
Math 115 – College Algebra

Summer 2012 - Section 1, MH 438, MTWRF 8:00-10:20 a.m.

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Office Hours: MTR 10:15-11:15 a.m., or *by appointment*

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Text: *Explorations in College Algebra, Third Edition*, by Linda Almgren Kime, Judith Clark, and Beverly Michael, Fifth Edition, John Wiley & Sons, 2011.

Class Notes for Explorations in College, Fifth Edition, by Ernie Solheid, Wiley 2011.

Calculator: You will need a scientific calculator that includes the exponential and logarithmic functions. Calculators may be used on exams and in fact will be necessary for certain problems.

Your e-mail address wanted: You are **required** to send e-mail containing the following information to me, no later than **tomorrow**, 1:00 p.m.

The e-mail should contain the following information:

1. The subject line should indicate Math 115, Section 1.
The body should include:
2. Your complete name (First and last name)
3. An e-mail address that you check regularly (not necessarily your school e-mail)
4. Your major/concentration/minor
5. Any comments (optional)

I will send various communiqué through e-mail. A “test e-mail” will be sent to everyone before our next Wednesday class. If you do not receive this test e-mail, please see me ASAP to resolve any problems there may be. **Note:** Any credits that you lose due to not establishing your e-mail connection with me on time will be your responsibility.

Course Outline

Math 115 is designed to provide you with the necessary background to take either Math 120 or either of the one-semester calculus courses Math 130 and 135. The course is a detailed study of various families of functions—linear, power, polynomial, quadratic, exponential, and logarithmic—and their use in applications in the social and physical sciences.

Course requirements and Grading Policy

Homework: Homework will be assigned through the WileyPlus system. You need to register at <http://edugen.wileyplus.com/edugen/class/cls275235/>
For more information, please click [here](#)

Class work: During the course of the summer session, there will be various class work assignments to be done in groups. Some of these assignments will require written work turned in during the class for a grade. To earn credit on class work, you must be in attendance and be an active participant in your group.

Exams: There will be three one-hour exams, and one final two-hour exam. All the exams will be closed book and closed notes.

Percentages and Exam Dates:

<i>Homework</i>	<i>Class Work</i>	<i>Exam I</i>	<i>Exam II</i>	<i>Exam III</i>	<i>Final Exam</i>
10%	5%	Together 55%			30%
		Mon. 6/4	Mon. 6/11	Mon. 6/18	Fri. 6/29

Letter Grades:

Percent	97-100	90-96	88-89	85-87	80-84	78-79	75-77	70-74	67-69	60-66	00-59
Grade	A+	A	A-	B+	B	B-	C+	C	D+	D	F

Homework and class work cannot be made up under any circumstance. Make-up exams will be given only in extreme instances and only with advanced permission of the instructor. Any student who does not take an exam at the scheduled time without prior consent of the instructor will receive a grade of zero on that exam. If any student feels that a sudden illness is sufficiently extreme to warrant a make-up exam, the instructor must be provided with documentation prepared by an appropriate authority.

Various Instructional Information

On all class work and exams you need to show your work and clearly indicate your reasoning in obtaining your answers in order to receive credit. Obtaining the correct answer is not in general as important as understanding the procedure for doing so or being able to explain your reasoning in obtaining the answer. Many of the problems in this course will require a written explanation rather than a sequence of mathematical calculations. Your work should be organized and neatly written up using correct and complete English sentences. Your work in this course will be assessed not only on the mathematical content and correctness of the solution, but also on the presentation of the solution, the correct use of grammar and mathematical notation, and writing style.

Accommodations for Students with Special Needs

On the CSUF campus, the Office of Disabled Student Services (DSS) has been delegated the authority to certify disabilities and to prescribe specific accommodations for students with documented disabilities. DSS provides support services for students with mobility limitations, learning disabilities, hearing or visual impairments, and other disabilities. Counselors are available to help students plan a CSUF experience to meet their individual needs. If you feel that you require such support services, contact the Office of Disabled Students Services, located in UH 101, at (714) 278-3117.

General Course Information

1. NEED

Math 115 College Algebra is appropriate for the General Education program at the university because it increases students' quantitative and logical reasoning abilities needed for informed citizenship and in the workplace. The course strengthens mathematical abilities that will be useful to students in other disciplines. Finally, it improves students' abilities to communicate quantitative ideas orally and in writing.

2. AUDIENCE

The intended audience for Math 115 College Algebra is the student who needs a background in college algebra to help prepare him/her for either of the one-semester calculus courses, Math 130 or 135, or for other quantitative courses, such as statistics or mathematics for elementary teachers.

(a) This course does not grant credit toward the math major.

(b) This course may not be used on graduate study plans.

(c) There were approximately 840 students enrolled in Math 115 in Spring 2003.

3. LEARNING GOALS

This course achieves all of the general education learning goals of category III A.1 Mathematics:

- a. To understand and appreciate the varied ways in which mathematics is used in problem solving.
- b. To understand and appreciate the varied applications of mathematics to real-world problems.
- c. To perform appropriate numerical calculations, with knowledge of the underlying mathematics, and draw conclusions from the results.
- d. To demonstrate knowledge of fundamental mathematical concepts, symbols, and principles.
- e. To solve problems that requires mathematical analysis and quantitative reasoning.
- f. To summarize and present mathematical information with graphs and spreadsheets that enhances comprehension.
- g. To utilize inductive and deductive mathematical reasoning skills in finding solutions, and be able to explain how these skills were used.
- h. To explain the overall process and particular steps by which a mathematical problem is solved.
- i. To demonstrate a sense of mastery and confidence in the ability to solve problems that requires mathematical concepts and quantitative reasoning.

These goals are achieved through the course work, including homework, classroom activities, quizzes, and exams, which require the students to demonstrate understanding of the mathematical concepts presented in the course and to apply these concepts to the solutions of real-world applications.

4. COHERENCE AND INTEGRATION

With the General Education requirements category III.A (Mathematics and Natural Sciences), Math 115 provides a foundation for understanding the theoretical basis and language of scientific principles. The course focuses on developing skills and knowledge that enhance students' ability to operate in a technological environment. This course will positively impact students' ability to succeed in other GE courses by providing the needed elements of quantitative and logical reasoning abilities.

5. WRITING

Throughout Math 115, on homework, quizzes, and exams, students are required to write solutions to a variety of problems, both mathematically oriented and applied, and to provide written explanations of the procedures used to obtain solutions to such problems. The students' work on these exercises is assessed not only on the mathematical content and correctness of the solution, but also on the presentation of the solution, the correct use of grammar and mathematical notation, and writing style.

6. GRADING

The evaluation of students' writing skills is included as a basis for students' grades on the homework, quizzes, and exams. As indicated above, writing performance is used as one component for assessing students' work on exercises throughout the course.

7. PREREQUISITES

The prerequisites for Math 115 are a passing score on the ELM or exemption and three years of high school mathematics, including two years of algebra and one year of geometry. These are typical and appropriate prerequisites for university college algebra courses.

General Education Requirements

This course may be used to satisfy the General Education requirement III.A.1 (III. Disciplinary Learning, A. Mathematics and Natural Sciences, 1. Mathematics). A grade of "C" (2.0) or better is required to meet this General Education requirement. A grade of "C-" (1.7) or below will not satisfy this General Education requirement.

Academic Integrity: Students who violate university standards of academic integrity are subject to disciplinary sanctions, including failure in the course and suspension from the university. Since dishonesty in any form harms the individual, other students and the university, policies on academic integrity are strictly enforced. I expect that you will familiarize yourself with the academic integrity guidelines found in the current student handbook (see <http://www.fullerton.edu/deanofstudents/judicial/policies.htm>).

Examples of actions that constitute academic dishonesty include, but are not limited to:

1. Unacceptable examination behavior – communicating with fellow students, copying material from another student's exam or allowing another student to copy from an exam, possessing or using unauthorized materials, or any behavior that defeats the intent of an exam.
2. Plagiarism – taking the work of another and offering it as one's own without giving credit to that source, whether that material is paraphrased or copied in verbatim or near-verbatim form.

3. Unauthorized collaboration on a project, homework or other assignment.
4. Documentary falsification including forgery, altering of campus documents or records, tampering with grading procedures, fabricating lab assignments, or altering medical excuses.

Emergency Evacuation: In the event of an emergency such as earthquake or fire:

- Take all your personal belongings and leave the classroom. Use the stairways located at the east, west, or center of the building.
- Do not use the elevator. They may not be working once the alarm sounds.
- Go to the lawn area towards Nutwood Avenue. Stay with class members for further instruction.
- For additional information on exits, fire alarms and telephones, **Building Evacuation Maps** are located near each elevator.
- Anyone who may have difficulty evacuating the building, please see the instructor.

Important Dates:

FIRST WEEK: MAY 29 (TUESDAY) – JUNE 1 (FRIDAY)

ADDING:

- **BEGINNING MAY 29, STUDENTS WILL NO LONGER BE ABLE TO ADD SEGMENT A CLASSES VIA TITIAN ONLINE. THE ONLY WAY STUDENTS WILL BE ABLE TO ADD YOUR CLASS IS VIA PERMIT FORM OR ADJUNCT ADD FORM.**

DROPPING DURING FIRST WEEK:

- **CSUF Students drop via Titan Online**
- **Open University Students need to contact Extended Education**
- **No approvals for dropping needed until Week 2.**

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- **JUNE 1 (FRIDAY) IS THE LAST DAY FOR STUDENTS TO ADD COURSES WITH A PERMIT. ALL PERMITS EXPIRE JUNE 1.**
 - **JUNE 1 IS THE LAST DAY FOR STUDENTS TO DROP WITHOUT A “W”.**
 - **JUNE 22 IS THE LAST DAY FOR STUDENTS TO DROP WITH A “W”.**
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Tentative Teaching Schedule

Date	Section	Topic
May 29 T	1.3, 1.4, 1.5	Intro to functions; Language of functions; Visualizing functions
30 W	2.1, 2.3	Average rate of change; Slope
31 R	2.5, 2.6	Linear functions; Visualizing linear functions;
June 1 F	2.7, 2.8, 2.9	Constructing graphs/equations; Special cases, Piecewise linear functions
June 4 M	3.1, Exam	Linear systems
5 T	3.2, 4.1	Visualizing and solving linear system; Scientific notation
6 W	4.2, 4.3	Properties of exponents
7 R	4.4, 4.5	Converting units; Order of magnitude
8 F	4.6, 5.1	Log functions; Exponential Growth
June 11 M	5.2, Exam	Exponential Decay
12 T	5.3; 5.4	Comparing linear/exponential; Visualizing exponential functions
13 W	5.5, 5.6	Constant percent change and Examples
14 R	5.6, 5.7	Examples; Compound interest
15 F	6.1, 6.2	Log and natural log functions
June 18 M	6.2, Exam	Natural Log function
19 T	6.3	Applications/visualizing log functions
20 W	8.1, 8.2	Quadratic functions
21 R	8.2, 8.3	Quadratic functions
22 F	8.4, 9.1	Quadratic functions; Transformations
June 25 M	9.2; 9.3	The algebra of functions; Polynomials
26 T	9.3; 9.4	Polynomials
27 W	9.4, 9.5	Rational functions; Composition and inverse functions
28 R	Review	
29 F	Final Exam	