Instructor:  
Office:  
Email:  
Phone:  
Office hours:  

Prerequisite: MATH 109 with a grade of at least “C” or permission in writing of the instructor.

Scope: This course is designed for all students who need to take calculus but do not have the required background in trigonometry or whose major requires trigonometry or who wish to learn something just for the fun of it.

General Learning Outcomes

1. Use problem solving approaches to investigate and understand mathematical content.
2. Recognize and formulate problems from situations within and outside mathematics.
3. Formulate mathematical definitions and express generalizations discovered through investigations.
4. Use mathematical vocabulary, notation, and structure to represent ideas, describe relationships and model situations.
5. Read written presentations of mathematics with understanding.
6. Make and test conjectures.
7. Follow logical arguments.
8. Represent situations that involve variable quantities with expressions, equations and inequalities.
9. Operate on expressions and solve equations and inequalities.
10. Represent and analyze relationships.
11. Translate among tabular, symbolic and graphical representations of functions.
12. Use and analyze algorithms.

Specific Learning Outcomes: Upon successful completion of this course the student should be able to:

1. Define the trigonometric ratios and find these ratios for arbitrary angles.
2. State and apply the basic trigonometric identities.
3. Solve applications problems involving triangles.
4. Sketch graphs involving the trigonometric functions.
5. Understand and apply the inverse trigonometric functions.
7. Verify trigonometric identities.
8. Solve conditional trigonometric equations.
9. Graph equations in polar coordinates.
10. Perform operations with complex numbers utilizing their trigonometric form.

**Special Rules**
1. No cell phone usage during class.
2. Pagers will be turned off or kept inaccessible during class.
3. PDA's will be kept inaccessible during class.

**Required Texts**


Packaged materials include the course text and MyMathLab Student Access Kit. Before purchasing used materials, students are advised that the access code to MyMathLab included with the text purchase is required for the course and is nontransferable.

**Course Description and Operation:**

The course has an in-class component and an out-of-class component. The in-class component will be a combination of lectures, problem solving demonstrations, discussions, questions/answers (yours and mine) and short problem solving activities. In the out-of-class component, you are expected to read and review your notes and textbook, and complete homework problems. **MyMathLab**, a computerized interactive instructional support system, will be used for entering your homework answers (a special access code is required.) However, you’re expected to complete the homework using paper and pencil in a notebook, prior to entering answers into the system. The in-class exams will all be of the pencil and paper variety and the prior practice of writing out solutions will be invaluable. Without that practice, you will likely do well on the in-class exams.

Students who attend class regularly, complete assignments religiously, and utilize the available academic support resources including those available on-line or through the Department of Mathematics and Computer Science, Access and Success, Student Development Center, and the Office of Retention may expect to perform well on course quizzes, tests, and examinations. Consequently, they may expect to complete the course successfully.

Students in MATH 110 are expected to take full advantage of technology-base learning opportunities available through this course. Materials bundled with the required text includes a video lecture on each section of the text. Student Access Codes to MyMathLab allow students to access homework and quizzes as well as a variety of interactive support vehicles including video clips, additional examples, and interactive and animated presentations. Required homework and quizzes will be assigned, evaluated, and recorded on-line through MyMathLab. The access
codes provided with the purchase of the required text are nontransferable. **Students are advised to weight the costs to acquire valid access codes against potential savings before purchasing used course materials.**

There are several sections of MATH 110 taught by various faculty members. Students enrolled in all sections are expected to complete the common assignments independently. The University’s IT Department has ensured that all appropriate plug-ins have been installed on the machines in labs available to undergraduates. Students will find the MyMathLab logo on the desktop when they log in. Students who choose to utilize private machines for MyMathLab assume responsibility for proper installation of required plug-ins.

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Students will be required to maintain a notebook to document progress and organize materials. Students are expected to bring the notebook to class daily. Notebook sections are to include (1) lecture notes, (2) tests and quizzes, and (3) homework. Students will access homework assignments, quizzes, and some tests through MyMathLab. The software provides problems and support, students input solutions, and the software provides feedback. Students are expected to maintain handwritten records of the assigned problems as well as their detailed solutions. This useful habit will prove useful to students during tests: credit on tests is awarded for fully supported solutions, and no work shown implies that no credit will be awarded. Instructors as well as tutors will need students’ notebooks when providing assistance.

**Course description:**

There will be five (5) hour tests and one final exam. Each hour test is worth 100 points. The lowest test will be dropped. The final examination is cumulative and worth 200 points. On-line homework, on-line quizzes and in-class pop quizzes will total 100 points. The semester total is 700 points. It is the student’s responsibility whether to attend class or not and to accept the consequences of that decision. University policies are at the end of this syllabus.

There is only one way to learn trigonometry and that is by doing. Therefore, there will be many opportunities for the student to learn by doing. **The student is responsible for all material covered in lecture, homework and assigned readings.** Tests will be announced roughly one week ahead of time. **Tests may be made up provided the excuse is accepted by the instructor.** Should you know that you will miss a test, inform the instructor **ahead of time** and an alternate date & time will be arranged. All students who represent the school (like varsity athletes or concert choir members) shall submit their schedules to the instructor **ASAP.** Generally all graded material will be made available in class to the student within one week of its due date. The schedule for final examinations is set by the University. The final exam will be at 8am on 17 May 2011. **If you miss the final exam, the assigned grade will be zero.** Tests and the final examination are to be done solely by the student that signs his or her name to the paper and turns
it in for the grade. Attempts to circumvent this rule will be considered cheating. Generally, cheating earns the student a zero on the paper to be averaged in with his or her other grades. Cheating also causes a student not to learn the course material as well as they would otherwise, thus making all subsequent learning more difficult. The student invests time and money into this course. Each student is responsible for their learning and for their grade in this course. Each student earns whatever grade is assigned at the end of this course. Each student should, therefore, familiarize themselves with the various dates as given in the academic calendar. The instructor can and will give advice and be available for help, however it is the student who must make the decision and be responsible for the consequences of that decision. There is no reason a student who does the homework regularly, attends class and listens in class should get less than a satisfactory grade. Those students who do not do homework regularly, thinking to catchup on the eve of a test, or those who use the class to gossip or sleep, are only wasting their time and money.

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nb: It is recommended that you have or have access to a scientific calculator. Please make sure you know how to use it.

Course Outline and Weekly Course Coverage Calendar

Week 1
Trigonometric Functions (Chapter 6)
   6.1. Angles and Their Measurement
   6.2. Right Triangle Trigonometry
   6.3. Computing Values
Week 2
   6.4. Trigonometric Functions of General Angles
   6.5. Unit Circle
Week 3
   6.6 Graphs of Sine and Cosine Functions
   6.7 Graphs of Tangent, Cotangent, Secant, and Cosecant Functions
   6.8 Phase Shift; Sinusoidal Curve Fitting
   Test #1
Week 4
7  Analytic Trigonometry
   7.1 The Inverse Sine, Cosine and Tangent Functions
   7.2 Inverse Functions Continued
Week 5
   7.3 Trigonometric Identities
Week 6
   7.4 Sum and Difference Formulas
   7.5 Double Angle and Half-angle Formulas
   7.6 Skip
Week 7 (Mid-term)
   7.7 Trigonometric Equations (I)
7.8 Trigonometric Equations (II)

Test #2

Week 8

8 Applications of Trigonometric Functions
8.1 Applications Involving Right Triangles
8.2 The Law of Sines
8.3 The Law of Cosines

Test # 3

Week 9

9 Polar Coordinates; Vectors
9.1 Polar Coordinates

Week 10

9.2 Polar Equations and Graphs

Week 11

9.3 The Complex Plane; DeMoivre’s Theorem

Week 12

9.4 Vectors

Test #4

Week 13

10 Analytic Geometry
10.1 Conics

Thanksgiving Break

Week 14

10.2 The Parabola
10.3 The Ellipse

Week 15

10.4 The Hyperbola

Test #5

FINAL EXAM 7:00-8:50 P.M. on DECEMBER 13, 2011

(CHAPTERS AND SECTIONS COVERED ON TESTS ARE SUBJECT TO CHANGE)
**Grade Determination:** Final grades will be computed as a percentage of 700 points as described earlier in this syllabus

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<tr>
<th>Range of Scores</th>
<th>Letter Grade</th>
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<tr>
<td>90 - 100</td>
<td>A</td>
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<td>80 - 89</td>
<td>B</td>
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<td>65 - 79</td>
<td>C</td>
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<td>55 - 64</td>
<td>D</td>
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nb: While it is within the authority of the instructor to change this grade determination plan, the student should not base his or her final grade on that fact nor should anyone expect a change to occur.

nb: It is within the authority of the instructor to amend the course syllabus during the term. If changes are made, the students will be notified. Notice given during class is considered proper notice.

**University Dress Code**

Students are expected to exercise good judgment concerning appropriate dress for the classroom. Dressing appropriately in an environment that is conducive to learning requires that clothing not be distracting and is sufficient in quality and quantity to cover and protect the body (particularly in laboratories). Individual freedom of dress is upheld at UMES, but students should be respectful of sensitivities of others and recognize that dressing professionally is a part of training that UMES desires to provide. Attire that is more appropriate for the bedroom or night clubs should not be worn in the classrooms, as such may be distracting or offensive to others.

**Academic Honesty**

Students are expected to secure, read, and understand their rights and responsibilities relative to academic honesty under the *UMES Student Code of Conduct: Student Judiciary Manual* (http://www.umes.edu/students/UMESStudentCode2003.pdf). Students who cheat by violating the integrity of testing situations, copying the work of others, or representing as their own work that they did not actually do will result in a zero grade. Of course, students may appeal the decision of their instructor. This will require the instructor to register the incident formally to the Office of the Vice President for Student Affairs in accordance with established University policy and procedure.
Student Professional Code of Conduct

This Student Code of Conduct was created to support a productive and stimulating learning environment in all School of Business and Technology classes. The code is designed to help ensure a positive atmosphere for the vast majority of students who currently exhibit the professional standards detailed below.

- Students should exhibit professional classroom values and behavior by:
  - Engaging in appropriate communication and interaction.
  - Demonstrating trust, respect and civilities.
  - Approaching course content as important and necessary for success in business.
  - Engaging in responsible classroom activities such as:
    - turning off cell phone ringers
    - avoiding unnecessary talking
    - not reading outside material or doing other work during class

- Students should contribute to a positive learning environment by:
  - Arriving, attending, and departing class in a professional manner.
  - Taking responsibility for team and individual assignments.
  - Developing cooperative relationships with other students and faculty.

- Students should support a professional environment within the School of Business and Technology by:
  - Avoiding inappropriate language in and near classrooms and offices.
  - Refraining from unrealistic expectations in dealing with administration, faculty, and staff.

- Students must uphold the academic integrity standards as explained in the university’s on-line Undergraduate Catalog. Academic integrity is conceptualized as doing and taking credit for one’s own work. Violations of the university’s academic integrity standards include, but are not limited to:
  - Cheating in the classroom. Cheating includes using unauthorized sources of information and providing or receiving unauthorized assistance on any form of academic work.
  - Plagiarism. Plagiarism includes the copying of language, structure, ideas, or thoughts of another, and representing them as one’s own without proper acknowledgment.
  - Unauthorized Possession or Disposition of Academic Materials. Unauthorized possession or disposition of academic materials includes the unauthorized selling or purchasing of examinations or other academic work; stealing another student’s work; unauthorized entry to or use of material in a computer file; theft or mutilation of library materials; and using information from or possessing exams that an instructor did not authorize for release to students.
  - Falsification. Falsification encompasses any untruth, either verbal or written, in one’s academic work.
  - Facilitation of Cases of Academic Dishonesty. Facilitation of any act of academic dishonesty including cheating, plagiarism, and/or falsification of documents also constitutes violation of the university’s academic integrity.

  - Violations of the University of Maryland Eastern Shore’s academic integrity policies will be handled in accordance with the procedures discussed in the on-line Undergraduate Catalog.
UMES Policy for Class Attendance

1. The University expects all students to take full responsibility for their academic work and progress. All students must meet qualitative and quantitative requirements of each course in their curricula to progress satisfactorily. They are expected to attend classes regularly, for consistent attendance offers the most effective opportunity open to all students to gain command of the concepts and materials for their courses of study. Absences (whether excused or unexcused) do not alter what is expected of students qualitatively or quantitatively.

2. In many courses, in-class participation is an essential part of the work of the course, such as courses requiring group discussion, laboratories, clinics, public speaking or language conversation, or performance of particular skills. In other courses, occasional in-class assessments may occur, without prior notice.

3. The University will excuse absences of students that result from instances such as: illness (where the student is too ill to attend class), death in the immediate family, religious observance (where the nature of the observance prevents the student from being present during the class period), participation in University activities at the request of the University authorities, and compelling circumstances beyond the student’s control. Students requesting excused absences must furnish acceptable documentation to their course instructors to support their assertions that absences were the result of one of these causes. However, the nature of some courses will preclude makeup of assessments missed. In these cases, students will not be penalized for excused absences, grades will be computed on actual assessments as explained in the course syllabus. Otherwise, students with excused absences will be given an opportunity to make up missed assessments. The responsibility for granting excused absences and determining which assessments can be made up lies with the instructor of each individual course. Absences (whether excused or unexcused) do not relieve the students of their responsibility to complete the course assessments. Instructors are especially understanding in cases related to health and/or death, provided the student provides proper documentation.

4. Students must notify their instructors of the reason for any absences as soon as possible. When the reason for an absence is known in advance (for example, in cases of religious observance or participation in University activities at the request of University authorities), students must inform their instructors two weeks prior to the absence, if known that far in advance or immediately upon discovering the impending absence. Prior notification is particularly important in connection with examinations and other major assessments since failure to reschedule them before conclusion of the final examination period may result in loss of credits during the semester. Where the reason is not known in advance (for example in cases of health related emergencies or compelling circumstances beyond their control), students must inform their instructors as soon as possible after its development.

5. In cases of dispute, the student may appeal to the chair of the department offering the course within one week from the date of the refusal of the right to make-up assessment. In those cases where the instructor is the chair, the appeal may be made to the dean. The dean’s decision will be final in all cases. When permitted, a make-up assessment must be given on campus unless the published schedule or course description requires other arrangements. The make-up assessment must be held at a time and place mutually agreeable to both the instructor and the student. The make-up assessment must not interfere with the student’s regularly scheduled classes. In the event that a group of students requires the same make-up assessment, one make-up assessment time may be scheduled at the convenience of the instructor and the largest possible number of students involved, and a second make-up for the remaining group.

6. All students are expected to attend all classes. Excessive unexcused absences for any reason may result in either a low grade or course failure. All students will be considered excessively absent from a class if they miss a class more hours during the semester or term than the class meets each week. For example, a student should not miss (unexcused absences) a class that meets three hours per week more than three hours during the semester or term nor be absent from a class that meets one hour per week more than once during the semester or term.