Syllabus: MTH 138 College Algebra

Spring 2016, Sections 1, 2 & 5

Instructor: Keith Hubbard
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Office Phone: 936.468.1533
Office: Math 336
Office Hours: MWF 10:00-11:00, W 1:30-3:00, Th 3:30-5:00

Sec 1: MWF 8:00-9:80 in Math 212
Sec 2: MWF 9:00-9:50 in Math 212
Sec 5: MWF 11:00-11:50 in Math 208

Required Materials
Book: College Algebra, 11th edition by Lial, Hornsby, Schneider, Daniels.
Online: My Math Lab online homework system.
Calculator: A scientific non-graphing 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 math without being able to read and communicate in the language of mathematics, this will be a focus of the course.

Student Learning Outcomes
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.

This is a general education core curriculum course and no specific program learning outcomes for the major in mathematics are addressed in this course.

General Education Core Curriculum
This course has been selected to be part of Stephen F. Austin State University’s core curriculum. This course will focus on:

- Critical Thinking Skills (including creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information)
- Communication Skills (including effective development, interpretation and expression of ideas through written, oral, and visual communication)
- Empirical and Quantitative Skills (including the manipulation and analysis of numerical data or observable facts resulting in informed conclusions).

Final Grade Components

<table>
<thead>
<tr>
<th>Final Grade Components</th>
<th>Grading Scale</th>
<th>Test Dates</th>
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<tbody>
<tr>
<td>10% Homework</td>
<td>90% - 100%</td>
<td>#1: Friday, Feb. 12</td>
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<tr>
<td>15% Quizzes</td>
<td>80% - 90%</td>
<td>#2: Friday, Mar. 11</td>
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<tr>
<td>10% Class Participation</td>
<td>70% - 80%</td>
<td>#3: Monday, Apr. 18</td>
</tr>
<tr>
<td>45% Tests (3 @ 15% each)</td>
<td>60% - 70%</td>
<td>Sec 1 Final: Mon, May 9, 8:00-10:00</td>
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<tr>
<td>20% Comprehensive Final Exam</td>
<td>0% - 60%</td>
<td>Sec 2 Final: Wed, May 11, 8:00-10:00</td>
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<tr>
<td>100% Final Course Grade</td>
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<td>Sec 5 Final: Wed, May 11, 10:30-12:30</td>
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**Supplemental Instruction (SI)**

- SI sessions will be held Tuesday and Thursday from 4-5pm. Additional times will likely be added and announced in class.

**General Policies and Information**

- Online homework will be required using My Math Lab at www.mymathlab.com. When you create an account, use the following Course ID: Sec 1: hubbard82043, Sec 2: hubbard63545, Sec 5: hubbard24241
- Homework may also be assigned from our textbook.
- 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 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 website 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-S4)** 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/.

- **Acceptable Student Behavior** Classroom behavior should not interfere with the instructor’s ability to conduct the class or the ability of other students to learn from the instructional program (see the Student Conduct Code, University Policy 10.4). Unacceptable or disruptive behavior will not be tolerated. Students who disrupt the learning environment may be asked to leave class and may be subject to judicial, academic or other penalties. This prohibition applies to all instructional forums, including electronic, classroom, labs, discussion groups, field trips, etc. The instructor shall have full discretion over what behavior is appropriate/inappropriate in the classroom. Students who do not attend class regularly or who perform poorly on class projects/exams may be referred to the Early Alert Program. This program provides students with recommendations for resources or other assistance that is available to help SFA students succeed.

**TENTATIVE COURSE CALENDAR**

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<thead>
<tr>
<th>Week 1</th>
<th>Monday</th>
<th>Wednesday</th>
<th>Friday</th>
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<tbody>
<tr>
<td>Holiday</td>
<td>Syllabus</td>
<td>1.1 Linear Equations</td>
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<tr>
<td>Week 2</td>
<td>1.2 Linear Modeling</td>
<td>Modeling with Chuck</td>
<td>1.4 Quadratic Equations</td>
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<tr>
<td>Week 3</td>
<td>1.5 Modeling Quadratic Equations</td>
<td>1.6/1.8 Other Eqns./Abs. Value</td>
<td>2.1 Graphs of Equations</td>
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<tr>
<td>Week 4</td>
<td>2.2 Circles</td>
<td>Review</td>
<td>Exam 1</td>
</tr>
<tr>
<td>Week 5</td>
<td>2.3 Functions</td>
<td>2.4 Linear Functions</td>
<td>2.5 Linear Eq. / 3.6 Direct Var.</td>
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<tr>
<td>Week 6</td>
<td>2.6 Graphs of Functions</td>
<td>2.7 Transformations</td>
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<tr>
<td>Week 7</td>
<td>2.8 Function Operations</td>
<td>3.1 Quadratic Models</td>
<td>3.1 Quadratic Models</td>
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<tr>
<td>Week 8</td>
<td>3.2 Synthetic Division</td>
<td>Review</td>
<td>Exam 2</td>
</tr>
<tr>
<td>Week 9</td>
<td>3.3 Zeros of Polynomials</td>
<td>3.4 Polynomial Functions</td>
<td>Holiday</td>
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<tr>
<td>Week 10</td>
<td>Holiday</td>
<td>3.5 Rational Functions</td>
<td>Math Conference (Alt Assignment)</td>
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<tr>
<td>Week 11</td>
<td>4.1 Inverse Function</td>
<td>4.2 Exponential Functions</td>
<td>4.2 Exponential Functions / Log Discovery Worksheet</td>
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<tr>
<td>Week 12</td>
<td>4.3 Log Functions</td>
<td>4.4 Evaluating Logs</td>
<td>Review</td>
</tr>
<tr>
<td>Week 13</td>
<td>Exam 3</td>
<td>4.5 Solving Exp/Log Eqns.</td>
<td>4.5 Solving Exp/Log Eqns.</td>
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<tr>
<td>Week 14</td>
<td>4.6 Exp &amp; Log Models</td>
<td>Radioactivity Activity</td>
<td>5.1 Substitution, Elimination</td>
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<tr>
<td>Week 15</td>
<td>5.1 Systems with 3 variables</td>
<td>Review</td>
<td>Review</td>
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<tr>
<td>Finals</td>
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Finals