Math 305G presents topics from algebra, coordinate geometry, and functions needed to provide solid preparation for studying calculus or other courses in college mathematics. It also gives those students who will not take higher level mathematics courses opportunities to investigate and understand this important area of college mathematics and the role it plays in their daily lives.

**Prerequisites**

Approval of the University Extension advisor.

**Course Organization**

This course is divided into four learning modules containing a total of twelve lessons. Each lesson contains a set of learning objectives, instructor commentary, a self-assessment, and a computer-graded assignment. Four of the lessons also contain an instructor-graded assignment; these assignments must be completed by hand on paper, scanned, and then submitted through the course system for grading. All lessons within a learning module must be completed before moving onto the next module. An instructor is available throughout the course via a message center to provide feedback and respond to questions regarding assignments.

Topics include:

**Module 1**

- Lesson 1: Algebra Review
- Lesson 2: General Graphing
- Lesson 3: Linear Functions

**Module 2**

- Lesson 4: Quadratic Functions
- Lesson 5: Polynomial Functions

**Module 3**

- Lesson 6: Radical Functions
- Lesson 7: Rational Functions
- Lesson 8: Exponential and Logarithmic Functions

**Module 4**

- Lesson 9: Trigonometric Functions
- Lesson 10: Inverse Functions
- Lesson 11: Systems of Equations
- Lesson 12: Matrices
**Required Materials**

There is no required textbook for this course.

**Grading**

The course contains sixteen graded assignments, a midterm exam, and a comprehensive final exam. Both exams must be taken in a proctored location, with arrangements to be made by the student.

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Weight</th>
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</thead>
<tbody>
<tr>
<td>12 Computer-Graded Assignments</td>
<td>20%</td>
</tr>
<tr>
<td>4 Instructor-Graded Assignments</td>
<td>20%</td>
</tr>
<tr>
<td>Midterm Exam</td>
<td>30%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>30%</td>
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</tbody>
</table>

In addition to earning the minimum number of points on assignments to receive a passing grade, students must pass the final exam with a score of at least a 60% in order to receive a passing grade in the course.

This course is independent study and is self-paced. Students have five months upon registration in which to complete all coursework, plus an additional thirty days in which to take the final exam.

**University Extension**

For more information about University Extension courses and policies, please visit [www.utextension.org](http://www.utextension.org). Questions may be directed to our office at (512) 471-2900 or [uex@austin.utexas.edu](mailto:uex@austin.utexas.edu). Office hours are M – F, 8 a.m. – 5 p.m. CST.