

Math 109: Elementary Functions, Fall 2011

Instructor: Catherine Pfaff

Office: Hall College Center, 2nd Floor

Office Hours: Wed 12-1pm, Thurs 3-5pm or by Appointment

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Text: PreCalculus by Faires and DeFranza, 5th Edition

“This course explores the so-called elementary functions, and is a transition from secondary-level to college-level mathematics in both style and content. These functions include polynomial, exponential, logarithmic, and trigonometric functions. They are used in problems involving graphing, solving equalities and inequalities using algebra, and analyzing data. This course is designed to meet the college's mathematics requirement and also to prepare students for calculus. Use of a graphing calculator, such as the TI-83, is required.” -William Dunbar

Homework: Assignments on material covered through each Wednesday will be collected each Friday (this will be shifted to daily collection if procrastination is too rampant). Problems highlighted in bold will be collected. The other problems are recommended for practice or “warm up.” Problems marked with a “C” will require use of a calculator and those marked with “(C)” can be done with or without a calculator. While you are encouraged to use a calculator to check all of your work, the other problems need to be done without use of a calculator and credit will not be given when work is not shown. **No late work will be accepted!!!** So please start early and seek help as needed.

Projects: There will be 2 projects assigned where you will need to describe solutions, as well as the reasoning behind your solutions, in paragraph form.

Attendance: Mandatory. **It is also expected that you will have read the sections covered on a given day before coming to lecture** so that you can ask questions on what you understand as **you will be expected to understand all material in the sections, even if it is not covered in lecture**. As is the university-wide policy, if you miss more than a week's worth of class (a week is 3 days for this class), you will be suspended from the course. It is your responsibility to make sure that this does not happen. Certainly do not use these absences needlessly, as you may fall ill or have to miss class for another reason. Religious observance is, of course, the exception and **class will not be held on Rosh Hashana (9/30)**.

Exams: There will be 3 midterm examinations and a final examination at the end of the term.

Quizzes: There will be 4 quizzes, as marked on the syllabus below. The lowest quiz score will be dropped.

Cheating: Absolutely unacceptable. It hurts you and it hurts your peers who have worked hard to do their own work. If I suspect that you have cheated, I will ask you to come and explain your

work. If you cannot, I will report it. Please be aware that punishments for cheating are very severe (see the Catalogue for the college's policies on academic honesty). On the other hand:

Don't Be Afraid To Get Help! I strongly encourage you to be patient with yourself and give everything a solid try before seeking help. However, if you have tried and are still confused, please come and see me or a tutor (see information below on tutoring) or even a friend. Do not wait until the day before the exam. Stay on top of the material and seek help early when you need it. Just make sure that you completely understand everything that you turn in.

Tutoring: Your section has a tutor assigned to lead weekly problem sessions, to lead review sessions for exams, and possibly to meet with students individually. The "Think Tank" has math tutors and takes place in the Clark Auditorium Sundays, Tuesdays, and Thursdays 7-10 pm. You can also find tutors in Win Commons Student Support Center.

Other: A student with special needs should feel welcome to discuss these with the professor.

Grading: Grades will be determined according to the following percent distribution:

Homework 15%

Projects 15%

Quizzes 15%

Midterm Exams 30%

Final Exam 25%

SYLLABUS (Subject to change, as needed)

8/29: Section 1.1
8/31: Sections 1.2
9/2: Sections 1.3,1.4,1.5
9/5: Section 1.6,1.7
9/7: Section 1.8
9/9: Sections 2.1,2.3,2.4, Quiz
9/12: Sections 2.4
9/14: Sections 2.5
9/16: Catch Up/Review
9/19: Catch Up/Review
9/21: Exam 1
9/23: Sections 3.1,3.2
9/26: Section 3.3
9/28: Sections 3.4
10/3: Sections 3.4,4.1
10/5: Section 4.1,4.2, Project 1 Due
10/7: Section 4.3
10/17: Section 4.4
10/19: Section 4.5
10/21: Section 4.6, Quiz
10/24: Surprise
10/26: Catch Up/ Review
10/28: Exam 2
10/31: Section 4.7
11/2: Section 4.7
11/4: Section 4.8, Quiz
11/7: Section 4.9
11/9: Diversity Day
11/11: Section 4.9, Project 2 Due
11/14: Catch Up/Review
11/16: Catch Up/Review
11/18: Exam 3
11/28: Section 5.1
11/30: Section 5.2
12/2: Section 5.3, Quiz
12/5: Section 5.4
12/7: Surprise
12/9: Section 6.5
12/12: Section 6.7
12/14: Catch Up/Review

HOMEWORK PROBLEMS FOR EACH SECTION (Also subject to change, as needed):

Sections 1.1,1.2 pg.12: 1,3,5,11,21,31; **36,42,52,66,68,76(C)**

Sections 1.3 pg.20: 5,17,25,29; **38,52,62**

Sections 1.4 pg.28: 1,3,5,21,41; **18(C),30(C),50**

Sections 1.5,1.6 pg.50: 1,5,13,51,55; **18C,34,56,68C,71C**

Section 1.7 pg.62: 1,5,11,19; **24,30,34,36,40**

Section 1.8 pg.73: 7,19,25,29acdf; **32,36C,38,40**

Section 2.4 pg.109: 23,25; **Handout**

Section 2.4 pg.109: 1,3,5,9,15,21a; **14,22,24,33a,36**

Section 2.5 pg.119: 1,3,5,17,19; **20,26(C),28,36,40(C)**

Review: **Review Exercises**

Sections 3.1,3.2 pg.142: 1,9,13,27,37,49; **16,26,32,40C,50C**

Section 3.3 pg.154 : 1,5,7; **4,10,30C,34,38a**

Section 3.4 pg.168: 1,7,11,23,31; **12,20(C),24,34,42(C)**

Project 1 Due

Section 4.1,4.2 pg.200: 1,3,11,21,29,41; **22,26,32,40,42**

Section 4.3 pg.206: 7,13,17ac,21; **18ac,22,24**

Section 4.4 pg.219: 1,3,7,9,15,39; **42,44,46,51,52**

Section 4.5 pg.229: 1,5,19,23,35,41; **20a,26,28,32C,36C**

Section 4.6 pg.237: 1,3,5,7,9; **12,22,29,35,43**

[Surprise] **Handout**

Review: **Review Exercises**

Section 4.7 pg.250: 1,19,41,49; **4,18,31,36**

Section 4.7 pg.250: 9,13,39,43; **14ab,15ab,33,35,40**

Section 4.8 pg.259: 5,7,17,21,31; **24,30,34,37,44**

Section 4.9 pg.271: 1,3; **Project 2 Due**

Section 4.9 pg.271: 5,7,9; **2,6,12,13,20**

Review: **Review Exercises**

Section 5.1,5.2 pg.292: 1,5,17,19,33; **8(C),22C,26C,32C,36C**

Section 5.3 pg.303: 3,5,7,57,65; **34,38,40,50,62(C)**

Section 5.3 pg.303: 17,21,25,27; **26,32,42,46,68**

Section 5.4 pg.310: 1,3,9,15,17; **2C,6C,10C,12C,16C**

[Surprise] **Handout**

Section 6.5 pg.353: 1,3,11,21,23,25; **8,50C,60C,68(C)**

Section 6.7 pg. 364: 5,11,15; **Handout**