
Texas Common Number: MATH 1351
Term: Self-Paced

An analysis, from an advanced perspective, of the basic concepts and methods of geometry, statistics, and probability, including representation and analysis of data; discrete probability, random events, and conditional probability; measurement; and geometry as approached through similarity and congruence, through coordinates, and through transformations. Problem solving is stressed.

The primary objective of this course is to increase students’ understanding of mathematics as outlined in the Texas State Board for Educator Certification (SBEC) Standards for Early Childhood-Grade 5 (K-5). Other course objectives include:

- Have future teachers experience learning in some of the formats in which they will be expected to teach, in problem-based situations and by discovery methods.

- Have future teachers practice in communicating mathematics. In particular, the following SBEC standards will be addressed:
  - use questioning strategies to identify, support, monitor, and challenge students' mathematical thinking;
  - translate mathematical statements among developmentally appropriate language, standard English, mathematical language, and symbolic mathematics;
  - provide students with opportunities to demonstrate their understanding of mathematics in a variety of ways using a variety of tools; and
  - use the language of mathematics as a precise means of expressing mathematical ideas.

This course is independent study and is self-paced. Students have five months upon registration in which to complete all coursework, with an additional 30 days allotted for completion of the final exam.

UT Austin Prerequisite

Mathematics 316K with a grade of at least C.

Required Materials


Optional Materials: Ruler, scissors, protractor
This course currently does not qualify for the Quantitative Reasoning flag.

**Course Organization and Assessment**

M 316L consists of eight lessons grouped into four learning modules. Each lesson contains a set of learning objectives, a lesson overview, a self-assessment, and a computer-graded assignment. Three of the lessons also contain an in-depth assignment that you will prepare on paper and upload to Canvas for review by your instructor. You must wait to receive a score and feedback on all assignments within a given learning module before moving onto the next module. You can expect this feedback within three business days following submission.

**Course Outline**

<table>
<thead>
<tr>
<th>Module 1</th>
<th>Lesson 1: Polygons and Polyhedra</th>
<th>Basic terminology; triangles; quadrilaterals; regular polygons; polyhedral terminology and types</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Lesson 2: Symmetry</td>
<td>Types of symmetries; reflection; rotations; translation; scale; tessellations; congruence and similarity; triangles</td>
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<td></td>
<td>Module 2</td>
<td>Lesson 3: Constructions</td>
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<td></td>
<td>Lesson 4: Measurements</td>
<td>Measurement basics; angles; areas; volumes</td>
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<td>Midterm Exam</td>
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<td>Module 3</td>
<td>Lesson 5: Area and Volume</td>
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<td>Lesson 6: Statistics</td>
<td>Data; bar charts; pie charts; pictograms and stem-and leaf; mean; median and mode; standard deviation; percentiles, deciles, and quartiles; histograms; box plot; normal distribution</td>
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<td>Module 4</td>
<td>Lesson 7: Data</td>
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<td>Lesson 8: Probability</td>
<td>Probability basics; distribution; events; rule of sum; conditional probability; rule of product; permutations; combinations; expected value</td>
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<td>Final Exam</td>
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ASSIGNMENTS

Computer-Graded Assignments
Each lesson contains a computer-graded assignment consisting of ten multiple-choice questions. Computer-graded assignments may only be taken once. They are graded instantly by the course system.

To help you prepare for these assignments, each lesson also contains a self-assessment with ten multiple-choice questions. Self-assessments are not graded; they are provided to assist you in learning the lesson material. You can complete self-assessments as many times as you like, and they have no effect on your course grade.

Instructor-Graded Assignments
Modules 1, 2, and 3 contain an instructor-graded synthesis assignment. For these assignments, you will first print the assignment PDF file, and then complete the printed assignment by hand in pencil or pen. Make sure that your writing is dark and clear so that it will be legible when scanned. Scan the completed assignment. You must combine all of your scans into a single file for submission.

Because you will not be taking the course in a classroom, it is important that you show all of your work in your assignments. That way your instructor can see if you fully understand the material and can give you the instructional feedback you may need to increase your understanding of the material. The Canvas Inbox gives you the means to communicate easily with your instructor whenever you have questions.

EXAMS

You will take the midterm and final exams at a proctored testing center. The exam request links within your course will take you through this process; additional information is available on the University Extension website.

Midterm Exam: The midterm exam covers modules 1 and 2. It consists of ten questions and is worth 20% of your final course grade. You will have three hours in which to take it. It is closed-book, and you may NOT use any type of calculator. To prepare for the exam, review the overviews in each lesson as well as the assignments. The Midterm Exam Overview and Request Link page in Canvas contains a detailed overview of the themes covered on the exam, as well as a practice exam. You may make your online request for the midterm at any time, but it is recommended that you wait until you have received grades and feedback on all assignments in Modules 1 and 2 before taking the exam.

Final Exam: The final exam is comprehensive, covering all lessons. It is worth 30% of your course grade. Like the midterm, the final exam contains ten questions. You will have three hours in which to take it, and may not use your textbook or a calculator. The Final Exam Overview and Request Link page in Canvas contains a detailed overview of the themes covered on the exam. Complete the practice final exam for additional practice before taking the final. YOU MUST PASS THE FINAL EXAM TO PASS THE COURSE.

You must qualify for and make your online request to take your final exam by your designated course completion date; if you do so, you will receive an additional 30 days in which to study for
and take the exam. To be eligible to request the final, you must have submitted all assignments and received a grade on the midterm exam.

**Grading**

Your final grade for the course will be calculated as follows:

<table>
<thead>
<tr>
<th>Assignment Type</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>3 Instructor-Graded Assignments</td>
<td>30%</td>
</tr>
<tr>
<td>8 Computer-Graded Assignments</td>
<td>20%</td>
</tr>
<tr>
<td>Midterm Exam</td>
<td>20%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>30%</td>
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</tbody>
</table>

You must pass the Final Exam to pass the course. You must also earn an overall passing grade:

- **A** 100-93%
- **B+** 89-87%
- **C+** 79-77%
- **D+** 69-67%
- **F** 59-0%

- **A-** 92-90%
- **B** 86-83%
- **C** 76-73%
- **D** 66-63%
- **B-** 82-80%
- **C-** 72-70%
- **D-** 62-60%

**Strategies for Success**

This course allows you to work completely at your own pace and in any setting you choose. The freedom of a self-paced course, however, means that more responsibility will fall upon you to manage your coursework so that you complete the course requirements within the enrollment period and in time for your graduation or other personal deadlines.

Here are some suggestions for success:

1. Read "Getting Started and Required Information" and the "Course Overview" very carefully. You should be aware of all guidelines concerning course regulations, integrity of work, and preparation of lessons.
2. Begin your lessons as soon as possible. Establish a schedule for yourself and stick to it. Try not to let too much time pass between lessons; you don’t want to forget what you have learned so far! Don’t procrastinate. This is especially important if you are about to graduate. Leave yourself plenty of time for getting assignments graded and for taking exams. You don’t need the added stress of taking your final at the last possible moment.
3. Be sure to read (and re-read) the Lesson Overviews before beginning your assignments. Mathematics can be difficult to read, so don’t be frustrated if things aren’t quite clear the first time through.
4. Use the Canvas Inbox to ask questions about your assignments or other lesson material. Communicate regularly with your instructor about any problems you are experiencing.