MAC1114 Trigonometry
Spring 2013

Instructor: Jennifer Denson

Class Website: http://www.hccfl.edu/faculty-info/jdenson3/mac-1114.aspx

Contact Information:
Email: jdenson3@hccfl.edu

1. Please try to find the answers to our informational questions on the class website BEFORE sending an email to me. There is a frequently asked questions link that you will find helpful.

2. Please include your name, your student ID, the class that you are enrolled in, and the question that you need answered in all emails.

3. Emails missing your name or the class you are enrolled in may not be answered.

4. Emails sent through WebAssign will not be responded to.

5. Always email through your hawknet account. Emails sent through a personal email account will not be responded to.

6. Emails containing profanity, hostile, or insulting language will not be responded to. All subsequent emails will be immediately spammed.

Office: BTECH 112
Office Hours: TR 9:30-10:45am; MTWR 12:15-1pm; W 2:15-2:45pm; online

Class Schedule:

<table>
<thead>
<tr>
<th>Section</th>
<th>Day/Time</th>
<th>Location</th>
<th>WebAssign Course ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>38211</td>
<td>TR 2:30-3:45PM</td>
<td>BACA107A</td>
<td>hccfl 4318 2895</td>
</tr>
</tbody>
</table>

Course Description: (Continued)

Topics include trigonometric functions of real numbers, radians and angles, identities in one and two variables, applications to oblique triangles, right triangles, and polar representation of complex numbers. Topics also include trigonometric equations and vectors in the plane. This course satisfies the Gordon Rule requirement for mathematics. Prerequisite: MAC1105 with a grade of C or better, or a required score on the HCC placement test.

Textbook and Materials:

2. Graphing calculator. (No symbolic calculators, such as the TI-89, TI-89+, TI-92, HP48, or TI-Inspire).
3. WebAssign Student Access Code
4. Class key for WebAssign: hccfl 4408 4043

Grading System:  Grading Scale:

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
<th>Grade</th>
<th>Grade Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exams 1-4</td>
<td>60%</td>
<td>A</td>
<td>100-90%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>10%</td>
<td>B</td>
<td>80-89%</td>
</tr>
<tr>
<td>3 Highest Quizzes</td>
<td>10%</td>
<td>C</td>
<td>70-79%</td>
</tr>
<tr>
<td>3 Highest Activities</td>
<td>10%</td>
<td>D</td>
<td>60-69%</td>
</tr>
<tr>
<td>Homework</td>
<td>10%</td>
<td>F</td>
<td>0-59%</td>
</tr>
</tbody>
</table>
Instructional Methods:

1. **Exams. There will be no makeup exams.**
   There will be four in-class exams and one final exam. The average of the four in class exam grades is 60% of your final grade in the course; the final is 10% of your final grade in the course. If you miss a test, the grade for that test could be replaced by the grade from your final exam. If you take all the tests and score higher on the final exam than your lowest test score, the final exam grade will replace your lowest test score if you are eligible. More than one test missed will mean a zero on that test.

2. **Quizzes. There will be no makeup quizzes.**
   There will be four online quizzes, given **online through WEBASSIGN.** The average of your quizzes will be 10% of your overall grade. The **lowest quiz grade will be dropped**, so that you can miss one quiz without affecting your grade.

3. **Homework. There will be no makeup homework.**
   Homework assignments for each section will be online through WEBASSIGN. The average of your homework grades will be 10% of your final grade in the class. It is very important that students register themselves in their WEBASSIGN program within the first 2 days of class. If any student has any difficulty with his or her home computer, he or she may go to any Brandon Campus computer lab, the Math Lab (BLRC 200) or Student Success Center (BACA 207) and use the school computers to do the online homework.

4. **Activities. There will be no makeup activities.**
   There will be four activities; the average of your activity grade will be 10% of your final grade in the class. You may use your notes and/or book to do these activities. The lowest activity grade will be dropped, so you will be allowed to miss one activity during the semester without penalty.

**ACADEMIC SUCCESS CENTER:**
The Math Lab is located in BLRC 200. The Math Lab phone number is 253 – 7839. All services are free to HCC students! The Math Lab will be open to all students on a walk-in basis, but each student will need to sign in every time they enter the lab. In order for students to receive consistent instruction, students need to bring with them their class notes when requesting assistance.
Course Policies:

1. *There will be no makeup exams, quizzes, activities, or homework.

2. *There will be no extension of due dates on exams, quizzes, activities, or homework for individual students. All assignments must be completed by the due date. Once the due date has passed, the assignment can not be completed for credit.

3. The only possible extra credit points are the bonus question on the exams. THERE ARE NO ADDITIONAL EXTRA CREDIT OPPORTUNITIES IN THIS CLASS. Emails requesting extra credit opportunities WILL NOT be answered.

4. Bring a calculator and writing utensil to each exam.

5. ALL WORK MUST BE SHOWN ON EACH PROBLEM FOR FULL CREDIT. Exact answers must be given for full credit on problems, except when students are instructed to round. This holds for all exams, quizzes, activities, and projects.

6. Students must check their official HCC email address for course announcements. Students must also check the course website for course announcements and course materials.

7. You must submit the quiz once you have started it. Once you are in a quiz, the following actions will end your attempt to complete the quiz and a zero will be issued for that quiz:
   a. x out of the quiz
   b. Close the quiz and come back later.
   c. Open a new browser window on the same computer while the quiz is running
   d. Walk away for an extended amount of time and begin it later.

   If you do not click submit on a quiz, you will be locked out of the quiz and all future assignments. If you become locked out of quizzes/hw you must email me. Lockouts after quiz 1 will result in automatic zeros.

8. If you do not click on a course compass assignment before the due date has passed, then you can not open the assignment after the due date. Assignments will not be opened for students to view after due dates have passed.

9. All grade corrections (hw/quiz/activity/test/project…) must occur by the end of your final exam. Grade corrections will not made once your final exam is submitted.

10. The grades posted in MML/WebAssign do not reflect your overall grade in this course, nor do they reflect your correct homework average nor your correct quiz average.

* These policies hold under all conditions, including but not limited to death, illness, computer issues, error in WebAssign or Course Compass, shut down or failures of WebAssign or Course Compass, compatibility issues with WebAssign or Course Compass, any and all other occurrences…The reason why you are allowed to drop a quiz and multiple attempts per quiz is to account for the above experiences. Same on HW. Same on Activites. The reason why the final can replace one test is to account for the above experiences.
### MAC 1114  TENTATIVE CLASS SCHEDULE

Last day to drop/add: January 11  
Last day to withdraw: March 20

<table>
<thead>
<tr>
<th>CLASS</th>
<th>DATE</th>
<th>SECTION/ EVENT</th>
<th>HW DUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1/8</td>
<td>6.1</td>
<td>1/23</td>
</tr>
<tr>
<td>2</td>
<td>1/10</td>
<td>6.2</td>
<td>1/23</td>
</tr>
<tr>
<td>3</td>
<td>1/15</td>
<td>6.3</td>
<td>1/23</td>
</tr>
<tr>
<td>4</td>
<td>1/17</td>
<td>7.1, 7.2</td>
<td>1/23</td>
</tr>
</tbody>
</table>
| 5     | 1/22  | Review; Activity 1 handed out in class  
Quiz 1 due in WebAssign (Covers 6.1 and 6.2) | 1/23   |
| 6     | 1/24  | Test 1  
Activity 1 due in class today. | 2/18   |
| 7     | 1/29  | 6.4                                                                           | 2/18   |
| 8     | 1/31  | 6.5, 6.6                                                                      | 2/18   |
| 9     | 2/5   | 6.6                                                                           | 2/18   |
| 10    | 2/7   | 7.3                                                                           | 2/18   |
| 11    | 2/12  | 7.4                                                                           | 2/18   |
| 12    | 2/14  | 7.5-7.6, short review  
Activity 2 handed out in class  
Quiz 2 due. WebAssign (Covers 6.4 – 6.6) | 2/18   |
| 13    | 2/19  | Test 2  
Activity 2 due in class today.                                              |        |
| 14    | 2/21  | 8.1                                                                           | 3/20   |
| 15    | 2/26  | 8.2                                                                           | 3/20   |
| 16    | 2/28  | 8.3                                                                           | 3/20   |
| 17    | 3/5   | 8.4                                                                           | 3/20   |
| 18    | 3/7   | 8.5                                                                           | 3/20   |
| 19    | 3/19  | Review; Activity 3 handed out in class  
Quiz 3. WebAssign (Covers 8.1-8.4)                                              |        |
| 20    | 3/21  | Test 3  
Activity 3 due in class today.                                              |        |
| 21    | 3/26  | 9.1, 9.2                                                                      | 4/17   |
| 22    | 3/28  | 9.2                                                                           | 4/17   |
| 23    | 4/2   | 9.2, 9.3                                                                      | 4/17   |
| 24    | 4/4   | 9.3                                                                           | 4/17   |
| 25    | 4/9   | 10.1                                                                          | 4/17   |
| 26    | 4/11  | 10.2                                                                          | 4/17   |
| 27    | 4/16  | 10.5                                                                           | 4/17   |
| 28    | 4/18  | Test 4  
Activity 4 due in class today.  
Quiz 4 due. WebAssign (Covers 9.1-9.3)                                          |        |
| 29    | 4/23  | Review                                                                        |        |
| 30    | 4/30  | Final Exam 3:30-5:20pm                                                      |        |
College Policies:

1. ACADEMIC DISHONESTY POLICY: The Mathematics Department at the Brandon campus follows the zero tolerance policy on cheating as described in the HCC Student Handbook. This includes cheating on any work that contributes to your grade. Students found violating this policy will receive a zero on that assignment that cannot be replaced and may be referred to Student Services for disciplinary actions.

2. Attendance Policy: Attendance will be taken every class. Absences in excess of 10% of the total class meetings may result in a failing grade. Also, these absences will result in veterans being reported to the VA. It is extremely important to be on time to class. All early departures should be discussed and cleared with the instructor prior to class. Students are always responsible for letting the instructor know they are present if they arrive in the classroom after the instructor has taken the attendance.

3. RECORDING OF CLASS SESSIONS: A student shall not, without my express authorization, make or receive any recording, including but not limited to audio and video recordings, of any class, co-curricular meeting, organizational meeting, or meeting with me. Further, it is not permissible to post my class lectures/course materials on the web.

4. REQUEST FOR ACCOMMODATIONS: Any student whose disability falls within the American Disabilities Act (ADA) and requires accommodations should contact the Office of Services for Students with Disabilities. The Brandon office is located in the Student Service Building Room 109. You may also reach the office by phone at (813) 253-7914. Requests for accommodations should be submitted to the instructor within the first two weeks of the course. Tests taken in the testing center must be taken before or during your normal class time.

5. Religious Observances: HCC will reasonably accommodate the religious observances, practices, and beliefs of students in its admissions, class attendance, and examination policies and work assignments. Students must notify instructors at least one week prior to a religious observance.

6. EQUITY/EQUAL ACCESS POLICY: Hillsborough Community College is an equal access/equal opportunity employer that makes employment and education-related decisions without regard to race, color, gender, religion, national origin, age, disability, sexual orientation, marital status or any other bias that is or may be prohibited by laws. In addition, the college does not discriminate in employment practices or in the admission and treatment of students. HCC is committed to equitable treatment for all students and employees and to a learning and working environment free of discrimination and harassment for current as well as future students and employees. The college provides equal educational opportunities for qualified individuals with disabilities and complies with, as well as, supports the Americans with Disabilities Act. HCC’s Equity Officer ensures compliance with federal and state laws prohibiting discrimination and sexual harassment. Employees and students who believe they have been a victim of discrimination or sexual harassment should contact: Dr. Joan B. Holmes, 813-253-7043, jholmes16@hccfl.edu

7. Incomplete: Before an incomplete grade is given, all of the following requirements must be satisfied:
   1. You must have completed more than two-third of the course.
   2. You must have a “C” average.
   3. You must provide written documentation justifying the request.

   INCOMPLETE GRADES MUST BE APPROVED BY THE INSTRUCTOR AND CONFIRMED BY THE ACADEMIC DEAN. Additional information regarding the incomplete policy can be found in the HCC Catalog.
Course Intended Outcomes:

1. Trigonometric Functions and Inverse Trigonometric Functions
   a. Understand degree (decimal and degree, minutes, seconds) and radian measure of angles and convert between the two.
   b. Solve problems involving arc length, area of a sector of a circle, and angular velocity.
   c. Define and understand the six basic trigonometric functions with angle and real number domains (right triangle and unit circle approaches.)
   d. Know the values of the six trigonometric functions for angles which are multiples of $\pi/6$ (30°) and $\pi/4$ (45°), and $\pi/3$ (60°) using co-terminal angles, reference angles, and/or reference triangles.
   e. Graph the six trigonometric functions and variations of these. Find the period, amplitude, and phase shift.
   f. Define and graph the inverse trigonometric functions, specifying domain and range.
   g. Find the value of inverse trigonometric functions.
   h. Construct trigonometric functions to model periodic phenomena and solve problems involving phenomena modeled by trigonometric functions.

2. Trigonometric Identities and Conditional Equations
   a. Know and apply the following identities: reciprocal, quotient, pythagorean, double angle, half-angle, sum and difference, product-to-sum and sum-to-product.
   b. Prove trigonometric identities.
   c. Solve trigonometric equations algebraically and graphically.

3. Solutions of Triangles
   a. Solve right triangles using the Pythagorean Theorem and the appropriate trigonometric functions.
   b. Solve oblique triangles using the law of sines or the law of cosines.
   c. Find the area of any triangle using the appropriate formula.
   d. Solve applications involving triangles.

Polar Coordinates, Trigonometric Form of Complex Numbers, and DeMoivre’s Theorem
   a. Plot points in a polar coordinate system.
   b. Convert between polar and rectangular coordinates for points and in equations.
   c. Graph curves defined by polar equations.
   d. Plot complex numbers in the complex plane.
   e. Convert between the rectangular and polar form of a complex number.
   f. Multiply and divide complex numbers using the polar form.
   g. Find powers and roots of a complex number using DeMoivres’ Therorem.

Vectors and Parametric Equations
   a. Covert between the rectangular and polar (magnitude, direction) descriptions of a vector in the plane.
   b. Find the resultant of a sum of vectors algebraically and geometrically.
   c. Find the dot product of vectors.
   d. Find the angle between two vectors.
   e. Resolve a vector in the plane into horizontal and vertical components.
   f. Use vectors to model and solve problems involving velocity and force.
   g. Perform operations on vectors in three dimensions including finding the cross product of two vectors in three dimensions.
   h. Graph the curve defined by a vector valued function and determine the corresponding parametric equation for the curve.