

# Course Syllabus

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*I am also available at other campuses.*

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**Section and Meeting Times:** Section 78064  
Fridays, 9:00am – 11:50am

Room C202

- Required Course Materials:**
- Finite Mathematics, 9th Edition by Lial, Greenwell, and Ritchey
  - TI-83/84 series graphing calculator
  - MyMathLab. The CourseID is **sperry58346**

**Prerequisite:** Contemporary Algebra (MTH1040) *or* Intermediate Algebra (MTH1080) *or* Placement Test

**Credit Hours:** 3 credits

**Important Dates:** January 22<sup>nd</sup>: First day of class  
February 18<sup>th</sup>/19<sup>th</sup>: Exam 1 Testing Center portion due/Take Home due  
March 11<sup>th</sup>/12<sup>th</sup>: Exam 2 Testing Center portion due/Take Home due  
March 15<sup>th</sup> – 21<sup>st</sup>: Spring Break; College Closed March 17<sup>th</sup> thru 21<sup>st</sup>  
March 29<sup>th</sup>: Last day to withdraw/audit  
April 30<sup>th</sup>: Project Presentations due.  
May 5<sup>th</sup>: Last day to take Exam 3 in Testing Center

The Course Objectives, Grading & Policy, and Schedule can be found in MyMathLab under “Course Documents.”

# Grading and Policy

## Course Description (2008 - 2010 Catalog)

Students with majors other than mathematics, science, or engineering learn linear modeling, graphical linear programming, matrix solutions to systems of equations, logic, sets, counting, probability, and the use of recursive formulas in the mathematics of finance.

## Course Objectives

The first objective of this course is for you to master the following topics in Finite Mathematics emphasizing applications ranging from business to social sciences. The specific objectives are listed below.

### Linear Equations and Straight Lines

- Graph linear equations and inequalities using traditional algebraic methods and on a graphing calculator.
- Calculate the point of intersection of a system of equations using traditional algebraic methods and on a graphing calculator (two variables).
- Solve problems involving supply and demand and profit, revenue and cost by utilizing points of intersection of system of equations.
- Calculate slope of a line and apply it to the graphing of lines.
- Write equations of lines from points using traditional algebraic methods and on a graphing calculator.
- Apply slope and equations of lines to problems involving depreciation.
- Apply the Method of Least Squares to writing equations of lines that are the best fit to a set of data.
- Use equations developed through the various methods of the unit to make predictions about future trends.

### Systems of Equations and Matrices

- Solve a basic system of equations with more than two variables using an algebraic method and/or the graphic calculator.
- Solve a system of equations using a matrix/ inverse matrix approach using a graphing calculator.
- Apply the solution to a system of equations to the solution of word problems involving system of equations.
- Add, subtract, multiply matrices algebraically and on a calculator.
- Solve application problems that utilize matrix computations.

### Linear Programming, A Geometric Approach

- Set up and solve linear programming applications problems involving two variables.

### The Mathematics of Finance

- Calculate interest and future values for savings accounts and annuities.
- Calculate loan payments and create amortization tables.
- Utilize the sequence capability of a graphing calculator to create finance tables.

### **Difference Equations and Mathematical Models**

- Solve difference equations and apply them to decay and growth problems.
- Graph difference equations.
- Apply the graphs of difference equations to determine bounded or unbounded characteristics of a set of data.
- Apply difference equations to the solution of problems involving personal finance.

### **Logic**

- Determine the truth of a statement using the standard rules of logic.
- Set up and apply truth tables to determine the validity of a statement.
- Recognize appropriate implications of a statement or series of statements

### **Sets and Counting**

- Perform operations on sets.
- Draw Venn Diagrams and use them to sort and organize data.
- Apply Principles of Counting to application problems.

### **Introduction to Probability**

- Use the Multiplicative Principle of Counting, Permutation and Combinations to organize and sort data in application problems.
- Calculate the probabilities of various outcomes of an experiment and use these in making decisions.

The second objective of this course is to improve your ability to reason through problems and find a solution. Roughly 80% of the problems in this course are word problems. Good problem-solving and strategy skills are not only important in mathematics and science; in fact, it is necessary for virtually *every* discipline! Therefore, most of your homework and assignments will comprise of problem-solving.

The third objective is to make this math course a positive experience. Often students' problems in math have little to do with their ability and more to do with their *attitude*. Some students have a negative attitude towards math due to a bad experience with a math class in the past or the amount of time since they have taken a math course. As of this moment, leave those thoughts behind and start anew! You will soon learn that even though math can be challenging, it also can be rewarding.

### **General Education Objectives**

General education is a common body of skills to which all graduates with Associates degrees should be exposed. MTH1100 is considered a general education course. See Pages 60 – 64 of the 2008 - 2010 College Catalog for more information.

### **Course Organization**

Since this class only meets once a week, we will use MyMathLab for content delivery, communication outside class, and most assignments that occur during the week. The course content is organized into chapters. Due dates are posted on the course Calendar. Students are expected to login to MyMathLab several times a week to keep up with the assignments, etc.

## Grade Determination

Grades will be determined by the following percentages:

Three Exams:	60%
Best 6 of 7 Chapter Quizzes (online):	15%
Application Homework:	15%
Unit Project:	10%

## Grade Scale

Grading scale is as follows:

A:	90 – 100%
B:	80 – 89%
C:	70 – 79%
D:	60 – 69%
F:	Below 60%

Be aware that withdrawing from a course is not automatic. If you choose to withdraw, you must fill out the necessary paperwork with the Registrar by March 29, 2010. If you choose to audit this course, all the following requirements and conditions apply:

- There is no grade given for an audited course. Instead, a grade of “AU” will appear on your transcript.
- Audited courses do not fulfill prerequisite requirements.
- You may change from credit to audit or audit to credit only with the permission of the instructor.
- In the case of changing from credit to audit, the reason for making the change and the requirements for eventually receiving a grade of “AU” will be specified by the Math Department before submitting any paperwork to the Registrar’s office.
- An audit form is only accepted if the instructor fills it out – not the student.
- You must fulfill the requirements of the audit as set by the Math Department. Otherwise, you will receive a Withdraw grade, “W”, on your transcript.

***The deadline for withdrawing or changing to audit status is March 29, 2010.***

## Exam Policy

Three exams are administered during the semester, each worth 20%. Exam 1 will cover Chapters 1 and 2, Exam 2 will cover Chapters 3 and 5, and Exam 3 will cover Chapters 6 thru 8. All exams will be based on the assigned readings and problems from the text, as well as material posted in MyMathLab. Exams 1 and 2 will have two portions – a proctored portion in the Testing Center (70% of exam grade) and a take-home portion (30% of exam grade). Exam 3 will not have a take-home portion. Specific topics covered on each exam will be announced in class one week before the exam.

The proctored portion of each exam will be written (not in MyMathLab) and can be completed at any College of Southern Maryland Testing Center (La Plata, Leonardtown, and Prince Frederick). You will have approximately one week to complete the proctored portion of the exam.

Make up exams are given only under extreme circumstances (hospitalization, death in the immediate family, etc.). No make-up exams will be administered without documentation and/or notice within the exam week.

## Chapter Quizzes

Seven chapter quizzes will be assigned during the semester and are only available online via MyMathLab, with the exception of Chapter 5 which will be administered in class. The average of the six quizzes is 15% of your grade. Generally, each quiz consist of approximately 10 to 15 multiple choice/fill in the blank/short answer questions testing your knowledge of the mechanics and terminology of that chapter. You will have two chances for each quiz (except for Chapter 5 quiz). The lowest quiz grades will be dropped. Therefore, failure to take a quiz by the deadline will result in a zero -- make-up quizzes will not be granted.

## Application Homework and Suggested Homework

Approximately 10 application homework assignments will be administered this semester. The total points for each assignment will be determined by averaging the total points earned by the top three students. Your grade will be determined by the number of points you earn divided by this average. Application Homework assignments are collectively worth 15% of the course grade. Answer keys to the assignments are posted in MyMathLab (under "Course Documents") immediately after the due date – therefore, late assignments will not be accepted under any circumstance. Be aware that neatness, showing work, and attempting each problem are a large part of your learning – *it's not just about getting the right answer!*

Suggested homework for each section is posted every day in MyMathLab under "Announcements". Though suggested homework will not be collected, you are still responsible for completing it. You have the option of completing the assigned suggested homework on MyMathLab. You can access it under "Homework" in MyMathLab. If you complete the online homework, you will receive 1 bonus point (for each 100% you obtain) towards you Application Homework grade. For example, if you receive 100% on Section 6.5 homework, you will receive 1 bonus point. These bonus points only apply for MyMathLab homework, not homework completed in the textbook, and you must complete it by the due date (normally tied to the relevant exam).

## Unit Project

At the end of the semester, once we complete Chapter 7, you will be assigned as a group (two or three students) to work on a project from the unit of your choice. The project will entail a "real-life" problem using the skills you have learned in this course to solve it. Students will be expected to use not only the skills they have learned in this course, but previous courses and perhaps new skills (such as PowerPoint). Each group will be expected to put together a presentation and summary of their project, both due on the last day of class (April 30<sup>th</sup>).

## Attendance and Participation

Attendance is recorded each class and active participation is expected. Therefore, regular attendance plays a major role in your success in this class. Should you miss a class, it will be up to you to get whatever material you missed, including homework assignments and outlines. Late work due to an absence will still be penalized. Please contact me as soon as possible if you plan to be absent.

Good participation involves:

- Being prepared.
- Asking questions.
- Offering suggestions to solve problems (even if you're not sure it's right).

Good participation is *not* about:

- Being right.
- Defending your position at all cost.
- Making yourself look “smart” or causing someone else to feel “stupid”.
- Sitting back passively after you understand something.

## Technology

**TI-83/84:** This course will require the use of technology to perform calculations. You are allowed to use either the TI-83/84. Instructions for the TI-83/84 can be found online under each chapter.

**MyMathLab:** MyMathLab is tool students can use to work through the material and includes videos, powerpoints, as well as practice problems for the students to utilize. You are not required to use MyMathLab, but you are highly encouraged to use it (see “Suggested Homework” below). MyMathLab can be accessed from the following website:

<http://www.coursecompass.com>

The CourseID is **sperry58346**.

If you need technical assistance at home, please contact MyMathLab Tech Support at 1-800-677-6337 or visit <http://www.mymathlab.com/contactus.html> and click “Student Support.”

## Email

In general, I will check my email Monday thru Saturday several times a day between 9 a.m. and 5 p.m. I will post my weekend schedule for checking email every week in Announcements. If you send me an email, expect a response no later than the next business day. My email address is [donnas@csmd.edu](mailto:donnas@csmd.edu).

## Other College Policies

**Honesty:** Provision of the Student Code of Contact included in the Student Handbook will be followed. On individually graded material (exams, discussion postings, and quizzes), you are expected to do your own work and not rely on the assistance of tutors or classmates.

**Drugs and Alcohol:** The College of Southern Maryland is a Drug-Free Zone. No trafficking or use of drugs and alcohol will be tolerated. Provisions of the Student Code of Conduct in the Student Handbook will be followed.

**Unauthorized Persons:** It is the policy of the College of Southern Maryland that only those who are registered students are permitted to use college facilities (the library, testing center, computer labs, etc.). Children, family, and friends are not allowed to use these facilities at any time for any reason.

### **Disabilities and Special Needs**

If you have a documented disability that require special considerations (as described in the Americans With Disabilities Act), please contact Glennis Daniels-Bacchus at [GlennisD@csm.edu](mailto:GlennisD@csm.edu) or 301-934-7614.

### **Tutoring Services**

An integral part of any math course is receiving individual help when needed from the instructor during office hours or from a mathematics tutor. This may be as important to some individual students as regular class attendance. All students are encouraged to visit, call, or email me for extra help (office hours are listed on the first page of this syllabus). The college also offers free tutoring for math courses. A schedule will be posted after the first week of classes at the following website:

<http://www.csm.edu/StudentSuccess/Tutoring/>

In addition to on-campus tutoring, the College provides online tutoring through **Smarthinking**. I will post information about this service on the Discussion Board the second week of class.

# Course Schedule

The Course Schedule is tentative and subject to change. Please see MyMathLab for changes in the Schedule, as well as Suggested Homework assignments.

January 22 <sup>nd</sup> thru February 18 <sup>th</sup>
<p><b>Chapter 1</b></p> <ul style="list-style-type: none"><li>• 1.1: Slopes and Equations of Lines</li><li>• 1.2: Linear Functions and Applications</li><li>• 1.3: The Least Squares Line</li></ul> <p><b>Chapter 2</b></p> <ul style="list-style-type: none"><li>• 2.1: Solutions of Linear Systems</li><li>• 2.2: Addition and Subtraction of Matrices</li><li>• 2.4: Multiplication of Matrices</li><li>• 2.5: Inverse Matrices</li></ul> <p><b>Exam 1 Testing Center Portion is due by Thursday, February 18<sup>th</sup></b> <b>Exam 1 Take Home is due by Friday, February 19<sup>th</sup></b></p>
February 12 <sup>th</sup> thru March 11 <sup>th</sup>
<p><b>Chapter 3</b></p> <ul style="list-style-type: none"><li>• 3.1: Graphing Linear Inequalities</li><li>• 3.2: Solving Linear Programming Problems Graphically</li><li>• 3.3: Applications of Linear Programming</li></ul> <p><b>Chapter 5</b></p> <ul style="list-style-type: none"><li>• 5.1: Simple and Compound Interest</li><li>• 5.2: Future Value of an Annuity</li><li>• 5.3: Present Value of an Annuity; Amortization</li></ul> <p><b>Exam 2 Testing Center Portion is due by Thursday, March 11<sup>th</sup></b> <b>Exam 2 Take Home is due by Friday, March 12<sup>th</sup></b></p>
March 12 <sup>th</sup> thru May 5 <sup>th</sup>
<p><b>Chapter 6</b></p> <ul style="list-style-type: none"><li>• 6.1: Statements</li><li>• 6.2: Truth Tables and Equivalent Statements</li><li>• 6.3: The Conditional and Circuits</li><li>• 6.4: More on the Conditional</li></ul> <p><b>Chapter 7</b></p> <ul style="list-style-type: none"><li>• 7.1: Sets</li><li>• 7.2: Applications of Venn Diagrams</li><li>• 7.3: Introduction to Probability</li><li>• 7.4: Basic Concepts of Probability</li><li>• 7.5: Conditional Probability; Independent Events</li></ul> <p><i>Continued on next page →</i></p>

**Chapter 8**

- 8.1: The Multiplication Principle; Permutations
- 8.2: Combinations
- 8.3: Probability Applications of Counting Principles
- 8.4: Binomial Probability\*
- 8.5: Probability Distributions; Expected Value\*

*\*selected topics as time permits*

**Project Presentations will be on Friday, April 30<sup>th</sup>**

**Exam 3 Testing Center Portion is due by Wednesday, May 5<sup>th</sup>**

**There is NO TAKE HOME PORTION for Exam 3**