IMPORTANT: Instructors should notice that as of Fall 2005, the Task Force has approved the following changes in curriculum and prerequisite:

Sections 8.5 and 8.6 (parametric and polar coordinates) have been added and sections 8.1 - 8.4 (complex numbers) have been dropped. These changes were made to better prepare the students for the Calculus sequence.

The prerequisite of B or better in MATD 0390 has been dropped. Instead, the students will need the recent completion of MATH 1314 (college algebra) with a C or better. A second option is an appropriate secondary school course (one semester of precalculus or trigonometry) and a satisfactory entrance score on ACC’s Mathematics assessment Test. A third option is an appropriate higher score on ACC’s Mathematics Assessment Test. It is very important that the prerequisite be enforced very strictly. Students should be advised that MATH 2412 (precalculus) has not changed as the prerequisite for Calculus I.

Homework

Homework should be assigned regularly. Some scheme that allows you to give a homework grade, such as brief quizzes in class, collecting notebooks when you give tests or grading an occasional assignment, is desirable and encouraged.

Attendance

Some instructors keep track of attendance and may drop students who miss more than four classes. Be sure students have in writing on the first class day that you might drop them for more than four absences. Some students who stop attending expect their instructor to fill out a withdrawal form for them. Your first day handouts should indicate that you will not be responsible for withdrawing students. See the note on the Information for Students sheet. In general, require students to take care of their own paperwork. You should announce your policy in writing on your first-day handout.

Which identities should your students memorize?

Sometime before the end of the semester, students should be required to demonstrate that they know the fundamental identities, the addition and subtraction formulas for the sine and cosine, and the double angle formulas for sine and cosine and the values of the sine, cosine and tangent functions at angles of 0, 30, 45, 60, 90, 180 and 270 degrees. In general, when covering trig identities, make students memorize the eight fundamental identities, the sum and difference, and double angle identities for sine and cosine, and any other identity appropriate for your course. We mention these identities because these will be assumed known by students in later courses like calculus. Students should be able to use the other identities but they don't necessarily need to have them memorized.

Calculators

Students are encouraged to use scientific calculators to do computations. If they need help learning to use the trig and inverse trig functions, or changing the mode of the calculator from degrees to radians, etc., please help them. However, students should also learn to do many computations by hand, in the way that leads to exact answers. Overall, be sure that you are expecting students to give exact answers (with the radical still in them) for at least half of the problems in the course.

Some students will have programmable or graphing calculators. Learning to use them well can significantly enhance their understanding of mathematics and their interest in it. Some teachers believe that forbidding the use of programmable and graphing calculators on tests sends a negative image to students about their value. One compromise is to forbid graphing calculators on any test that specifically covers graphing, but to allow them otherwise. Another option is to give exams in two parts, one part allowing the use of calculators.
Mary Parker also finds that it works well to have students not use calculators on tests 1 and 3 and do use calculators on tests 2 and 4.

When students are required to show their work on all problems to receive credit, they are more likely to understand that they must really learn to do the problems and not just rely on the magic of a calculator. It is true that students who have fancy calculators are adept at using them have some additional tools for checking their answers. Acknowledgment of this can be used to lead into a discussion of ways to check one's work without a calculator as well as with a calculator -- a discussion well worth having in any mathematics class.

Mathematical Sophistication

Trig is a course in which the students should be increasing their mathematical sophistication, which includes making connections and learning to do more than just "plug-and-chug." There are many good aspects of our current text (lots of work on equations for instance) but one drawback is that many students find it easy to "plug-and-chug" when doing the homework. Such students often make it through about half the course thinking it's pretty easy and then crash in the second half of the course. Various teachers deal with this in various ways.

Mary Parker found that introducing the students to simple equations and graphing very early in the course helped her students succeed much better than when she was not doing that. She uses our suggested problem lists, but also includes some discussion of what the student should be learning in the actual assignment. As you consider how to organize your course, you might look over her materials and think about whether to use or adapt some of them for your course. Find them at

http://www.austinecc.edu/mthdept2/1316/.

Another idea on improving student’s mathematical sophistication is to incorporate "Relating Concepts", "Quantitative Reasoning", and "Connections" found throughout the text, as either suggested homework exercises or group projects. Find a complete list at the above website.

Of course, other trig teachers have good ideas for this as well, but we don't have URLs to refer you to for them. Feel free to talk with any of us on the trig committee about what we do/think about to increase students' mathematical sophistication.

Other information

Be sure to read the Information for Students where you can find other pertinent details. If the Testing Center remains available for standard course testing, you might want to give one or two tests there during the course to gain additional instructional days. This should never be the final test. If you use the Testing Center, be sure to follow its directions. For security reasons, you also need to produce multiple versions of a test for testing center use.

Required first-day handouts:
1. Departmental Handout -- Included in this chapter of the Math Manual.
2. Additional Handout -- This is a handout designed by you, with your contact information and your grading and testing policies.
5. Prerequisite Review -- Included in this chapter of the Math Manual

Prerequisite Checking and Advising

You will need to make sure that the students in your class do not need review of college algebra skills. We make advising information available in various ways, but the responsibility for checking prerequisites still rests with the individual teacher.

Use the Prerequisite Review available in this Math Manual as a homework or pretest. Students who have had the prerequisite course should be able, with just a little review on their own, to do 70%-80% of the
problems on this test. Students who do not have the prerequisite may or may not be able to do most of the problems. If they can do them, then you may use your own judgment about letting them stay. If they cannot do enough of them without your help, then you should not let them stay. A review of algebraic prerequisites is found in Appendices A - D

Chapter 1
Sec 1.1 - 1.2. Students should be familiar with the main definitions and ideas about angles, from previous courses. The last portions of the exercises in both these sections have some good problems that are more advanced than they have seen in previous courses. In particular, analyzing revolutions for objects in circular motion is important knowledge for linear and angular speed in Ch. 3. Spend time on those so that they see that they will be expected to make sense of written descriptions of physical situations and solve problems based on that. In 1.2 (57-73), although the given diagrams and pictures in the book are nice, students should approach each of these problems as if they need to create the picture themselves from the written description. Sec1.4. Stress the importance of early memorization of the fundamental identities. Having memorized these formulas earlier will make the material in Ch. 5 more approachable.

Chapter 2
Sec 2.2. Solving trigonometric equations (Ch.6) is one of the most important and most difficult topics in this course. An early introduction to this concept is pedagogically advantageous. Section 2.2 is an ideal place to introduce very simple equations whose solutions in [0, 360 degrees] are special angles. (See example 6 and exercises 61 - 66.) A larger set of problems is provided with the suggested assignments in this chapter of the Math Manual.

Chapter 3
By the time you finish 3.3, some students will notice that the course has been three presentations of the same ideas (and may be feeling a little bored.) Encourage them to notice that similarity (trig from points on a plane, from triangles in degree measure, and from the unit circle in radian measure.) We are discussing the same physical situation in all these cases, and just talking about it a little differently. This is perhaps the first course they have had in the usual math sequence where they going to be routinely expected to look at the same situation in more than one way and notice that some problems are more easily solved in one "view" than another. Understanding that is important in building mathematical sophistication. It is important that they begin to look for connections, for links, for alternative ways of looking at things.

3.4. Linear and angular speed are difficult for students who do not have a strong background in physical science. Try to keep the students from thinking of the four different formulas separately. Instead they should learn the basic idea here (speed = distance/time) and think of the formulas as different summaries of that basic idea. It is worthwhile to mention to the students the difference between speed and velocity.

Chapter 4
The language of functions is used more prominently now. Review the meaning of \( f(x) = x^2 \). Relate the input values, x, and the output values, y, with the ordered pair (x,y). E.g., evaluate \( f(3), \ f(-2) \), etc. and plot the corresponding points on a graph. Before discussing the various transformations of the trigonometric functions (stretches, reflections, and translation) it is helpful to do a simple algebra example like \( f(x) = x^2 \) to help connect and extend concepts and skills. Also, in chapter 4, when graphing tan x, you will encounter vertical asymptotes. This is another opportunity to review this college algebra concept. Students should notice that the vertical asymptotes occur when the numerator is not zero, and the denominator is zero. (Just like in college algebra!) Here, you will also have ample opportunity to show a wide range of applications and modeling such as average temperature and the new section on harmonic motion.
Sec 4.4 may be taught after sec 4.2.

Chapter 5
Many students who can do algebra using variables x, y, a, b, etc. find it considerably more challenging to use trig functions when factoring an algebraic expression or simplifying an algebraic fraction. Please
continually reinforce that developing skills in changing one form of a trig expression to another equivalent form is the main point of this chapter. Using these skills and using the identities is critical in developing the mathematical sophistication for higher-level courses.

**Chapter 6**

Sec. 6.1. It will be helpful to review and summarize the concept of inverse function, using one or two algebraic functions before introducing the inverse trigonometric functions. The focus here should be on illustrating that these are inverse functions, not on deriving inverse functions, as it might be in a College Algebra course. Graphing them, and showing how you exchange the x and y, and how the graphs are reflections of each other, is important. Of course, you also must discuss restricting the domain. Students should come away from this with a notion of why inverse functions are useful and, of course, how to compute with the inverse trig functions, when to use them, and be able to handle the issues about domains of the original function and the inverse.

Sec 6.2-6.4. Please take your time doing a thorough coverage of trigonometric equations. This is one of the most difficult but also most important topics especially for those students who plan to take the calculus sequence. It is helpful to show the connection between these equations and simple linear and quadratic algebraic equations. Use graphing calculator demonstrations for a better conceptual understanding of this topic.

**Chapters 7 & 8**

These chapters may be a little more challenging for some of the students than in the past due to their mathematical maturity levels. As stated at the beginning of this document, changes have been made in chapter 8. The material on complex numbers in polar form (sec 8.2-8.4) would be nice for the students to see if you have time, since these sections make such good use of trig concepts. It isn’t crucial to include them.

Please feel free to pass along any additional comments to members of the trig committee.
What Students Need to Know by Memory in Trigonometry

Following is a list of facts that students in all sections of trigonometry should memorize. During tests students should not be allowed to use notes or cards listing these, but should recall them by memory alone.

1. Definitions:
   \[ \sin \theta = \frac{y}{r} = \frac{\text{opposite}}{\text{hypotenuse}} \]
   \[ \cos \theta = \frac{x}{r} = \frac{\text{adjacent}}{\text{hypotenuse}} \]
   \[ \tan \theta = \frac{y}{x} = \frac{\text{opposite}}{\text{adjacent}} \]

2. The Pythagorean identities:
   \[ \sin^2 \theta + \cos^2 \theta = 1 \]
   \[ 1 + \tan^2 \theta = \sec^2 \theta \]
   \[ 1 + \cot^2 \theta = \csc^2 \theta \]

3. The quotient identities:
   \[ \tan \theta = \frac{\sin \theta}{\cos \theta} \quad \cot \theta = \frac{\cos \theta}{\sin \theta} \]

4. The numerical values of the sin, cos, and tan of those angles (whether the angle is given in degrees or radians):
   \[ \left\{ 0, \frac{\pi}{6}, \frac{\pi}{4}, \frac{\pi}{3}, \frac{\pi}{2}, \pi, \frac{3\pi}{2} \right\} \]

5. The arc length formula: \( s = r \theta \).

6. The double-angle formulas:
   \[ \sin(2A) = 2 \sin A \cdot \cos A \]
   \[ \cos(2A) = \cos^2 A - \sin^2 A \]
   \[ \cos(2A) = 2 \cos^2 A - 1 \]
   \[ \cos(2A) = 1 - 2 \sin^2 A \]

7. The sum and difference formulas:
   \[ \sin(A \pm B) = \sin A \cdot \cos B \pm \sin B \cdot \cos A \]
   \[ \cos(A \pm B) = \cos A \cdot \cos B \mp \sin A \cdot \sin B \]

8. The graphs of the six trig functions. (Most important: sine, cosine and tangent.)

9. The Law of Sines:
   \[ \frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C} \]

10. The Law of Cosines:
    \[ a^2 = b^2 + c^2 - 2bc \cos A \]
Suggested Assignments for MATH 1316 (Lial, et. al. 8th edition)

1.1: # 1, 2, 3, 4, 13, 17, 19, 23, 25, 31, 33, 37, 45, 49, 53, 59, 61, 63, 65, 69, 71, 73, 75, 77, 78
1.2: # 1, 3, 5, 11, 13, 15, 17, 21, 23, 25, 27, 37, 39, 41, 45, 51, 57, 67, 69
1.3: # 1, 3, 5, 7, 9, 13, 14, 15, 17 - 24, 33, 35, 37, 39, 41, 47, 49, 50
1.4: # 1, 2, 4, 5, 6, 9, 11, 14, 15, 16, 22, 25, 29 - 37, 39, 41, 47, 49, 51, 53, 55, 56, 57, 61, 63, 65, 66, 71, 72, 74, 82
2.1: # 5, 13, 20, 21, 23, 27, 30, 35, 36, 37, 38, 41, 42, 45-48, 54-60, 64, 65
2.2: # 5, 6, 7, 8, 10 - 17, 19, 21, 27, 31, 35, 38 - 41, 44 - 47, 50 - 55, 61 - 66
2.3: supplement: # 1, 3, 7, 11, 13, 17, 19, 23, 27, 35, 39, 42
2.4: # 1, 5, 9, 13, 15, 17, 21, 23, 27, 31, 35, 37, 39, 41, 43, 45, 47, 49
2.5: # 1, 2, 3, 13, 15, 16, 17, 21, 27, 32, 33, 35
3.1: # 5, 11, 13, 21, 27, 29, 35, 37, 45, 47, 49, 50, 57 - 70, 72 - 76, 78
3.2: # 3, 5, 9, 13, 20, 21, 23, 24, 27, 31, 35, 39, 41, 45, 46, 47
3.3: # 7, 10, 17, 22, 25, 30, 35, 37, 39, 45, 52, 53, 56, 57, 63, 66, 69, 73, 74
3.4: # 5, 8, 10, 15, 25, 26, 29, 33, 35, 37, 38, 40, 42, 43, 44
4.1: # 1, 9, 11, 13, 15, 17, 20, 21, 23, 25, 27, 33, 43 - 47, 50, 51, 53
4.2: # 1 - 11, 13, 14, 15, 17, 19, 21, 23, 25, 27, 29, 33, 35, 37, 39, 41, 43, 45, 47
4.3: # 1, 2, 6, 7, 11, 15, 23, 26, 27, 37, 39, 40, 48, 51, 53, 57
4.4: # 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21
5.1: # 1, 2, 4, 5, 9, 11, 18, 21, 23, 25, 29 - 33, 41, 49, 53, 59, 65, 67
5.2: # 1, 3, 5, 13, 15, 17, 19, 21, 33, 35, 39, 41, 43, 45, 49, 53, 55
5.3: # 5, 9, 11, 13, 27, 29, 33, 35, 37, 39, 47, 49, 52, 53, 55, 63, 65, 67
5.4: # 1, 3, 5, 7, 11, 15, 17, 23, 27, 31, 38, 41, 43, 47, 50, 52, 53, 55, 57, 61
5.5: # 1, 5, 9, 13, 15, 17, 19, 21, 25, 30, 37, 41, 45, 49, 53, 57
5.6: # 3, 9, 11, 15, 19, 21, 23, 27, 29, 33, 35, 39, 49, 51, 55, 57
6.2: # 11, 13, 15, 17, 19, 21, 23, 25, 27, 31, 33, 35, 41 - 43, 47, 52, 53, 56, 58
6.3: # 7, 9, 16, 19, 21, 23, 25, 27, 33, 36, 40, 46, 47
6.4: # 5, 7, 9, 11, 15, 17, 23, 25, 31, 33, 34, 37, 45, 48, 49
7.1: # 3, 7, 9, 15, 28, 29, 37, 41, 43, 52, 55
7.2: # 3, 5, 7, 9, 13, 17, 27, 35
7.3: # 9, 13, 20, 35, 39, 41, 52, 53, 57, 59, 61, 75
7.4: # 1, 2, 5, 8, 9, 10, 11, 15, 29, 33, 35, 37, 38, 43, 45, 53, 56, 62, 67, 71, 75, 77, 81, 83, 85, 89, 91
7.5: # 3, 5, 7, 9, 10, 15, 19, 21, 23, 24, 26, 27, 29
8.5: # 3, 5, 7, 9, 13, 19, 21, 23, 25, 37, 39, 41, 45, 47, 49, 53, 59, 63, 67, 73, 75
8.6: # 2, 3, 5, 9, 11, 13, 15, 19, 23, 25, 27, 31, 33, 35, 39, 41, 45

The following sections are optional
8.2: # 3, 4, 7, 9, 15, 18, 19, 23, 25, 27, 30, 31, 33, 37, 39, 47, 49, 51, 53, 59, 60, 61, 63
8.3: # 3, 9, 11, 15, 19, 21, 25
8.4: # 1, 5, 13, 15, 27, 29, 33, 34, 36, 39, 41, 4
Solving Trig Equations, Supplement to Chapter 2, section 2

In 1 - 15, without using a calculator, but using the table you created, find all values of $\theta$, if $\theta$ is in the interval $[0^\circ, 90^\circ]$, and $\theta$ has the given function value.

1. $\sin \theta = \frac{\sqrt{2}}{2}$  
2. $\tan \theta = \frac{\sqrt{3}}{3}$  
3. $\cos \theta = \frac{1}{2}$  
4. $\cot \theta = 1$  
5. $\csc \theta = \sqrt{2}$

6. $\sin \theta = \frac{\sqrt{3}}{2}$  
7. $\csc \theta = \frac{2\sqrt{3}}{3}$  
8. $\sec \theta = \sqrt{2}$  
9. $\cot \theta = \sqrt{3}$  
10. $\cos \theta = \frac{\sqrt{3}}{2}$

11. $\sin \theta = 1$  
12. $\sin \theta = 0$  
13. $\tan \theta = 0$  
14. $\cot \theta = 0$  
15. $\cot \theta = 1$

In 16 - 43, without using a calculator, but using the table you created, find all values of $\theta$, if $\theta$ is in the interval $[0^\circ, 360^\circ]$, and $\theta$ has the given function value.

16. $\sin \theta = \frac{\sqrt{2}}{2}$  
17. $\tan \theta = \frac{\sqrt{3}}{3}$  
18. $\cos \theta = \frac{1}{2}$  
19. $\cot \theta = 1$  
20. $\csc \theta = \sqrt{2}$

21. $\sin \theta = \frac{\sqrt{3}}{2}$  
22. $\csc \theta = \frac{2\sqrt{3}}{3}$  
23. $\sec \theta = \sqrt{2}$  
24. $\cot \theta = \sqrt{3}$  
25. $\cos \theta = \frac{\sqrt{3}}{2}$

26. $\sin \theta = 1$  
27. $\sin \theta = 0$  
28. $\tan \theta = 0$  
29. $\cot \theta = 0$  
30. $\cot \theta = 1$

31. $\sin \theta = -\frac{\sqrt{2}}{2}$  
32. $\tan \theta = -\frac{\sqrt{3}}{3}$  
33. $\cos \theta = -\frac{1}{2}$  
34. $\cot \theta = -1$  
35. $\csc \theta = -\sqrt{2}$

36. $\sin \theta = -\frac{\sqrt{3}}{2}$  
37. $\csc \theta = -\frac{2\sqrt{3}}{3}$  
38. $\sec \theta = -\sqrt{2}$  
39. $\cot \theta = -\sqrt{3}$  
40. $\cos \theta = -\frac{\sqrt{3}}{2}$

41. $\sin \theta = -1$  
42. $\csc \theta = -1$  
43. $\sec \theta = -1$

Answer Key: (All answers are angle measurements in degrees.)

1. 45  
2. 30  
3. 60  
4. 45  
5. 45  
6. 60  
7. 60  
8. 45  
9. 30  
10. 30  
11. 90  
12. 0  
13. 0  
14. 90  
15. 0  
16. 45, 135  
17. 30, 210  
18. 60, 300  
19. 45, 225  
20. 45, 135  
21. 60, 120  
22. 60, 120  
23. 45, 315  
24. 30, 210  
25. 30, 330  
26. 90  
27. 0, 180, 360  
28. 0, 180, 360  
29. 90, 270  
30. 0, 360  
31. 225, 315  
32. 150, 330  
33. 120, 240  
34. 135, 315  
35. 225, 315  
36. 240, 300  
37. 240, 300  
38. 135, 225  
39. 150, 330  
40. 150, 210  
41. 270  
42. 270  
43. 180
Prerequisites for Calculus

There are two calculus sequences at ACC (and at most colleges) -- Business Calculus and Calculus. The prerequisite sequence is different for these. Depending on background, students may start the prerequisite sequence at different places

- Intermediate Algebra (MATD 0390)
- College Algebra (MATH 1314)
- *Trigonometry (MATH 1316)
- Precalculus (MATH 2412)
- Calculus I (MATH 2413)
- Calculus II (MATH 2414)
- Calculus III (MATH 2415)

- Intermediate Algebra (MATD 0390)
- Math for Bus & Eco (MATH 1324)
- College Algebra (MATH 1314)
- Business Calculus I (MATH 1425)
- Business Calculus II (MATH 1426)

**Where to start:** The only way that students may skip courses in a sequence is to begin higher in the sequence, based on current knowledge of material from high school courses.

1. A student who needs a review of high school Algebra II will start in Intermediate Algebra (or below.)
2. A student who completed high school Algebra II, but no higher, and whose assessment test score indicates that he/she remembers that algebra, will start in College Algebra or Math for Business & Economics. A substantially higher assessment test score enables the student to start in Trigonometry.
3. A student who completed some precalculus, elementary analysis, or trigonometry in high school, and whose assessment test score indicates that he/she remembers algebra, is eligible to start higher in the sequence than College Algebra. Check the catalog or the math web page.

* The material in the Trigonometry course requires that students are quite adept with the skills from high school Algebra II (Intermediate Algebra). Some students will achieve that level of skill in the College Algebra course if their placement score is high enough, while others need an additional semester of work on algebra that is done in two courses, Intermediate Algebra and College Algebra.

** Some students who are very successful in College Algebra are tempted to skip either Trigonometry or Precalculus and enroll in Calculus I. That is not acceptable. Trigonometry topics are essential to success in Calculus, and while it is true that the topic list for Precalculus has only a few additions from the topic list for College Algebra, the level of sophistication of the presentation and the problems on all topics is greater in Precalculus. That increased sophistication is necessary for an adequate background for the Calculus sequence.

*** Notes about the Business sequence: Texas State University requires Math for Business and Economics and Business Calculus I. Students who will attend the UT College of Business must complete the entire Business Calculus sequence before transferring. For more information, including requirements for UT economics students, see [http://www.austinecc.edu/mathdept2/notes/1425.html](http://www.austinecc.edu/mathdept2/notes/1425.html)

*** For additional information, including prerequisite review sheets for most courses, see [http://www.austinecc.edu/math/](http://www.austinecc.edu/math/)
First Day Handout for Students

MATH 1316 TRIGONOMETRY Session (Fall/Spr/Sum 2006/7)
Synonym & Section: Time: Room:

Instructor: Office: Office Hours:
Office Phone: Other times by appointment
E-mail:
Web page: (if any)

COURSE DESCRIPTION
MATH 1316 TRIGONOMETRY (3-3-0). This course is designed for students majoring in mathematics, science, engineering, or certain engineering-related technical fields. Content includes the study of trigonometric functions and their applications, trigonometric identities and equations, vectors, polar coordinates and equations, and parametric equations. Prerequisites: MATH 1314 with a C or better. A second option is an appropriate secondary school course (one semester of precalculus or trigonometry) and a satisfactory entrance score on ACC's Mathematics Assessment Test. A third option is an appropriate higher score on ACC's Mathematics Assessment Test. (MTH 1753) Course Type: T

REQUIRED TEXTS/MATERIALS

Optional materials:
- MyMathLab online software (includes an electronic version of the text, multimedia learning aids such as videos and animations, and practice tests that generate a personalized study plan) To use MyMathLab, you'll need your own access number and the Course ID. Most students in MATH 1316 who use this software use the course ID acc45960. If your class uses a different course ID number for optional work, your teacher will tell you.

Purchase options:
- Purchase the required textbook alone, either used or new, from a local bookstore.
- The publisher provides a value package to the bookstores for the same price as the new textbook alone. The value package includes a new copy of the required text, the Student Solution Manual, MyMathLab software, a review of algebra, and a digital video tutor. These will be available in the local bookstores. The ISBN for this package is 0-321-29471-8
- MyMathLab can be purchased alone online for $44.95 from http://www.mymathlab.com/buying.html

Calculator: Students need either a scientific or business calculator. If a student cannot purchase one, calculators are available from the library. Graphing calculators are NOT required, but you will use graphing technology in some sections of the book. Most ACC faculty are familiar with the TI family of graphing calculators. Hence, TI calculators are highly recommended for student use. Other calculator brands can also be used. Your instructor will determine the extent of calculator use in your class section.

INSTRUCTIONAL METHODOLOGY
This course is taught in the classroom primarily as a lecture/discussion course.
COURSE RATIONALE
This course, intended for mathematics, science, and engineering majors, is designed to prepare students for the calculus sequence. The six trigonometric functions are studied with the goals of developing a deeper understanding of both general function behavior and periodic function behavior, exploring those applications that have trigonometric models, and acquiring further proficiency with symbol manipulation.

COURSE EVALUATION/GRADING SCHEME
Grading criteria must be clearly explained in the syllabus. The criteria should specify the number of exams and other graded material (homework, assignments, projects, etc.) Instructors should discuss the format and administration of exams. Guidelines for other graded materials, such as homework or projects, should also be included in the syllabus.

COURSE POLICIES
The syllabus should contain the following policies of the instructor:
Missed exam policy
Late work policy (if applicable)
Class participation expectations
Reinstatement policy (if applicable)
Student discipline

Attendance Policy: Include YOUR attendance policy, even if it is that attendance is not required. (If you make attendance required, the Math Department recommends the following statement: Attendance is required in this course. Students who miss more than 5 classes may be withdrawn although the instructor makes no commitment to do so.)

Withdrawal Policy: It is the student's responsibility to initiate all withdrawals in this course. The instructor may withdraw students for excessive absences (5) but makes no commitment to do this for the student. After the last day to withdraw, (insert date), neither the student nor the instructor may initiate a withdrawal.

Incomplete Grade Policy: Incomplete grades (I) will be given only in very rare circumstances. Generally, to receive a grade of "I", a student must have taken all examinations, be passing, and after the last date to withdraw, have a personal tragedy occur which prevents course completion.

COMMON COURSE OBJECTIVES: Common course objectives should be included. They can be found at: http://www2.austin.cc.tx.us/mthdept2/tfcourses/obj1316.htm

Course-Specific Support Services: Sometimes sections of MATH 0155(1-0-2) are offered. This lab is designed for students currently registered in Trigonometry MATH 1316. It offers individualized and group setting to provide additional practice and explanation. This course is not for college-level credit. Repeatable up to two credit hours.
ACC main campuses have Learning Labs which offer free first-come first-serve tutoring in mathematics courses. The locations, contact information and hours of availability of the Learning Labs are posted at: http://www.austincc.edu/tutor (Give Learning Lab Room # at your campus.)

Include the following policies that are listed at beginning of Math Manual. Go to www.austincc.edu/mthdept5/mman06/statements.html

Statement on Scholastic Dishonesty

Statement on Scholastic Dishonesty Penalty.

Statement on Student Discipline.
**Statement on Students with Disabilities**
Instructors are also encouraged to add a statement about the letter of accommodation such as:
Students who are requesting accommodation must provide the instructor with a letter of accommodation from the Office of Students with Disabilities (OSD) at the beginning of the semester. Accommodations can only be made after the instructor receives the letter of accommodation from OSD.

**Statement on Academic Freedom**

**TESTING CENTER POLICY:** ACC Testing Center policies can be found at: [http://www.austintec.edu/testctr/](http://www.austintec.edu/testctr/)

**STUDENT SERVICES:** The web address for student services is: [http://www.austintec.edu/rss/index.htm](http://www.austintec.edu/rss/index.htm)

The ACC student handbook can be found at: [http://www.austintec.edu/handbook](http://www.austintec.edu/handbook)

**INSTRUCTIONAL SERVICES:** The web address is: [http://www.austintec.edu/faculty/newsemester/](http://www.austintec.edu/faculty/newsemester/), then click on “Campus Based Student Support Overview”.

**Calendar/Syllabus/Suggested Testing Schedule:**

<table>
<thead>
<tr>
<th>16-Week Semester</th>
<th>11-Week Semester</th>
<th>5.5-Week Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1: 1.1, 1.2,</td>
<td>Week 1: 1.1, 1.2, 1.3,</td>
<td>Week 1: 1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 2.3, 2.4</td>
</tr>
<tr>
<td>Week 2: 1.3, 1.4, 2.1</td>
<td>Week 2: 1.4, 2.1, 2.2, 2.3</td>
<td>Week 2: 2.5 Test 1 (chs. 1&amp;2)</td>
</tr>
<tr>
<td>Week 3: 2.2, supplement, 2.3, 2.4</td>
<td>Week 3: 2.4, 2.5, Test 1 (chs.1&amp;2)</td>
<td>Week 3: 4.1, 4.2, 4.3, 4.4 Test 2 (chs. 3&amp;4), 5.1, 5.2</td>
</tr>
<tr>
<td>Week 4: 2.5, Test 1 (chs. 1&amp;2)</td>
<td>Week 4: 3.1, 3.2, 3.3, 3.4, 4.1</td>
<td>Week 4: 5.4, 5.5, 5.6, 6.1, 6.2, 6.3</td>
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<tr>
<td>Week 5: 3.1, 3.2, 3.3</td>
<td>Week 5: 4.1, 4.2, 4.3, 4.4 Test 2 (chs. 3&amp;4), 5.1, 5.2, 5.3</td>
<td>Week 5: 6.4, Test 3 (chs. 5&amp;6),7.1, 7.2, 7.3, 7.4, 7.5, 8.5</td>
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<tr>
<td>Week 6: 3.4, 4.1, 42</td>
<td>Week 6: Test 2(chs. 3&amp;4) 5.1, 5.2</td>
<td>Last ½ Week: 8.6 (required),</td>
</tr>
<tr>
<td>Week 7: 4.3, 4.4</td>
<td>Week 7: 5.3, 5.4, 5.5</td>
<td>8.2 - 8.4(optional),</td>
</tr>
<tr>
<td>Week 8: Test 2 (chs. 3&amp;4), 5.1, 5.2</td>
<td>Week 8: 6.4, Test 3 (chs. 5&amp;6),7.1, 7.2, 7.3, 7.4, 7.5, 8.5</td>
<td>Test 3 (chs. 7 &amp;8 or Comprehensive)</td>
</tr>
<tr>
<td>Week 9: 5.6, 6.1</td>
<td>Week 9: 5.5, 5.6</td>
<td>Please note: Schedule changes may occur during the semester. Any changes will be announced in class.</td>
</tr>
</tbody>
</table>