Course Description: Topics include functions, including the algebra of functions, composites, graphs of polynomial and rational functions, logarithmic and exponential functions, systems of equations, matrices and determinants, sequences and series with Sigma notation, and the Binomial Theorem.

Course Prerequisite: Mat 0213, Intermediate Algebra, with a grade of "CR", or equivalent.

Course Website: All course documents, course information, discussion boards, and individual grade reports will be available online throughout the semester on the Blackboard (hereafter abbreviated "Bb") course site, https://bb.utsa.edu/. Additional information on course content, expectations, and student responsibilities are posted on the Bb course site, so please check there for details. Students will also need to access homework at http://coursecompass.com/, which hosts the math learning system used for the course instruction. Students need to purchase a user license at the start of the course before beginning any content lessons.

Required Software: MyMathLab User License. It is best to wait until the first day of class to make a new purchase as you may already have access from a previous semester. Complete instructions on what you need and how to get the user license will be given in class and posted on Bb.


Other course materials: A three-ring notebook binder is strongly recommended. A scientific calculator, with exponential, ln, log key, or a graphing calculator. Cell phone, iPod, iTouch (etc) will not be allowed on tests. You can purchase a simple scientific calculator at any general goods store (H.E.B, Walmart, Dollar General, Office Depot) for less than $20.00.

Course Content:

<table>
<thead>
<tr>
<th>Unit</th>
<th>Description</th>
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<tbody>
<tr>
<td>1</td>
<td>Review of arithmetic with real numbers, evaluating expressions, exponents and simple radicals, factoring, polynomials, complex numbers (simplifying only), solving quadratics by factoring and quadratic formula.</td>
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<tr>
<td>2</td>
<td>Linear graphs, rate of change, functions and notation, graphs of functions, transformations of functions, piecewise-defined functions, combinations and composition of functions.</td>
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### Course Outcome Objectives:

A. Apply mathematical problem solving skills.
B. Apply concepts of real numbers.
C. Solve equations and inequalities.
D. Construct graphs using Cartesian coordinates and summarize the features of the graph of a given equation.
E. Use linear transformations to graph functions or determine the function from a graph.
F. Perform computations, combinations, and compositions with functions.
G. Solve and graph polynomial and rational functions.
H. Solve and graph exponential and logarithmic functions.
I. Solve application problems covering above topics in percent including simple interest, taxes, exponential growth and decay models, logistics growth, logarithmic models, etc.
J. Solve systems of linear equations by substitution, elimination, and matrix methods.

### Types of instruction used during the semester will include:

- Presentations (in class, online, textbook readings, and outside sources) of new material and topics.
- Frequent and regular practice on problems.
- Participation in class discussion and groups (in class and online).
- Written exams to be completed independently in class.

### Grade Components: Performance on exams, homework progress, and class participation will determine your grade. Grades are based on points allocated below. Final grades recorded for the course will be based on the percentage of total points and the degree to which course targets are met.

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
<th>% of grade</th>
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</thead>
<tbody>
<tr>
<td>Class Participation:</td>
<td>150 points</td>
<td>10%</td>
</tr>
<tr>
<td>Homework:</td>
<td>450 points</td>
<td>30%</td>
</tr>
<tr>
<td>In Class Unit Tests:</td>
<td>450 points</td>
<td>30%</td>
</tr>
<tr>
<td>In Class Comprehensive Final:</td>
<td>450 points</td>
<td>30%</td>
</tr>
<tr>
<td>Total:</td>
<td>1500 points</td>
<td>100%</td>
</tr>
</tbody>
</table>

**Students will be assessed by means of class participation:** Class participation is largely based on activity in class groups and in Bb discussions. After a short presentation of new material, students will break into groups of 3 – 5 people to work on homework-type problems, and/or group activity. Throughout the semester, additional problems will be posted in the Bb discussion area. Participate in discussion by adding your comment, answer, or correction - something original, relevant, and helpful.
Discussions will be monitored, please be professional and courteous. I will deduct points for rude behavior continuing after first warning. I will ban any individual from further participation in discussion if multiple warnings are disregarded; no opportunity will be given to make up such lost points.

**Students will be assessed by means of homework:** The MyMathLab software administers homework assignments throughout the semester. These assignments will show your progress and retention of required course topics. Students should work enough each week to meet weekly progress goals. The goals become very difficult to meet if you fall behind, so you must budget enough time to complete weekly expectations. Homework assignments are designed to cover one unit at a time. You may work as many problems as you like. It will be necessary to make 70% or better in order to progress to the next unit. All units will remain open until **Tue, Dec. 14 at 1pm** to be worked on if you wish to increase your grade.

**Students will be assessed by means of in class tests:** Three written Unit Exams (150 points each) will be given during the semester. Students should be able to show complete work and procedures to support answers. The exams serve as a checkpoint on how you write up and communicate solutions. The exams will be a combination of multiple choice, true/false, matching, and short answer. Exam problems will be similar to homework and discussion questions. Exams are a chance to show process and procedures, and partial credit is awarded on short answer questions when work clearly shows correct ideas. Exams are “closed book” format. A calculator and one 3” x 5” note card will be allowed.

**Students will be assessed by means of a comprehensive final exam:** One comprehensive final exam (450 points) will be given on **Tue, Dec 14, 10:30 am - 01:00 pm**. The final exam will be a combination of multiple choice, true/false, matching, and short answer. The problems will be similar to homework and discussion questions. I will replace your lowest in class exam grade with the final exam grade if the final exam grade is higher. This will be a “closed book” format. A calculator and one 3” x 5” note card will be allowed.

**Attendance:** Attendance is measured largely by participation in this course, and your individual effort each and every week during the semester will make a tremendous difference in this course. You are expected to participate in all aspects of the course delivery, including online practice, discussion forums, in class group participation and tests.

**Withdrawal Policy:** Any student who is no longer attending class or is failing to make adequate progress should drop the course, depending on financial and other implications. It is the responsibility of the student to drop a course. This action must be initiated by the student, not the instructor. A student may drop a course within the term prior to the 1st of December. If you are not maintaining a passing grade on required coursework, but choose not to drop the class, the instructor will assign a failing grade (F/NC) for the course grade at the end of the term.

It is strongly recommended that a student who desires to drop the class discuss the drop with his/her instructor and/or an academic advisor before taking this action.
Undergraduate students, with some exceptions, may drop/withdraw via ASAP. Please see the Bb link for a more complete lists of important dates.

**Incomplete Grading Policy:** The grade “IN” is given to indicate that some part of the work of a student in a course has, for good reason, not been completed, while the remainder of the student’s work in the course was satisfactorily completed. The Incomplete allows a student to complete the course without repeating it. A grade of Incomplete may not be assigned when a definite grade can be given for the work done. The student must have been in attendance at least three-fourths of the semester to receive a grade of “IN.” Word of advice, the grade “IN” is very rare.

**Academic Honesty Statement:** It is expected that each student will complete his/her own scored assignments and exams. “In accordance with the provisions of Part I, Chapter VI, Section 3.4, Regents' Rules, the Vice President for Student Affairs (VPSA) delegates to the Office of Student Life, the Department Chair and to the individual members of the faculty the authority and responsibility to confront students for the purpose of investigating suspected dishonesty in academic assignments and to recommend appropriate penalties to the VPSA.” Please see [http://www.utsa.edu/hop/chapter2/2-37.html](http://www.utsa.edu/hop/chapter2/2-37.html) for more details.

**ADA Statement:** If you feel you may need an accommodation or special service for this class, please contact Disability Services in room MS 2.03.18, telephone (210) 458-4157, or website [http://www.utsa.edu/disability/](http://www.utsa.edu/disability/)

**Tutoring:** If you would like additional help, tutoring is available at no cost in the Math lab (SB 2.01.02A) and the TRC Q-Lab.