

Math 170, Precalculus Mathematics, Spring 2012

MWF 11:00-11:50am SC 107, Th 11:00am-12:15pm, AD 21

Instructor: Amy DeCelles

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Office: SC 104, phone: x7310

Office hours: M 2-3pm, W 4-5pm, F 2-3pm, and by appointment

Credits and Workload Expectations: (4 credits) Expect to spend 8-10 hours per week on coursework outside the classroom. For example, during a typical week, you might spend 1-2 hours preparing for class/lab, 3-4 hours working on problems and writing up your homework, 1-2 hours working on your lab project outside of lab, and 1-2 hours synthesizing what you have learned.

Course Content: Modeling the dependency of one quantity upon another with linear, polynomial, power, rational, exponential, logistic, logarithmic, and sinusoidal functions.

Course Materials and Resources:

- Textbook: *Precalculus: Graphical, Numerical, Algebraic, 8 Ed.*, Franklin, et al.
- Calculator: You may use a scientific calculator on exams, but not a graphing calculator.
- Course webpage: <http://people.goshen.edu/~adecelles/math170>.
- Software: We will be using a computer algebra system, *Mathematica*.

Homework: Each week you will have a problem set, typically due in class on Monday and returned within the week. Presentation counts: to receive full credit, your work must be neat, organized, and complete.

Labs: In the Thursday labs, you will have the opportunity to explore mathematical concepts using technology, apply mathematical techniques to real world problems, and interpret mathematical results for technical and non-technical audiences.

In-class exercises: Four times over the course of the semester, you will have the opportunity to check your mastery of the material in a twenty-minute closed notes, closed book exercise. We will review the exercise in class, and you may make changes to your work before handing it in.

Schedule for first three weeks:

Mon	Wed	Thurs	Fri
Jan 2, 2012	Jan 4, 2012	Jan 5, 2012	Jan 6, 2012
(no class)	Introduction P.1, P.2: Real num, coords	Lab 1 Intro to Wolfram Alpha	Intro to modeling: Crickets project
Jan 9, 2012	Jan 11, 2012	Jan 12, 2012	Jan 13, 2012
P.3, P.4 Linear eqns, ineqs, graphs (Tomorrow: end of add/drop)	P.5, P.7 Solve eqns, ineqs	Lab 2 Ineqs, eqns in WA	1.1 Modeling Intro to <i>Mathematica</i> video (Exam 1: Take-home)
Jan 16, 2012	Jan 18, 2012	Jan 19, 2012	Jan 20, 2012
MLK (no class)	1.2 Functions, properties (Exam 1 due)	Lab 3 Functions	1.3 Basic functions

Final Course Grade: The final grade for this course will be determined as follows:

- Homework (20%): weekly problem sets
- Labs (25%): weekly lab activities and write-ups
- In-class exercises (10%): four 20-minute in-class exercises
- Exam 1 (10%): take-home, handed out Fri Jan 13, due Wed Jan 18
- Exam 2 (10%): in-class, Wed Feb 22 (tentative)
- Exam 3 (10%): in-class, Mon Apr 2 (tentative)
- Final exam (15%): cumulative; Apr 17, 10:30am

Regular attendance is expected both in our MWF classes and in the Thursday lab. Since many of the lab activities are collaborative, an unexcused absence from lab can effect other students adversely. If you think you have a legitimate reason to be absent from lab, please come and talk to me about it a week in advance and send an official request via email.

Make-up midterm exams may be given to students with legitimate excuses such as verified illness, College-sponsored events, etc., as long as the make-up exam can be taken within a reasonable time frame. If it is not possible to schedule a make-up exam within a reasonable time frame, the grade for the midterm may be prorated from the final exam. Arrangements for a make-up exam must be made one week in advance, except in the case of sudden illness or family emergency, in which case the student must send notification within 24 hours of the exam. In all cases, written documentation is required.

Disability Accommodations: Goshen College wants to help all students be as academically successful as possible. If you have a disability and require accommodations, please contact Lois Martin, the Director of the Academic Resource & Writing Center early in the semester so that your learnin needs may be appropriately met. In order to receive accommodations, documentation concerning your disability must be on file with the Academic Resource & Writing Center, Good Library 113, x7576, lmartin@goshen.edu. All information will be held in the strictest confidence. The Academic Resource and Writing Center offers tutoring and writing assistance for all students. For further information please see www.goshen.edu/studentlife/arwc/.

Peer Tutoring: The Peer Tutoring Program helps organize peer-tutored study groups of three to four students who meet every week for one hour. If you would like a tutor, please contact: Lois Martin, ARWC director, at lmartin@goshen.edu.