Lamar University
Department of Mathematics

MATH 1414-section (4 hour course) College Algebra (Calculus Track)

Term Year Syllabus
Class days and time

Instructor: Name
Office: Lucas 200
Phone: 409-880-xxxx
Office Hours: Days and times
?Other times are available by appointment?
Text: College Algebra (8th ed.) by Ron Larson, ?Required or optional?
Prerequisites: 270 Math THEA or A in CRMA 0372 if THEA exempt or 600 Math SAT or 22 Math ACT or 500 MRS. Prepares for: MATH 1316, 1325, 1342, 1350, 2312, 2376, 3312 Offered: Fall, Spring, Summer

Catalog Description: In-depth study and applications of polynomial, rational, radical, exponential and logarithmic functions, and systems of equations. 270 Math THEA or A in CRMA 0372 if THEA exempt or 600 Math SAT or 22 Math ACT or 500 MRS. Prepares for: MATH 1316, 1325, 1342, 1350, 2312, 2376, 3312 Offered: Fall, Spring, Summer

MATH 1414 Learning Outcomes: Upon successful completion of this course, students will:
1. Demonstrate understanding and knowledge of properties of functions, which include domain and range, operations, compositions, and inverses.
2. Delineate and apply polynomial, rational, radical, exponential, and logarithmic functions and solve related equations and application problems.
3. Apply graphing techniques.
4. Evaluate all roots of higher degree polynomials and rational functions.
5. Describe and solve systems of equations and solve application problems.
6. Demonstrate facility with algebraic manipulations.

Lectures/Discussions/Classwork/Homework Topics:
- Linear Equations in One Variable
- Modeling with Linear Equations
- Quadratic Equations
- Other Types of Equations
- Linear Inequalities in One Variable
- Other Types of Inequalities
- Linear Equations in Two Variable Functions
- Analyzing Graphs of Functions
- A Library of Parent Functions
- Transformations of Functions
- Combinations & Compositions of Functions
- Graphs of Equations
- Inverse Functions
- Quadratic Functions and Models
- Exponential Functions and Graphs
- Logarithmic Functions and Graphs
- Properties of Logarithms
- Exponential & Logarithmic Equations
- Linear & Nonlinear Systems of Equations
- Two Variable Linear Systems
- Multivariable Linear
Core Curriculum Outcomes: Upon completion of this course, the student will demonstrate his or her abilities to think critically, communicate quantitative information, and apply mathematical concepts:

1. **Critical Thinking:** Develop a logical, consistent plan to solve a problem, recognize consequences of the solution, and articulate a reason for choosing solution method.
2. **Communication Skills:** Use and present quantitative information in connection with an argument or problem solution and explicate it in an effective format.
3. **Empirical and Quantitative:** Construct and present a detailed problem statement with evidence of relevant contextual factors and possible approaches for solving the problem, then implement a solution and review the results.

**Major Course Components:** Briefly describe each major course requirement, including major assignments and tests. [There will be at least three tests and a final exam.] Are there any required or recommended readings? Is WebAssign required? [Assignments will be completed on the WebAssign site.]

**Grading Policies:** Are there attendance requirements? [Students are expected to be in class on time and to stay for the entire class period. Students are warned that excessive absences are not conducive to achievement.] How will the final grade be computed? [There will be at least three tests and a final exam, each of which will provide 20% of the final grade. Tests will be announced one week in advance. Homework completed using WebAssign will provide the other 20%.] Homework will be announced on the WebAssign site. Final grades will be assigned based on the following scale:  A-94%, B-85%, C-70%, F-below 70%] Will late work be accepted and, if so, for what amount of credit? [WebAssign will close each assignment at the time and date indicated for each assignment and none will be reopened.] Will makeup quizzes and/or tests be allowed and, if so, within what time period? [Makeup quizzes and/or tests will be allowed, but must be scheduled in advance and completed within one week of the originally testing date.] Are there any other grade considerations?

**Drop Dates:** Days, times, and explanation for each drop date

**Final Exam:** Day and time of the final. Exemption policy, if applicable.

**General Information:**

Lamar University expressly prohibits intimidation and harassment of students, faculty, staff, or applicants. [http://dept.lamar.edu/studentaffairs/handbook.htm]

Lamar University expects all students to engage in academic pursuits in a manner that is above reproach. Students are expected to maintain complete honesty and integrity in their academic experiences both in and out of the classroom. Any student found guilty of dishonesty in any phase of academic work will be subject to disciplinary action. [http://dept.lamar.edu/studentaffairs/handbook.htm]

Any student with disabilities, who needs reasonable modifications to complete assignments successfully, is encouraged to meet with me as early in the term as possible to identify and plan specific accommodations. The student will be asked to provide an accommodation memorandum from the Office of Services for Students with Disabilities. Web: [http://dept.lamar.edu/sfswd/](http://dept.lamar.edu/sfswd/)  Telephone: 409-880-8026  Location: Communication Building, Rm.105, P.O. Box 10087, Beaumont, TX 77710  Director: Callie Trahan
You will have an opportunity to evaluate all aspect of this course in a formal process to be completed online near the end of the term.

While I have made a sincere effort to ensure that this syllabus is correct, changes may be required. I will announce any substantive changes during a regularly scheduled class. If you find an error or omission, please advise me at once so that the other members of the class may be advised.

Student planning to seek certification to teach grades EC-4 or 4-8: Content standard skills covered in this course are: 1.6, 1.7, 1.13, 1.15, 1.18, 1.19, 1.23, 1.21, 2.2, 2.3, 2.4, 2.5, 2.6, 2.9, 2.10, 2.11, 2.12, 2.13, 2.14, 3.3, 3.5, 3.6, 3.7, 3.14, 5.7, 5.8, 5.9, 5.11, 5.12, 5.14, 5.15, 5.16, 5.17, 5.18

NOTE: The sections in red will be completed or adjusted by individual instructors.