

Syllabus: MTH 138 College Algebra

Fall 2009, Sections 014/700

Instructor: Dr. Keith Hubbard

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Class Times & Place: MWF 8-8:50, McKibben 424

Office: NM 336

Office Hours: MWF 9-9:50; M 1-3:30, TR 2-3:30

R 6-7pm (in AARC)

R 7-8pm (in LINC Lab)

Required Materials

Book: *College Algebra with Applications for Business and the Life Sciences*, by Larson & Hodgkins.

Calculator: A scientific calculator is required.

Course Description

The core of this course is representing problems in mathematical terms then solving them. This is called mathematical modeling. We will particularly focus of solving equations, creating and interpreting functions, and graphically representing mathematical models. We will focus primarily on five models: linear, quadratic, higher polynomial, rational, exponential and logarithmic functions. Since it is difficult to make use of maths without being able to read and communicate in the language of mathematics, this will be a focus of the course.

Course Objectives

At the end of this course, successful students will be able to:

- Employ independence of thought in order to obtain solutions to typical algebraic problems.
- Solve algebraic equations.
- Demonstrate comprehension of the algebraic properties involved in solving algebraic equations.
- Read and interpret written mathematics.
- Communicate mathematics and logic at a college level.
- Use technology to evaluate solutions arrived at mathematically and intelligently interpret the results.
- Use functions to model and solve real-world problems.

Final Grade Components

20%	Homework
60%	Tests (3 @ 20% each)
20%	<u>Comprehensive Final Exam</u>
100%	Final Course Grade

Grading Scale

90% - 100%	A
80% - 90%	B
70% - 80%	C
60% - 70%	D
0% - 60%	F

Test Dates (tentative)

#1: Friday, September 25
#2: Friday, October 23
#3: Friday, November 20
Final: Mon, December 16, 8-10

Supplemental Instruction (SI)

- Rachel Birdsong is the SI Leader for this course. Her SI study session times are Tuesday and Thursday at 5 in Room M in the AARC (on the first floor of the library).

General Policies and Information

- Online homework will be required using WebAssign at www.webassign.net. When you create an account, use the Class Key: sfasu 0736 9339.
- At the beginning of class, you may ask questions on material covered the previous class period.
- You earn your grade by *communicating* your understanding of the material through the homework, the project and tests. Clearly communicating mathematics will be essential in this course.
- I will send e-mails to the entire class during the semester. Check your SFA e-mail account frequently. My web site lists daily assignments and other useful information.
- To contact me, you may call my office, drop by my office, or e-mail me. I will do my best to reply quickly.
- Students are expected to respect the learning environment of their fellow students. Towards this end, use of mobile phones, mp3 players, PDAs, etc., is forbidden during class.

Testing, Grading, and Make-up Policies

- If you miss a test and have a valid excuse, I will replace your missed test grade by your final exam grade. However, your final may only replace one other score.
- **Attendance Policy:** Over 3 unexcused absences may result in a grade reduction.

- You must bring and display either your SFASU Student ID or a valid driver's license before you will be permitted to take each test and the final exam. I must be able to recognize you from the photo on the ID.
- Since you have a full semester to arrange any travel plans, they are not an excuse for missing the final.
- Students are expected to attend every class meeting, arriving on time. If you have 3 or less absences and score a 70% or better on the final, that score may replace your lowest test grade or your homework grade. If a student leaves class early without permission, the student will be marked absent.
- You may get help on work that is assigned to be done outside of class, unless otherwise instructed, but I expect any work that you turn in to reflect your understanding of the material. On in-class graded work, I expect you to only use your brains, pencil, paper, and, sometimes, a calculator.

Tips for a Successful math class

- Measure success as *understanding* and being able to do new problems, not as having completed the assignment.
- Try to understand definitions and solving approaches. See if you can find examples that work and examples that don't.
- Take the time to read the book and **review your notes** before and after class.
- Practice homework problems until you can do it without referring to examples or help from your notes.
- Practice explaining big ideas and problem solving procedures in your own words, using complete sentences.
- Have someone check your work *after you have finished it* to help eliminate mistakes that you do not know you are making.
- Treat mistakes as a learning experience.
- Realize that math is hard. Some parts are harder for some people than others. Ph.D. mathematicians frequently find it hard to learn new things sometimes and make mistakes on things we already know. We have just learned to go back and refresh the basics, and keep working, even it takes hours, days, weeks, or years.
- Some people take longer to understand things than others. Evaluate how you study and seek to study smarter, not necessarily longer. If you are still stuck, get some help. The AARC and I are here for you!

University Policies

- **Academic Integrity (A-9.1)** Academic integrity is a responsibility of all university faculty and students. Faculty members promote academic integrity in multiple ways including instruction on the components of academic honesty, as well as abiding by university policy on penalties for cheating and plagiarism.
Definition of Academic Dishonesty Academic dishonesty includes both cheating and plagiarism. Cheating includes but is not limited to (1) using or attempting to use unauthorized materials to aid in achieving a better grade on a component of a class; (2) the falsification or invention of any information, including citations, on an assigned exercise; and/or (3) helping or attempting to help another in an act of cheating or plagiarism. Plagiarism is presenting the words or ideas of another person as if they were your own. Examples of plagiarism are (1) submitting an assignment as if it were one's own work when, in fact, it is at least partly the work of another; (2) submitting a work that has been purchased or otherwise obtained from an Internet source or another source; and (3) incorporating the words or ideas of an author into one's paper without giving the author due credit. Please read the complete policy at http://www.sfasu.edu/policies/academic_integrity.asp
- **Withheld Grades Semester Grades Policy (A-54)** Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the course work because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F. If students register for the same course in future terms the WH will automatically become an F and will be counted as a repeated course for the purpose of computing the grade point average. The circumstances precipitating the request must have occurred after the last day in which a student could withdraw from a course. Students requesting a WH must be passing the course with a minimum projected grade of C.
- **Students with Disabilities** To obtain disability related accommodations, alternate formats and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, and Room 325, 468-3004 / 468-1004 (TDD) as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided. Failure to request services in a timely manner may delay your accommodations. For additional information, go to <http://www.sfasu.edu/disabilityservices/>.

Tentative Course Calendar

	<i>Monday</i>	<i>Wednesday</i>	<i>Friday</i>
Week 1	1.1 Linear Equations	1.2 Math Modeling	Modeling with Chuck
Week 2	Labor Day	1.3 Quadratic Equations	1.4 Quadratic Formula
Week 3	1.5 Other Equations	2.1 Graphs of Equations	2.2 Lines in the Plane
Week 4	2.3 Linear Modeling	Review	Exam 1
Week 5	Equation Solving 1.0	2.4 Functions	2.5 Graphs of Functions
Week 6	2.5 Graphs of Functions	2.6 Transformations	2.6 Transformations
Week 7	2.7 Algebra of Functions	2.7 Algebra of Functions	2.8 Inverse Functions
Week 8	2.8 Inverse Functions	Review	Exam 2
Week 9	3.1 Quadratic Models	3.2 Higher Deg. Polys.	3.2 Higher Deg. Polys.
Week 10	3.3 Polynomial Division	3.7 Rational Functions	3.7 Rational Functions
Week 11	4.1 Exponential Functions	4.2 Log Functions	Equation Solving 2.0
Week 12	4.3 Properties of Logs	Review	Exam 3
Week 13	4.4 Solving Exp/Log Eqns.	Thanksgiving Holiday	Thanksgiving Holiday
Week 14	4.5 Exp & Log Models	4.5 Exp & Log Models	Equation Solving 3.0
Week 15	5.1-2 Substitution, Elimination	5.3 Systems with 3 variables	Review
Finals Week	Final: Section 014 - Wed, Dec 16, 8 - 10 am; Section 700 - TBA		