Course Materials

- The course’s lecture notes found on the course website. These notes are available in .pdf format and it is considered a requirement that students bring the notes to class (in either print or digital form). This course will not use the university-wide text for MATH 112.
- Students will need a graphing calculator. Examples will be done using a TI-83/84 in class.
- The course website is located at http://pages.uoregon.edu/raies/teaching.html. Students will need to make frequent reference to this site as it is where relevant course materials and important dates will be posted.

Overall Course Structure

This course will follow what is called an inverted model. Students will be asked to read a section of the lecture notes before class. A small portion of class time will be dedicated to examples related to the reading. Students will spend the majority of class time, however, working together in small groups on their homework.

Homework

Each section of the lecture notes will have an associated homework assignment. Homework over the sections covered through Wednesday of a given week will be due Friday at 5:00pm. Homework should be written on the associated form and turned in to the instructor’s mailbox before it is due. Be sure to follow the instructions on the form to get full credit. Each student’s lowest homework score will be dropped.

Quizzes

Quizzes will be given at the end of class each Friday except during weeks when there is an exam. They will cover the same material as the homework that will be due the same day. The beginning of the day on Friday will be dedicated to questions from students and some relevant examples from the week. Each student’s lowest quiz score will be dropped.

Exams

There will be three exams throughout the term. A student must pass at least two of the exams in order to pass the class. Passing, for this purpose, means getting a D or higher, which means getting at least a 60%. There are two midterm exams. These exams are on Friday, May 2 (week 5) and Friday, May 30 (week 9). The final exam is on Thursday, June 12th at 10:15am. The dates of these exams are immutable.

Projects

There will be nine short group projects throughout the term. There will be a project due every Monday at 5:00pm starting the third week of the term. Students must work in groups of four to six and turn in one assignment for the whole group. For each project, the group will complete one of the challenge problems found within the lecture notes. The group should then print a copy of the project cover page found on the course website, follow the instructions, and turn the project in to the instructor’s mailbox before it is due. Each student’s lowest project score will be dropped.

The group may choose any of the challenge problems each week. There are only two restrictions. First, no student can do the same problem twice. Second, each student must submit at least one problem from each chapter by the end of the term. It is the students’ responsibility to arrange themselves in appropriately-sized groups. After the first project, the groups will be recorded and any subsequent changes to groups must be accepted by the professor before the next project. This is only to ensure that every student still has a group after changes are made.
Grades

Final grades are determined according to the standard scale with pluses and minuses given at my discretion. The graded materials throughout the course are weighted as follows:

- **Homework:** 15%
  There are 21 assignments. The lowest grade is dropped leaving 20 assignments; each worth 0.75% of the overall grade.
- **Quizzes:** 15%
  There are 8 quizzes. The lowest grade is dropped leaving 7 quizzes; each worth approximately 2.14% of the overall grade.
- **Projects:** 10%
  There are 9 projects. The lowest grade is dropped leaving 8 projects; each worth approximately 1.11% of the overall grade.
- **Midterms:** 30%
  There are two midterm exams; each worth 15% of the overall grade.
- **Final Exam:** 30%

Keep in mind that grades are not competitive; one student’s success in no way affects any other student’s grade. I encourage students to work and study together. Grades will be posted throughout the term on Blackboard.

Missed Grades

Late assignments are not accepted and late quizzes or exams are not administered except in the case of extreme circumstances that occur on the day that the particular grade is due. For example, a planned trip or appointment is not an acceptable reason to miss an exam. A car accident, sudden illness, or a death in the family are examples of acceptable reasons (among others). In the event of extreme circumstances, students are required to provide documentation. Documentation must include a date, a time, and the student’s name when applicable. Some valid excuses are difficult to document. **It is the student’s responsibility - not the instructor’s - to obtain and provide documentation.**

Contacting Me

The best way to contact me is by email and by attending office hours. Students who wish to meet with me but cannot come to office hours should set up an appointment. I have many times throughout the week that I am available for short periods; something can be arranged.

Student Conduct

The atmosphere in the classroom will often be conversational. This is by design; all I ask is that student’s attempt to stay on topic. Additionally, I do not mind things like food, laptops, cell phones, or anything else like that as long as it does not distract the other students. That being said, any student that is found to be a consistent distraction will be asked to leave for the sake of the other students.

Academic dishonesty is a serious issue and will be treated as such; quizzes and tests will be monitored carefully for cheating. Violations of the student conduct code result in inclusion of the incident on your student conduct record as well as academic sanctions such as failing grades on any coursework related to the violation or simply a failing grade in the course. There are no warnings.

Students with Special Circumstances

Students registered with Disability Services, spring-term athletes that will be missing class for games, or students with any other special circumstances of which I should be aware should come to me as soon as possible in the term so that proper arrangements can be made. **Students who are registered with AEC must come speak to me about testing arrangements before the end of the third week of the term.** Failure to do so may result in a delay of the use of testing accommodations.
Course Content

The course goals and learning outcomes as dictated by the department’s master syllabus are outlined below.

Course Goals: A student successfully completing the course should, in a general sense, have...

- the tools necessary to succeed in a trigonometry-based calculus course or discrete mathematics,
- facility modeling the mathematical topics described among the learning outcomes in words, then solve or simplify the relevant equations and/or expressions, and finally write a summary statement of the solution. In short, all of the learning outcomes should be incorporated with skill at mathematical modeling.

Learning Outcomes: A successful student can...

- identify a function as periodic from its definition,
- describe characteristics of periodic functions such as period, as well as amplitude and midline where applicable,
- describe the sine, cosine, and tangent functions from both unit circle and right triangle perspectives,
- describe the characteristics of the sine, cosine, and tangent as functions,
- calculate all angles and side lengths of both right and oblique triangles, given appropriate information,
- compute using both degrees and radians as measures of angles,
- use identities relating to the period of sine, cosine, tangent as well as identities relating to negative angles and the Pythagorean Identity,
- construct functional models from trigonometric, exponential, polynomial and rational expressions,
- engage in computations of, and conceptual facility with, elementary operations, composition, and inverses of functions at a more sophisticated level than as expected of a college algebra student,
- describe vectors in a mathematical and physical science context,
- add, subtract, and perform scalar multiplication on vectors,
- express n-tuples as 1-by-n vectors,
- find and interpret the dot product of two vectors as a measure of agreement between vectors.