre, QCC; Kenneth Dwyer, QCC; Jane Gauthier, QCC; Karole Hager, QCC; Susan Johnson, QCC; Donna Kilgore, QCC; Nancy Knight, QCC; Andrea MacRitchie, QCC; Charlene Mara, QCC; Josh Martin, QCC; Janet McKeon, QCC; Jim Racki, QCC; Kevin Ritacco, QCC; Karen Rucks, QCC; Geraldine Russell, QCC; Michelle Savrann, QCC; Michelle Tufau Afriyie, QCC; Liz Woods, QCC.

Computer Information Systems

Yvonne Aponte, TransCore, LP; Greg Clarkin, MEDITECH (Medical Information Technology, Inc.); Mary Ellen Lepore, Tyco International; Lily Nguyen, St. Mary Health Care Center; Scott Pilate, Reliant Medical Group; Dave Vikram, CVS Caremark.

Computer Science

Dr. Elena Braynova, Worcester State University; Dr. Kim Byung, UMass Lowell - Computer Science Department; Dr. Craig Wills, Worcester Polytechnic Institute.

Computer Systems Engineering Technology

Andrew Pierce, Saint-Gobain Abrasives; John Reed, Worcester Public Schools.

Criminal Justice

Marcia Green Doyle, MA Trial Courts - Assistant Clerk Magistrate; Eugenio Marcano, Clark University; Phillip McGrath, University of Rhode Island; Matt Morse, North High School; John O'Malley, MA Department of Corrections - Legislative Liaison; Sgt.

Michael Sampson, MA State Police; David Spector, Applied Risk Management, LLC - Consulting Services.

Dental Programs

Samantha Griggs, Worcester District Dental Assisting Association; Deborah Blais, Certified Dental Assistant from the Community; Ginelle Blais, QCC Alumni, DH Class of 2012; Dr. Brandon Cairo, General Dental Practitioner from the Community; Jane Crocker, Worcester District Hygienists Association; Carly Kraszewski, QCC Student, DA Class of 2014; Dr. Bruce Field, Worcester District Dental Society - Allied Professionals Committee; Jane Gauthier, QCC; Dr. David Handsman, Worcester District Dental Society; Erica Abraham, QCC Alumni, DA Class of 2012; Jennifer Hedstrom, QCC; Dr. Peter Jengo, QCC; Jane June, QCC; Gina Kennedy, Registered Dental Hygienist from the Community; Jennifer McKeon, QCC; Nicole Quinn, QCC Student, DH Class of 2015; Paula Morrison, Registered Public Health Dental Hygienist.

Early Childhood Education

Clarence Ates, QCC; Darlene Belliveau, YWCA Central MA - Early Education and Care; Robin Burwick, Worcester Jewish Community Center - Preschool/Toddler Center; Kim Davenport, Fitchburg State University - Central MA Readiness Center; Sheila Diggins, Worcester Comprehensive Child Care; Carol Donnelly, Worcester State University; Eve Gilmore, Edward Street Child Services; Joanne Gravell, Center for Child Care Careers - A Program of Family Service for Central MA; Lynn Hennigan, Community Healthlink - Services for Young Children; Marge Mann, Worcester Technical High School/Preschool - Early Childhood Education Department; Charlene Mara, QCC; Nina Mazloff, Becker College - Education and Family Studies Program; Nichole Olson, YMCA of Central MA - Youth Development; Joyce Rowell, Rainbow Child Development Center; Sandy Scola, Worcester Jewish Community Center - Preschool/Toddler Center; Carlene Sherbourne, Worcester Child Development - Head Start Program; Kim Sullivan, First Friends Early Education Center; Sharon Woodbury, Guild of St. Agnes.

Electronics Engineering Technology

Thomas Comerford, IPG Photonics; Russell Dumas, ABM Health; Emmanuel Gomez, Metso Automation; Michael Hanlon, W.W. Grainger, Inc.; John Kennedy, Metso Automation; Mike Meagher, Worcester Technical High School.

Emergency Medicine

Sheri Bemis, Oxford Fire and Auburn Fire; Steven Doucette, Westborough Fire; Cheryl Finn, QCC; Stephen Haynes, UMass

Memorial/Worcester EMS; Jane June, QCC; Gary Milliard, Webster EMS; Richard Nydam, QCC; Karen Plant, Ashburnham Fire and QCC; Mark Restuceia, Medical Director.

Energy Utility Technology

Maurice Bracken, Tantasqua Regional High School; Michael Flagg, Holden Municipal Light Department; Scott LaChance, Eversource; Norman Ludovico, Shrewsbury Electric & Cable Operations (SELCO); Robert McDonald, National Grid; James Robinson, Holden Municipal Light Department; Steven Socoby, Northeast Public Power Association (NEPPA).

Engineering

Maurice Bracken, Tantasqua Regional High School; Michael Flagg, Holden Municipal Light Department; Scott LaChance, Eversource; Norman Ludovico, Shrewsbury Electric & Cable Operations (SELCO); Robert McDonald, National Grid; James Robinson, Holden Municipal Light Department; Steven Socoby, Northeast Public Power Association (NEPPA).

English As A Second Language

Maria Addison, QCC; Monica Bond, Uniting our Voices; Patricia Creelman, QCC; Kathy Frederickson, QCC; Déborah González, QCC; Christina Hebert, QCC; Tim LaFontaine, QCC; Thuha Le, South East Asian Coalition of Central MA; Kathi Lewando, QCC; Charlene Mara, QCC; Anne Shull, QCC; Betsy Zuegg, QCC.

General Studies

Beth Axelson, Worcester State University; Carol Bosworth, QCC; Maggie Crowell-Murray, QCC; Kirsten Daigneault, QCC; Daniel de la Torre, QCC; Colleen Doherty, QCC; Kathy Frederickson, QCC; Leslie Horton, QCC; Betty Lauer, QCC; Marilyn Martin, QCC, ex officio; Susan McPherson, QCC.

Heating Ventilation Air Conditioning

Norman Bassett, City of Worcester; Mark Buzzell, Siemens Industry, Inc.; Manny Chaves, Chaves HVAC; Mark Meacham, Mark E. Meacham, Inc.; Sue Meacham, Mark E. Meacham, Inc.; Joseph Wackell, Snyder General.

Honors Program

Gaelan Benway, QCC; Bonnie Coleman, QCC; Dan Daly, QCC; Daniel de la Torre, QCC; Laura DiPaola, QCC Honors Student; Sandra England, QCC; Kathy Frederickson, QCC; Leslie Horton, QCC; Dale LaBonte, QCC; Marilyn Martin, QCC; Susan McPherson, QCC; Carol Murphy, QCC; Betsy Zuegg, QCC.

Hospitality and Recreation Management

Michael Banks, Montachusett Regional Vocational Technical School; Clayton Barrows, University of New Hampshire; Heather Carneiro, MA Restaurant Association; Chip Dufault, Chair; Dale Gonyea, Over Hill Over Dale Travel; Patty Hainsworth,

Worcester Senior Center; Pat Hutchinson, QCC; Suki Lapin, Worcester Senior Center; Samuel Martin, Worcester Youth Center; Donna McCabe, Central MA Convention & Visitors Bureau; Robert Murdock, Destination Worcester; James Nicas, Castle Restaurant; Edward O'Toole, All About You - Solutions for Body & Soul; Sherry O'Toole, All About You - Solutions for Body & Soul; Mark Pelletier, Notre Dame Health Care; Catherine Sabatini, Carmel Terrace; Miriam Sayer, Leominster High School - Center for Technical Education; Mary Simone, IHRCO; Wayne Staltare, Worcester Technical High School; David Sweeney, Leominster High School - Center for Technical Education; Don Trella, Mohegan Sun; Mark Wexler, Beechwood Hotel; Francis Zentgraf, Assabet Valley Regional Technical High School.

Human Services

Gerry Boucher, QCC Alumni; Celia Brown, UMass Medical, Community Liaison-Child Psychology, and QCC; Lynn Clifford, Assistant Chief Probation Officer and QCC; Linda Cournoyer, Seven Hills Foundation - Family Services; John Hancock, Fitchburg State University - Behavioral Sciences; Gordon Hargrove, Friendly House; Kim Holstrom, Seven Hills Foundation - Family Services (Sturbridge); Cindy Howard, Center of Hope Foundation, Inc. (Southbridge); Parlee Jones, Abby's House; Jean Kennedy, QCC; Cindy Marino, QCC and QCC Alumni; Nina Mazloff, Becker College - Education and Family Studies Program; Lauren McLoughlin, Harrington Memorial Hospital; Susan Moriarty, QCC; Dionela O'Connell, QCC Student; Joan Philips, Center for Living and Working; Susan Quartey, QCC Alumni; Lenore Rust, YOU, Inc. and QCC; Brenda Safford, QCC; Roxanne Smith-Miller, Department of Transitional Assistance (Southbridge); Walter Spencer, Central MA Housing Alliance; Pamela Wante, Worcester Public Schools - Department of Special Education; Doe West, QCC; Janelle Wilson, Jeremiah's Inn.

Interactive Media

Todd Adams, Marketing Drive Worldwide; John Brissette, IMakeNews (IMN); Sheila Davis, Community Advocate; Mauro DePasquale, Multimedia Solutions; Joseph Gardner, Curry Printing; Peter Gardner, Curry Printing; Joseph Gonzalez-Dufresne, JGD Design & Photography; David Gorham, David Gorham Graphic Designer; Irma Karpaviciute, Irma K Design; Rebecca Larson, Bay Path Regional Vocational Technical High School; Carolyn McGrath, Holden Public Schools; Paul Melo, Worcester Public Schools; Mary Richinik, Mary Richinik Graphic Design; Luis Rodriguez, Framingham State University; Wendy Sandman, Fidelity Investments.

Liberal Arts

Kenneth Amidon, Blue Cod Technologies - Sales and Marketing; Caroline Chiccarelli, Worcester State University - Department of Education; Daniel de la Torre, QCC; Margarita Delgado, North

High School; Maureen Duffy, Houghton Mifflin Company; Janette Greenwood, Clark University - Department of History; Arthur Heinricher, Worcester Polytechnic Institute - Department of Mathematics; Rayanne LaPierre, Worcester State University; Janet Richardson, INF Financial Advisors; Kenneth Wong, QCC; Suzanne Zhang-Gonschang, Departments of Anthropology and Asian Studies.

Manufacturing Technology

Thaddeus Bauer, MA Manufacturing Extension Partnership; Toby Bergstrom, Worcester Polytechnic Institute; Robert Boulay, Metso Automation; Harrison Greene, Manufacturing Industry Advisor; Ed Haddad, Manufacturing Consultant; Jan Kania, JP Manufacturing, Inc.; Carol King, MA Technician Education Collaborative; Bryant Laflamme, Assabet Valley Regional Technical High School; John Looney, Dexter-Russell, Inc.; Jeff Moineau, Wirefab, Inc.; Kevin Pelletier, MA Materials Research, Inc.; Cathy Phillips, Phillips Precision, Inc.; Steve Phillips, Phillips Precision, Inc.; James Samsel, Wirefab, Inc.; Sheldon Zaklow, Society of Manufacturing Engineers.

Medical Assisting

Dr. George Abraham, Program Physician Advisor; Pamela Fleming, QCC; Julia McCoskery, QCC; Barbara Tully, QCC; Tammy Wessels, QCC Alumni.

Nurse Education

Mary Kay Alexander (Chair), GSN Educated Consumer (Former Professor), UMass Graduate School of Nursing; Ellen Andrews, QCC; Deborah Audet, RN, MSN/MHA, Beaumont Rehabilitation & Skilled Nursing Facility; Kerridan Banfill, RN Alumni; Lucy Bibiu, PN and RN Alumni; Patricia Creelman, QCC; Janet Hale, UMass Medical School GSN; Cathy Jewell, UMass Memorial - Acute Care; Jane June, QCC; Karen Laganelli, Notre Dame Health Care; Paul MacKinnon, HealthAlliance Hospital - Clinical Operations/CNO and QCC Alumni; Dorothy McCabe, Nursing Career Services - Divisions of Nursing & Health & Safety, MNA; Deb McGovern, Worcester Public Schools - Nursing Administration; Kaelly Melendez, LPN Graduate; Robert Ready, St. Vincent Hospital - Professional Development & Practice; Maureen Ricotta, QCC; Ellen Santos, MSN, RN, CNE, Assabet Valley Regional Technical High School; Brian Skirvin-Leclair, QCC; Judith Tuori, MS, MSN, FNP-BC, Worcester State University - Dr. Lillian R. Goodman Department of Nursing; Ellen Vangel-Brousseau, QCC; Meg Yoder, QCC.

Occupational Therapy Assistant

Rachel Bernsweig, OTR/L, Fairlawn Rehabilitation Hospital; Charlotte Boutillette, OTR/L, QCC; Michelle Brown, OTR/L, Worcester Public Schools; Julie Anne Gonyon, COTA/L, Northbridge Public Schools and QCC Alumni; Margaret Hart, Ph.D., OTR/L, Worcester State University - Occupational Therapy

Department; Gina Iadorola, COTA/L; Kristin Mattson, RPT, Overlook VNA; Karen McCarthy, COTA/L, QCC; Patty Meyers, OTD, OTR/L; Audrey Weston, OTR/L, Harrington Memorial Hospital; and Representatives of Freshman and Senior Classes.

Radiologic Technology

David Woodford, RT(R), Heywood Hospital; Marcia Amaral, RT(R), UMMMC-Memorial; Michael Popik, M.D., Health Alliance-Leominster; Reinhold Heidemann, RT(R), St. Vincent Hospital; Deborah O'Brien, RT(R), St. Vincent Hospital; Joann Slota, RT(R), Reliant Medical Group; Stephen Beaudoin, RT(R), UMMMC-University; Kathy Chekani, J.D., RT(R), QCC Alumni; QCC Student Representative(s); Jane June, QCC; QCC Program Faculty.

Respiratory Care

Richard Rosiello, MD, St. Vincent Hospital; Jane June, QCC; Karen Kaletski Dufault, QCC; Cathryn MacDonald, QCC; Jim Creelman, New England Medical Home Care; Sherri Gerry, Regional Home Care; Kevin Gosler, St. Vincent Hospital - Respiratory and Neurodiagnostic Services; Jessica Grenham, UMass Memorial Medical Center and 2014 QCC RCP Alumni; Luanne Hills, UMass Memorial Medical Center - Respiratory Care; Amy Hogan, Hubbard Hospital and QCC Adjunct Faculty; Susan Kiesiner, St. Vincent Hospital and QCC Adjunct Faculty; Heather Madison, Children's Hospital and 2014 QCC RCP Alumni; Nicole Morin, New England Medical Home Care; Betina Ragless, American Lung Association (retired); Norann Reynolds, UMass Memorial Medical Center and QCC Adjunct Faculty; QCC Respiratory Care Program (Freshman/Sophomore) Student Representative(s).

Surgical Technology

Kathy Barber, UMass Memorial; Mary Camosse, UMass Memorial; Deborah Coleman, QCC; Denise Demurs, St. Vincent Hospital; Donna Farmer, Spencer Housing Authority; Noemi Feliciano, UMass Medical; Jane June, QCC; Mohan Korgaonkar, UMass Medical; Lucy Pendell, UMass Memorial Medical; Sheena Seymour, QCC Student Representative; Lisa Smith, QCC.

Directions to the College

TO QCC MAIN CAMPUS

670 West Boylston Street, Worcester, MA 01606
508.853.2300

FROM BOSTON OR EAST OF I-495

Massachusetts Turnpike

- To I-495 North.
- To I-290 West.
- To I-190 North.
- To Exit 1 West Boylston Street.
- North 1 mile to campus (on right).

FROM SPRINGFIELD OR WEST

Massachusetts Turnpike

- To I-290 East.
- To I-190 North ½ mile.
- To Exit 1 West Boylston Street.
- North 1 mile to campus (on right).

FROM LOWELL OR NORTH

I-495

- To Route 2 West.
- To I-190 South.
- To Exit 4 West Boylston Street .
- South 1 ½ miles to campus.

TO QCC SOUTHBRIDGE

5 Optical Drive, Southbridge, MA 01550
877.QCC.for.ME (877.722.3676)

FROM QCC MAIN CAMPUS

- Take I-290 West toward Auburn.
- Take exit 8 toward Route 12 S/Webster.
- Turn left onto Oxford Street, North.
- Turn right onto Southbridge Street/MA-12.
- Turn slight right onto US-20/Southbridge Road.
- Turn left onto MA-169/Southbridge Road.
- Follow approx. 5 miles into Southbridge.
- Turn left onto Mechanic Street.
- Continue through one stoplight, the entrance to QCC is on your left.

FROM SPRINGFIELD

- Take I-291 East ramp toward US-20 E/Mass Pike Boston.
- Merge onto I-291 North.
- Merge onto I-90 E/Mass Pike via exit 7.
- Merge onto I-84 W/Wilbur Cross Hwy. via exit 9 toward Sturbridge/Hartford.
- After toll, merge onto I-84 West.
- Take first right Exit 3B onto Route 20 West.
- Turn left at first stoplight onto Route 141.
- Follow Route 141 for approx. 4 miles into Southbridge.
- Continue to rotary halfway around onto Mechanic Street.
- The entrance to QCC is on your right.

FROM PROVIDENCE

- Take RI-146 N.
- Take the US-20 exit toward Auburn/Northboro/I-90/ Boston/Springfield.
- Take the US-20 West ramp toward Auburn.
- Turn left onto MA-169/Southbridge Road.
- Follow approx. 5 miles into Southbridge.
- Turn left onto Mechanic Street.
- Continue through one stoplight, the entrance to QCC is on your left.

FROM HARTFORD

- Start out going East on Schoephoester Road toward Postal Road.
- Turn right onto CT-75/Turnpike Road.
- Merge onto CT-20 East toward I-91 Hartford/Springfield.
- Merge onto I-91 South toward Hartford.
- Merge onto I-291 East via exit 35A toward Manchester.
- Merge onto I-84 East. Take Exit 3B onto Rte. 20 West
- Take first right Exit 3B onto Route 20 West.
- Turn left at first stoplight onto Route 141. Follow Route 141 for approx. 4 miles into Southbridge.
- Continue to rotary halfway around onto Mechanic Street.
- The entrance to QCC is on your right.

TO QCC AT THE WORCESTER SENIOR CENTER**128 Providence Street, Worcester, MA 01604 508.799.1230****FROM THE NORTH**

- I-190 South to I-290 West.
- Take Exit 14, Rte. 122. This exit goes two ways: you should go straight and Route 122 bears right.
- Take a left onto Harrison Street
- Go over bridge and to the stop sign at the top of the hill.
- Take a right onto Providence St. Stay on Providence Street through one stop sign
- (Dorchester Street) and one streetlight (Winthrop Street).
- The senior center is the brick building on the right.
- Take the first right onto Spurr Street and the second driveway on the right is the parking lot.

FROM THE SOUTH, WEST AND EAST

- I-290 East.
- Take Exit 14 Kelley Square, turn right at the end of the exit (Vernon St.) and go up Vernon St.
- At the fork in the road, you can take the right (Vernon Street) and then a left on Spurr Street or at the fork you take the left (Winthrop Street) and at the street light take a right onto Providence Street.
- The senior center is the big brick building on your right.
- Take the first right onto Spurr St. and the parking lot entrance is the second driveway on the right.

TO QCC AT ASSABET VALLEY**215 Fitchburg Street, Marlborough, MA 01752****FROM I-495, NORTH OR SOUTH**

- Take exit 25-A to traffic lights.
- Take right at lights onto Fitchburg Street.
- School is at immediate left.

FROM I-290 TRAVELING EASTBOUND

- Take extension road to Route 85 Marlborough/Hudson to traffic lights.
- Take right at lights onto Fitchburg Street.
- School is at immediate left.

FROM RTE 85 NORTH, COMING FROM HUDSON

- Take right at I-495/290 sign.
- Stay to right for jug handle.
- Cross over road onto Fitchburg Street.
- School is at immediate left.

TO QCC AT NATIONAL GRID MILLBURY TRAINING CENTER**449 Southwest Cutoff, Worcester, MA 01604****FROM QCC MAIN CAMPUS**

- Take Route 12 South to I-190 toward Auburn.
- Take Exit 12 for Route 146 toward Millbury/Providence.
- Turn left onto Harding Street, then left onto Quinsigamond Avenue, then right onto Millbury Street (Route 146).
- Follow Route 146 for approx. 2 miles.
- Turn left onto Cliff Street, then right onto Granite Street, then left onto Southwest Cutoff (Route 20).

TO QCC AT WORCESTER TECHNICAL HIGH SCHOOL**1 Skyline Drive, Worcester, MA 01605****FROM I-290 WEST**

- Take Exit 19 for Route 9/Lincoln Street.
- At the light take a right.
- At the next light, bear left for Route 9.
- At next light turn left onto Route 9 East.
- Follow Route 9 to top of hill past pond.
- At first light past pond take a left onto Skyline Drive.
- School entrance is first open gate on the right.

FROM I-290 EAST

- Take Exit 17 for Route 9.
- At the light take a right.
- Follow Route 9 to top of hill past pond.
- At first light past pond take a left onto Skyline Drive.
- School entrance is first open gate on the right.

FROM THE SOUTH

- Take I-395 N toward I-290E.
- Take Exit 15, Shrewsbury Street.
- Turn slight right onto Shrewsbury Street.
- Turn slight right onto Belmont Street/Route 9 E.
- Turn slight left onto Plantation Street.
- Proceed to 555 Plantation Street.

**TO QCC HEALTHCARE AND WORKFORCE
DEVELOPMENT CENTER****25 Federal Street, Worcester, MA 01608****FROM I-290 EAST**

- Take exit 13 for Vernon Street/Massachusetts 122A/Kelley Square
- Take Madison Street and Southbridge Street to Federal Street
- Turn right onto Kelley Square (signs for Massachusetts 122A N/Kelly Sq/Barre)
- Turn left onto Madison Street
- Turn right onto Southbridge Street
- Slight right onto Main Street
- Take the 1st right onto Federal Street

TO QCC AT THE MARLBOROUGH SENIOR CENTER**40 New Street, Marlborough, MA 01752****FROM I-290 EAST**

- Take exit 26A to merge onto I-495 S toward Cape Cod
- Take Exit 24A to merge onto US-20 E/Lakeside Ave toward Marlborough
- Follow US-20 E to New Street
- Merge onto US-20 E/Lakeside Avenue
- Turn right onto Granger Boulevard
- Turn right onto New Street



109Q Electronics Lab
114Q CAD/CAM Studio
115Q FAB LAB
116Q – 118Q Faculty Offices
108Q Lounge

8. Surprenant Hall (S)
Gateway to College 005S
Computer Systems Engineering 213S
Technology Labs
Hebert Auditorium

1. Entrance
2. Student Parking
3. Faculty & Staff Parking
4. Handicapped Parking
5. Bus Stop Location
6. Administration Building (A) Lower Level

9. Ahifors Hall (ALF)
10. Athletic Center (AC)
Fitness Center
Gymnasium
Public Safety
Advanced Technologies Lab 136AC
111AC

Academic Advising & Placement 61A, 355A
Bookstore Lower Level - A
Business Office B07A
Cafeteria Lower Level - A
High School Equivalency
Testing B58A
Payment Center 65A
Help Desk 67A

11. Athletic Field & Track

12. Chupka Baseball Field
13. Child Study Center (CSC)

First Floor
Assistant Dean of Students 383A
Counseling 162A
Veteran Affairs Office 125A
Dental Hygiene Clinic 126A
Financial Aid 165A
President's Office 132A
Registrar 152A
TRIO Student Support Services 170A
VP of Academic Affairs 103A
VP of Strategic Enrollment Management & Student Engagement 133A

14. Fuller Student Center
Student Life
Open Door Newspaper
Student Senate

Second Floor
Advanced biology Lab 209Q
Biology Lab 211Q
Biology Lab Prep 210Q
Faculty Offices (A-C) 213Q
Physics – Engineering Lab 214Q
Physics – Engineering Lab Prep 215Q

15. Harrington Learning Center (HLC)
Second Floor
Communications Welcome Center
Communication Skills Center
General Academic Areas
Tutoring Center
Math Center
Student Success Center

Second Floor
Disability Services 246A
Human Resources 222A
Transfer Services 272A

Third Floor
Alden Library
16. QuEST Center
First Floor
Advanced Technologies Lab 111Q
Advanced technologies Prep 110Q

Third Floor
Dean of Students 365A
Harrington Academic Computing Center 379A

17. Visitor Parking

7. Public Safety (AC)
(Campus Police) 136AC

Class Locations - Main Campus

A	Administration Building	HLC	Harrington Learning Center
ALF	Ahifors Hall	Q	QuEST Center
AC	Athletic Center	S	Surprenant Hall
CSC	Child Study Center		

Off-Campus Class Locations

ASSA	QCC at Assabet Valley	CWDCE	Center for Workforce Development and Continuing Education
BURN	QCC at Burncoat		
QSB	QCC Southbridge		
SRCT	QCC at the Worcester Senior Center	D	Healthcare and Workforce Development Center
MASC	QCC at the Marlborough Senior Center		

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