

MIDDLESEX COUNTY COLLEGE
EDISON, NJ
MASTER SYLLABUS

Course ID and Name: MAT 101, The Mathematics of Money

Department: Mathematics

Prerequisites: Appropriate score on the College Placement test, or MAT 013, or departmental approval.

Co-requisites: None

Course Description: This course is primarily for liberal arts students interested in the practical applications of mathematics. Topics surveyed include problem solving and data analysis, mathematical modeling, the financial applications of probability and statistics, inductive reasoning, and financial literacy.

General Education Status: GE MST

Credits: 3 **Lecture Hours:** 3 **Lab Hours:** 0

E-book(s) and Other Course Materials:

E-books:

The Nature of Mathematics —*Smith, 13th Ed.*

Personal Finance – E. Thomas Garman, Raymond Fogue, 13th ed.

Software:

WebAssign (Cengage Unlimited)

Policies:

Disability Support

Students with disabilities, whether physical, learning or psychological, who believe that they may need accommodations in this class, are encouraged to contact Disability Services as soon as possible to ensure that the accommodations are implemented. Please meet with the Disability Services staff in Edison Hall, Room 100, (732) 906-2546.

Code of Student Conduct

To foster a productive learning environment, the College requires that all students adhere to the Code of Student Conduct which is published in the college catalog and website.

Core Learning Outcomes

Upon successful completion of the course, students will be able to:

1. Use appropriate mathematical concepts and operations to interpret data and to solve problems.
 - a. Translate quantifiable problems into mathematical terms and solve these problems using mathematical or statistical operations.
 - b. Construct graphs and charts, interpret them, and draw appropriate conclusions.
2. Communicate accurate mathematical terminology and notation to explain strategies to solve problems and interpret solutions.
3. Utilize various reasoning, problem-solving, and critical thinking techniques to solve applications, such as financial management, consumer math, and exponential growth.
4. Understand the language and concepts of financial mathematics, as well as the formal mathematical definitions that accompany them.

Content Strand	Students will be able to...
The Mathematics of Percentage Fluctuation (CLO 1a, 2, 3, 4)	<ul style="list-style-type: none">▪ Demonstrate the ability to analyze and calculate percentage fluctuation, as it pertains to discounts on sales items and income taxes.
The Mathematics of Discount and Income Tax (CLO 1a, 2, 3, 4)	<ul style="list-style-type: none">▪ Demonstrate the ability to analyze and calculate percentage fluctuation, as it pertains to discounts on sales items and income taxes.
The Mathematics of Simple Interest (CLO 1a, 2, 3, 4)	Compute interest as related to simple interest.
Exponential Functions and Logarithms as They Pertain to Compound Interest (CLO 1a, 1b, 2, 3, 4)	<ul style="list-style-type: none">▪ Compute interest as related to compound interest.▪ Understand and work with exponentials as related to compound interest.
Annuities, Calculation and Exponential Functions (CLO 1a, 2, 3, 4)	Understand and work with exponentials as related to annuities.
Stocks, Loans, and Investments (CLO 1a, 1b, 2, 3, 4)	Compute interest as related to partial payments on loans, and installment loans.

Mortgages (CLO 1a, 2, 3, 4)	Understand and work with exponentials as related to mortgage.
The Mathematics of Credit Card Balances and Interest (CLO 1a, 2, 3, 4)	Compute interest as related to credit cards.