Syllabus :: Trigonometry Math 133-003 Fall 2018

Ryan Jensen
2018-08-23

1 Course Information

1.1 Professor Information

• Dr. Ryan Jensen
• Mathematics Department
• Email: jensenrj@sfasu.edu
• Website: http://faculty.sfasu.edu/jensenrj/
• Course Website: http://faculty.sfasu.edu/jensenrj/teaching/trig/
• Office: 320 Mathematics Building
• Office Phone: (936)-468-1636
• Office Hours:
  – Tuesday 9:00-11:00
  – Thursday 9:00-11:00
  – Friday 11:00-12:00 in Math 357

1.2 Classroom

• Class Times: MWF 12:00pm -12:50pm
• Classroom: 214 Mathematics Building
1.3 Course Description

Trigonometric functions of angles, radian measure, fundamental identities; addition, product, and half angle formulas, solution of triangles; polar coordinates; inverse trigonometric functions, complex numbers. May be required to have a graphics calculator. Prerequisites: A minimum math score of 250 on THEA, 21 on ACT, 500 on SAT or a C or better in MTH 099. The Department of Mathematics and Statistics strongly recommends a minimum math score of 270 on THEA, 21 on ACT, 500 on SAT or a C or better in MTH 099.

1.4 Text and Materials

The required textbook for this course is Trigonometry, 4th edition by Mark Dugopolski (2015). You will not need the MyMathLab access code. Homework will be assigned and submitted in class. You may use a non-graphing non-programmable calculator. On exams, you may not use your cellphone as a calculator.

1.5 Course Calendar

Please note that the dates for our in-class exams below are subject to change. The final is university scheduled and cannot be taken at a different time without permission of the Dean of the College of Sciences and Mathematics. A more complete schedule can be found on the course website.

<table>
<thead>
<tr>
<th>Exam</th>
<th>Date</th>
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</thead>
<tbody>
<tr>
<td>Exam 1</td>
<td>September 21</td>
</tr>
<tr>
<td>Exam 2</td>
<td>October 19</td>
</tr>
<tr>
<td>Exam 3</td>
<td>November 16</td>
</tr>
<tr>
<td>Final</td>
<td>Wednesday December 12, 1-3</td>
</tr>
</tbody>
</table>

1.6 Course Requirements

1.6.1 Class Attendance and Participation

Students are expected to attend all class meetings, arriving on time. If you are absent, you are responsible for determining what you missed and for being prepared for class when you return.
1.6.2 Preparing for Class

Students which are adequately prepared for the class should expect to spend a minimum of three hours of work outside of class for each credit hour. This is 9 hours per week for Math 133. The time out of class can be used in reading the text, practicing examples, working homework exercises, etc. A minimal time commitment is likely to lead to a final grade of a C. More time may be required to achieve excellence. Material to be discussed in class should be read before coming to class. Check your university email and the course website regularly, as I may send reminders, assignments, or announcements.

1.6.3 Quizzes

We will have in class pop-quizzes, mostly over assigned reading.

1.6.4 Homework

Homework will be assigned and in class, and will usually be due two class periods after being assigned.

1.6.5 Three in-class exams

If a student must miss an exam due to an excused absence, special arrangements should be made in advance. Cell phones and graphing calculators are not allowed out during exams, even if that is all that is brought. Students are responsible for bringing their own scientific calculator to exams. No music (even through headphones) is allowed during exams.

1.6.6 A Comprehensive Final Exam

The final exam is in our regular classroom on Wednesday December 12 from 1:00-3:00pm.
1.7 Grading

1.7.1 Grading Policy

<table>
<thead>
<tr>
<th>Category</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quizzes</td>
<td>5%</td>
</tr>
<tr>
<td>Homework</td>
<td>15%</td>
</tr>
<tr>
<td>Exam 1</td>
<td>15%</td>
</tr>
<tr>
<td>Exam 2</td>
<td>15%</td>
</tr>
<tr>
<td>Exam 3</td>
<td>15%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>35%</td>
</tr>
</tbody>
</table>

1.7.2 Grading Scale

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>90%-100%</td>
</tr>
<tr>
<td>B</td>
<td>80%-90%</td>
</tr>
<tr>
<td>C</td>
<td>70%-80%</td>
</tr>
<tr>
<td>D</td>
<td>60%-70%</td>
</tr>
<tr>
<td>F</td>
<td>0%-60%</td>
</tr>
</tbody>
</table>

2 Other Information

2.1 Program Learning Outcomes (PLO)

Students graduating from SFASU with a B.S. Degree and a major in mathematics will:

1. Demonstrate comprehension of core mathematical concepts. [Concepts] (notion of theorem, mathematical proof, logical argument)

2. Execute mathematical procedures accurately, appropriately, and efficiently. [Skills] (calculus, algebra, routine, nonroutine, applied)

3. Apply principles of logic to develop and analyze conjectures and proofs. [Logical Reasoning] (quantifiers, breaking down mathematical statements, counterexamples)

4. Demonstrate competence in using various mathematical tools, including technology, to formulate, represent, and solve problems. [Problem Solving] (calculus tools, algebra tools, applied tools, nonstandard problem solving)
5. Demonstrate proficiency in communicating mathematics in a format appropriate to expected audiences. [Communication] (written, visual, oral)

2.2 Student Learning Outcomes (SLO)

At the end of MTH 133, a student who has studied and learned the material should be able to:

1. State and use the unit circle and ratio definitions of the six trigonometric functions. [EEO: 2, 5]

2. Recall and use exact values of the trigonometric functions at integer multiples of $\pi/4$ and $\pi/6$ in various contexts, especially in graphing trigonometric functions. [EEO: 2, 5]

3. Graph the trigonometric functions, and graph transformations of trigonometric functions by recognizing amplitude, changes in period, vertical translations, and phase shifts. [EEO: 1, 2, 5, 6]

4. Use appropriate trigonometric identities in solving equations involving trigonometric functions and in calculating trigonometric function values. [EEO: 2, 3, 4, 5]

5. Use logical reasoning and known trigonometric identities to verify that an equation is a trigonometric identity. [EEO: 3]

6. Use inverse trigonometric functions in applications and in solving equations. [EEO: 1, 4, 6, 7]

7. Determine unknown measures of sides and/or angles of triangles for which some specific measures are given. [EEO: 1, 4, 6, 7]

8. Solve application problems using tools such as vectors, right triangle trigonometry, the Law of Sines, and the Law of Cosines. [EEO: 1, 4, 6, 7]

9. Perform arithmetical operations with complex numbers and find powers and roots of complex numbers in trigonometric form. [EEO: 2, 4, 7]

10. Use the polar coordinate system, relate it to the rectangular coordinate system, and graph equations using polar coordinates. [EEO: 1, 2, 5, 7]
2.3 Academic Integrity (Policy 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. The penalty for a student found cheating on any part of an assignment, quiz, or exam in this class will range from a grade of zero on the work to a grade of F in the course, and may result in additional, more severe disciplinary measures. A student who allows another to copy his work and the student copying the work are both guilty of cheating. Do your own work. Do not show your completed work to others. Do not allow others to copy your work.

2.4 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/4.1-student-academic-dishonesty.pdf.

2.5 Withheld Grades Semester Grades Policy (A-54)

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.

2.6 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

2.7 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, policy D-34.1 http://www.sfasu.edu/policies/student-code-of-conduct-10.4.pdf). 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.