

Quinsigamond Community College School of Math, Science, & Engineering

Instructor's Information

Instructor: Professor XX (she/her/hers)
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Course Information

Course: MAT 103 Mathematics for Business – Section XX
Meets: Mondays and Wednesdays from 8:00am – 9:15am
Room: 179A
Credits: 3 credits
Semester: Fall 2024

Course Description

This course introduces the mathematical processes and techniques currently used in the field 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.

Restriction: Restricted to Business Administration Career (BB and BBAP) and Business Administration Certificate (BAC) students

Prerequisites

MAT 095 with a grade of “C” or higher or appropriate placement

Required Textbook/Materials/Website

Textbook: *Business Mathematics*, by Clendenen & Salzman, Pearson, 15th edition, © 2024
Materials: Scientific calculator is highly recommended
Website: Access to www.mymathlab.com

Student Learning Outcomes

Upon completion of this course students will be able to:

1. Apply basic mathematics including addition, subtraction, multiplication, division, decimals, fractions, and percentages to solve business application problems.

2. Reconcile and analyze various banking statements and services.
3. Solve a variety of interest formulas and calculate payroll.
4. Use tables and forms to fill out documents ranging from personal checks and bank forms to tax forms.
5. Correctly utilize the mathematics of buying and selling.
6. Utilize calculations to analyze investments, business and consumer loans, and charge accounts.
7. Apply business statistics and compute measures of center and spread of data.
8. Accurately translate descriptive problems into mathematical formulas and solve them.

Instructional Objectives

This course is designed to achieve the following student outcomes and objectives:

- Identify and complete the parts of a check.
- Calculate monthly service charges.
- Compare and contrast the difference and the best types of interest-bearing accounts.
- Determine the adjusted and current bank balance for a bank statement.
- Calculate the difference methods for finding weekly wages and salaries.
- Find gross earnings with piecework, commissions, and overtime pay.
- Using tables to find, or calculate, the Social Security Tax and Medicare Tax for an employee.
- Determine the amount of withholding taxes based on an employee's tax bracket.
- Calculate net or take-home pay.
- Complete and use a table to find the net cost equivalent of series discounts.
- Calculate net and cash discounts.
- Determine markup prices and convert to percentages.
- Determine markdown prices and convert to percentages.
- Calculate break-even point and operating profit or loss.
- Valuing inventory using various methods.
- Find simple and compound interest.
- Given a problem with an unknown, determine the principal, rate, or time.
- Explain the individual pieces to a US Treasury Bill.
- Solve problems dealing with discounted notes.
- Define inflation and the role that government plays on inflation.
- Explain and calculate a CD, annuity, stock, and bonds.
- Set up a sinking fund table.
- Calculate various ratios using financial statements.
- Read stocks, bonds, and mutual fund tables.
- Determine the commission charges on stocks, bonds, and mutual funds.
- Discuss and use the various types of credit.
- Use a table to find the APR (Annual Percentage Rate).
- Use and calculate the Rule of 78.
- Find and use an amortization schedule.
- Understand and find your credit score.
- Compare a fixed home loan with a variable home loan.

- Understand and compute property taxes, personal and corporate income taxes, fire, auto, and life insurances.
- List and calculate possible income deductions.
- Calculate depreciation using the various methods.
- Compute accumulated depreciation, book value, and capital gain or capital loss on fixed assets.
- Analyze an income statement and a balance sheet.
- Understand and use different types of graphs.

Grading Breakdown

20%	Homework
10%	Quizzes
10%	Attendance/Other
35%	Exams
25%	Comprehensive Final Exam

Grade	Range	Grade	Range	Grade	Range
A	95 – 100	B –	80 – 82	D +	67 – 69
A –	90 – 94	C +	77 – 79	D	63 – 66
B +	87 – 89	C	73 – 76	D –	60 – 62
B	83 – 86	C –	70 – 72	F	0 – 59

Attendance Policy

Students are expected to attend all classes for the entire period. Attendance will be taken in every class. If you are absent from class, proper documentation will excuse your absence.

Teaching Procedures

Most classes will be a combination of lectures, group activities, and in-class assignments. You will be given homework assignments to be completed outside of class. Occasionally, a quiz or exam will be given in class.

Diversity, Equity, and Inclusion Statement for the School of Math & Science

The School of Math and Science is motivated to teach and learn from the diverse community we have at QCC. In Science, Technology, Engineering, and Mathematics (STEM), it is advantageous to approach problems from multiple perspectives. The power of diversity, equity and inclusion allows us to persevere and overcome challenges.

The faculty of the School of Math and Science pledge to help students meet the demands of STEM regardless of race/ethnicity, gender identity and expression, sexual orientation, faith, abilities/disabilities, age, socioeconomic background, political leaning, ancestry, national origin, home language and all other identities. We are dedicated to nurturing a culture of collaboration, mutual respect and understanding; and to empowering members of our community to embrace their full potential.

Accessibility Statement

Quinsigamond Community College is committed to providing access and inclusion for all persons with disabilities. Students who require an accommodation in this course should notify the professor as soon as possible. Students are responsible for forwarding the Accommodation Letter to the professor (via email or hard copy). Students may request accommodations at any time during the semester, which begin upon receipt (accommodations are not retroactive). Please discuss any barriers which may arise during the semester with your professor or coordinator in the Student Accessibility Services office.

Contact Information for Student Accessibility Services (SAS):

Call: 508-854-4471

Sorenson Video Phone: 508-502-7647

Email: disabilityservices@qcc.mass.edu

Services for Veterans

If you are a veteran of the US Armed Forces, please visit the Veteran Affairs Office located in 258A (Administration Building) or contact them at veteranaffairs@qcc.mass.edu.

Academic Honesty and Plagiarism

Our purpose of education is to seek the truth; this work requires trust and honesty between teacher and student. If we are not honest about what we know and don't know, our learning will always be impaired. Because our teaching and learning depends on this honest communication, we expect all students to understand what plagiarism is and why it is unacceptable.

Plagiarism means taking someone else's ideas or words and presenting them as one's own. The offense can take many forms including cheating on a test, passing in a paper taken from the Internet or from another student, or failing to properly use and credit sources in an essay. Sometimes the issue is subtle, involving getting too much help on an assignment from someone else. In every instance, plagiarism means cheating both oneself and the owner of the source. Since cheating sabotages a student's learning experience, consequences range from no credit for the assignment to failure for the course and possible expulsion from the college.

The penalty for getting caught cheating in this course is a failure of the quiz or test, or failure of the entire course. This is solely at the discretion of the instructor. For further information concerning plagiarism, refer to the QCC Student Handbook.

Math Center

The Math Center provides free, drop-in tutoring assistance for students in any QCC mathematics course. Located on the second floor of the Harrington Learning Center (HLC), the Math Center is a welcoming place where students have the opportunity to work collaboratively with tutors and classmates. Students can work intensively to improve their mathematical skills or simply drop by to ask a few questions. In addition to tutoring, the Math Center houses various math-related resources, and computers and software for math coursework. Visit their website for details and the semester schedule: <https://www.qcc.edu/services/tutoring/math-center>

Assignment & Test Schedule

<list all assignments, quizzes, and exam dates>