

MATH 101: Introduction to Mathematical Sciences Fall 2009

MWF 1:00-1:50, Frey 150 or TR 11:55-1:10 Frey 345

Instructor:

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Office Hours:

Mon and Thurs in Frey 324

Text: *Excursions in Modern Mathematics*, by Peter Tannenbaum. 6th edition, Pearson/Prentice Hall, Upper Saddle River, 2007. ISBN 0-13-187363-6

Course Objectives:

This course is designed to introduce students to systematic, mathematical thinking as it applies to classical problems in the history of mathematics and as it connects to modern society. We will study topics in the following areas:

The Mathematics of Voting

Democracy & voting power

Fair Division & Apportionment

The mathematics of sharing

Circuits & Networks

Efficient distribution, routing, and scheduling

Statistics and Probability

The following are the objectives of the course as a General Education course fulfilling the mathematical science requirement:

1. To introduce students to the methods and philosophy of the mathematical sciences.
2. To introduce students to at least one of the three mathematical sciences of computing, mathematics and statistics from a liberal arts perspective.
3. To help students develop logical, analytical, and abstract thinking through quantitative problem solving activities.
4. To integrate student use of the computer as a tool in the pursuit of the above objectives.

Prerequisites:

The only prerequisite for the course is knowledge of basic algebra skills, which are included in most high school level mathematics courses. MATH 101 fulfills the general education requirement for a mathematical science; however, it is not the best choice for all students. If you have successfully completed a calculus or precalculus course, for example, you should not be enrolled in this course: MATH 102, MATH 105, MATH 107, MATH 108, COSC 171, or STAT 269 is a better choice. If you have questions about your placement in this course, please consult with your advisor or me as soon as possible.

Course Description and Requirements:

Homework projects:

There will be a homework assignment about every week. For each assignment, you will do the work on paper and then write your answers on the answer sheet. Homework will not be accepted without an answer sheet. If you lose a sheet, print one out from my Q drive.

The assignments you will be given in this class are designed to motivate you to think about and work on mathematics problems regularly and consistently throughout the semester. In order to do well in the course, it is essential that you develop the habit of reading assignments working on the homework soon after they are covered in class.

Quizzes:

There will be a quiz on every chapter. For each quiz you may bring **1 index card** with information from the chapter. You can bring all 8 of the index cards to the final, so keep the cards.

Your performance in this course will be assessed primarily according to your final grades on 8 quizzes, and 8 projects and the final exam. Class participation will also be a factor. The point system shown below for calculating your course grade should be viewed only as a guideline.

Final Exam 20%
Quizzes and projects 4% each

92.5-100: A 90-92.4: A- 87.5-89.9: B+ 82.5-87.4: B 80-82.4: B- 77.5-79.9: C+
72.5-77.4: C 70-72.4: C- 60-69.9: D

Late Work/ MakeUp Policy:

All written assignments should be handed in on or before the assigned due date, during the class period. There will be a 10 point grade reduction per class period for any late project without a written medical excuse. It is your responsibility to get written documentation to me.

If you are unable to take a scheduled quiz or exam due to illness or other emergency, please make every attempt to contact me *before* the exam. E-mail is the best way to contact me. If you miss an exam and do not contact me within twenty-four hours of the exam, the grade is automatically a '0'.

Calculators:

You should have access to some type of to use in class and for homework assignments. There are no specific calculator requirements or restrictions for the course.

Student Math Helpers:

Student math helpers are available on a free, walk-in basis Monday through Thursday evenings (7-9 pm) in Frey 349 throughout the semester.

Weather Emergency

In case of a weather emergency, all class plans will be moved up to the next official meeting time. In particular, this means that if the school is closed on a day when an exam is to be given, you should assume that the exam will be given on the next day the school is open and class is scheduled to meet. If Messiah College is not closed, you should assume that class is meeting as scheduled.

Students needing special accommodations:

Any student whose disability falls within ADA guidelines should inform the instructor at the beginning of the semester of any special accommodations or equipment needs necessary to complete the requirements for this course. Students must register documentation with the Office of Disability Services.