Math 117: Introduction to Mathematics

4.0 Units
Fall 2017
MWF 11:00-11:50am

Location: SGM 601

Instructor: Sami Assaf
Office: KAP 438-C
Office Hrs: W 10-11am
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Course Description
This course introduces the basic concepts of functions and graphs, including polynomials and rational functions as well as exponential and logarithmic functions. We will also cover systems of linear equations and matrices.

Learning Objectives
The goal of this course is to introduce students to the basic concepts of functions that can be used to model and solve real world phenomena and problems that arise in business and economics.

Prerequisite(s): Math 040

Required Readings and Supplementary Materials
Required: *Precalculus*, Version $\lfloor \pi \rfloor = 3$, Corrected Edition by Carl Stitz and Jeff Zeager
        Freely available online at http://stitz-zeager.com/.

Description and Assessment of Assignments
Students are expected to complete weekly in-discussion quizzes and take-home problem sets that reinforce topics covered in lecture. There will be two in-class midterm exams, on September 22 and November 3, and a cumulative final exam on December 6 from 11am-1pm.

Grading Breakdown

Assignment	% of Grade
Quizzes	10%
Problem Sets	15%
Midterm I	20%
Midterm II	20%
Final Exam	35%

Assignment Submission Policy
Problem sets will be posted on Blackboard are due in discussion on Tuesdays. Short in class quizzes will take place on Thursdays of each week during which there is no in-class exam.

Additional Policies
Any student who fails a midterm exam for any reason, including failing to sit for the exam, has the option to make up the exam within one week. The recorded score for the make-up exam will not exceed the minimum passing score. This policy does not apply to the final exam for the course.

There will be no make-ups for missed quizzes. Late homework will not be accepted without prior permission from the instructor.

Course Schedule: A Weekly Breakdown

	Topics	Readings	Deliverable (Due Date)
Week 1	The coordinate plane	1.1, 1.2, 1.3	Problem Set 1 (8/29)
Week 2	Functions and graphs	1.4, 1.5, 1.6, 1.7	Problem Set 2 (9/5)
Week 3	Linear functions	2.1, 2.2	Problem Set 3 (9/12)
Week 4	Quadratic functions	2.3, 2.4	Problem Set 4 (9/19)
Week 5	Regression and Review	2.5	Midterm Exam I (9/22)
Week 6	Polynomial functions	3.1, 3.2	Problem Set 5 (10/03)
Week 7	Factors and roots	3.3, 3.4	Problem Set 6 (10/10)
Week 8	Rational functions	4.1, 4.2, 4.3	Problem Set 7 (10/17)
Week 9	Exponential functions	6.1, 6.3	Problem Set 8 (10/24)
Week 10	Logarithmic functions	6.2, 6.4	Problem Set 9 (10/31)
Week 11	Applications and Review	6.5	Midterm Exam II (11/03)
Week 12	Systems of equations	8.1, 8.2	Problem Set 10 (11/14)
Week 13	Matrix arithmetic	8.3, 8.4	Problem Set 11 (11/28)
Week 14	Determinants	8.5	
Week 15	Review		
Final			Final Exam (12/06)

Statement on Academic Conduct and Support Systems

Academic Conduct

Plagiarism presenting someone elses ideas as your own, either verbatim or recast in your own words is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in *SCampus* in Section 11, *Behavior Violating University Standards*:
`https://scampus.usc.edu/1100-behavior-violating-university-standards-and-appropriate-sanctions/`
Other forms of academic dishonesty are equally unacceptable. See additional information in *SCampus* and university policies on scientific misconduct, `http://policy.usc.edu/scientific-misconduct/`.

Discrimination, sexual assault, and harassment are not tolerated by the university. You are encouraged to report any incidents to the *Office of Equity and Diversity* `http://equity.usc.edu/` or to the *Department of Public Safety* `http://capsnet.usc.edu/department/department-public-safety/online-forms/contact-us`. This is important for the safety whole USC community. Another member of the university community such as a friend, classmate, advisor, or faculty member can help initiate the report, or can initiate the report on behalf of another person. The *Center for Women and Men* `http://www.usc.edu/student-affairs/cwm/` provides 24/7 confidential support, and the sexual assault resource center webpage `sarc@usc.edu` describes reporting options and other resources.

Support Systems

A number of USCs schools provide support for students who need help with scholarly writing. Check with your advisor or program staff to find out more. Students whose primary language is not English should check with the *American Language Institute* `http://dornsife.usc.edu/ali`, which sponsors courses and workshops specifically for international graduate students. The *Office of Disability Services and Programs* `http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html` provides certification for students with disabilities and helps arrange the relevant accommodations. If an officially declared emergency makes travel to campus infeasible, *USC Emergency Information* `http://emergency.usc.edu/` will provide safety and other updates, including ways in which instruction will be continued by means of blackboard, teleconferencing, and other technology.