MATH 2312.001 Pre-Calculus  
Department of Mathematics and Statistics  
Spring 2018

A. COURSE INFORMATION  
   Course number/section: 2312 / 001  
   Class meeting time: MWF 9-9:50am  
   Class location: CS 114  
   Final Exam: COMMON FINAL  
   (please make plan to be there, there will be no makeup neither taking early or late)

B. INSTRUCTOR INFORMATION  
   Instructor: Douglas A Johnson  
   Office location: Cl-367  
   Office hours: MW 1:30-2:45 PM, TR 11:00AM-12:15 PM  
   Telephone: TBA  
   e-mail: douglas.johnson@tamucc.edu  
   Appointments: Via email

C. COURSE DESCRIPTION:  
   A more rapid treatment of the material in MATH 1314 and MATH 1316, this course is designed for students who wish a review of the above material, or who are very well prepared. Functions, graphs, trigonometry, and analytic geometry.

D. PREREQUISITES AND COREQUISITES  
   Math1314 or placement into MATH 2312. Fall, Spring, Summer.

E. REQUIRED TEXTBOOK(S), READINGS AND SUPPLIES  
   A subscription to www.tamucc.mylabsplus.com is required for homework.  
   (A digital copy of the text is included with the subscription!)
   TEXT: Precalculus, A Right Triangle Approach, 5th Ed. by Lial, Hornsby, Schneider and Daniels.

F. STUDENT LEARNING OUTCOMES AND ASSESSMENT:  
   Assessment is a process used by instructors to help improve learning. Assessment is essential for effective learning because it provides feedback to both students and instructors. A critical step in this process is making clear the course’s student learning outcomes that describe what students are expected to learn to be successful in the course. The student learning outcomes for this course are
listed below. By collecting data and sharing it with students on how well they are accomplishing these learning outcomes students can more efficiently and effectively focus their learning efforts. This information can also help instructors identify challenging areas for students and adjust their teaching approach to facilitate learning.

Upon successful completion of this course, students will:
1. Demonstrate and apply knowledge of properties of functions.
2. Recognize and apply algebraic and transcendental functions and solve related equations.
3. Apply graphing techniques to algebraic and transcendental functions.
4. Compute the values of trigonometric functions for key angles in all quadrants of the unit circle measured in both degrees and radians.
5. Prove trigonometric identities.
6. Solve right and oblique triangles.

G. INSTRUCTIONAL METHODS AND ACTIVITIES

Methods and activities for instruction include:
- instructional presentation of new material and concepts,
- class discussion and problem solving analysis using critical thinking techniques,
- individual written assignments to enhance understanding of new concepts,
- discovery method techniques supported by a graphing calculator to view the effects of shifting and translation concepts on the trigonometric functions,

H. MAJOR COURSE REQUIREMENTS AND GRADING

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>% of FINAL GRADE</th>
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<tbody>
<tr>
<td>MidTerms (Top two grades)</td>
<td>50%</td>
</tr>
<tr>
<td>Homework, Quizzes &amp; Participation</td>
<td>25%</td>
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<tr>
<td>Final Exam</td>
<td>25%</td>
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There will be 3 MidTerms, the lowest grade of which will be dropped.

Attendance MANDATORY
Grading scale: A: 90 – 100, B: 80 – 89.99, C: 70 – 79.99, D: 60 – 69.99, F: 59.98 -

I. COURSE CONTENT/SCHEDULE:

<table>
<thead>
<tr>
<th>Ch</th>
<th>Linear Equations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td></td>
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<tr>
<td>1.4</td>
<td>Quadratic Equations</td>
</tr>
<tr>
<td>1.7</td>
<td>Inequalities</td>
</tr>
<tr>
<td>1.8</td>
<td>Absolute Value Equations and Inequalities</td>
</tr>
</tbody>
</table>
### Ch 2.1 Rectangular Coordinates and Graphs
### Ch 2.3 Functions
### Ch 2.4 Linear Functions
### Ch 2.6/2.7 Graphs of Basic Functions / Graphing Techniques
### Ch 2.8 Function Operations and Composition
#### Test 1

### Ch 3.1 Quadratic Functions and Models
### Ch 3.4 Graphs of Polynomial Functions
### Ch 3.5 Rational Functions

### Ch 4.1 Inverse Functions
### Ch 4.2 Exponential Functions
### Ch 4.3 Logarithmic Functions
### Ch 4.4 Evaluating Logarithms
### Ch 4.5 Exponential and Logarithmic Equations
### Ch 4.6 Applications and Models of Exponential Growth and Decay
#### Test 2

### Ch 5.2 Trigonometric Functions
### Ch 5.3 Evaluating trigonometric Functions
### Ch 5.4 Solving Right Triangles

### Ch 6.1 Radian Measure
### Ch 6.2 The Circular Functions
### Ch 6.3 Graphs of Sine and Cosine
### Ch 6.4 Translations of the Graphs of the Sine and Cosine Functions
### Ch 6.5 Graphs of the Tangent, Cotangent, Secant and Cosecant

### Ch 7.1 Fundamental Trigonometric Identities
### Ch 7.2 Verifying Trigonometric Identities
### Ch 7.3 Sum and Difference Identities
### Ch 7.4 Double-angle and Half-angle Formulas
### Ch 7.5 Inverse Circular Functions
### Ch 7.6 Trigonometric Equations

### Ch 8.1 The Law of Sines
### Ch 8.2 The Law of Cosines
#### Test 3

## J. COURSE POLICIES
- Respect for everyone and everything in the classroom is to be expected in the classroom at all times.
- Homework will primarily come through [www.tamu.cc.mylabsplus.com](http://www.tamu.cc.mylabsplus.com). You are expected to get a subscription in the first week.
● Cell phones must be turned OFF or put on silent and put away out of sight.
● All exams and the final are considered individual work. Copying another student’s paper or cheating of any kind will result in an F for the course and possible expulsion from the University. Do not do it!
● Collaboration on HOMEWORK is encouraged but make sure you understand the work that you are showing.

K. COLLEGE AND UNIVERSITY POLICIES
● Academic Integrity (University)
  University students are expected to conduct themselves in accordance with the highest standards of academic honesty. Academic misconduct for which a student is subject to penalty includes all forms of cheating, such as illicit possession of examinations or examination materials, falsification, forgery, complicity or plagiarism. (Plagiarism is the presentation of the work of another as one’s own work.) In this class, academic misconduct or complicity in an act of academic misconduct on an assignment or test will result in a failing grade.

● Classroom/Professional Behavior
  Texas A&M University-Corpus Christi, as an academic community, requires that each individual respect the needs of others to study and learn in a peaceful atmosphere. Under Article III of the student code of conduct, classroom behavior that interferes with either (a) the instructor’s ability to conduct the class or (b) the ability of other students to profit from the instructional program may be considered a breach of the peace and is subject to disciplinary sanction outlined in article VII of the student code of conduct. Students engaging in unacceptable behavior may be instructed to leave the classroom. This prohibition applies to all instructional forums, including classrooms, electronic classrooms, labs, discussion groups, field trips, etc.

● Statement of Civility
  Texas A&M University-Corpus Christi has a diverse student population that represents the population of the state. Our goal is to provide you with a high quality educational experience that is free from repression. You are responsible for following the rules of the University, city, state and federal government. We expect that you will behave in a manner that is dignified, respectful and courteous to all people, regardless of sex, ethnic/racial origin, religious background, sexual orientation or disability. Behaviors that infringe on the rights of another individual will not be tolerated.

● Deadline for Dropping a Course with a Grade of W (University)
  I hope that you never find it necessary to drop this or any other class. However, events can sometimes occur that make dropping a course necessary or wise. Please consult with your academic advisor, the Financial Aid Office, and me, before you decide to drop this course. Should dropping the course be the best course of action, you must initiate the process to drop the course by going to the Student Services Center and filling out a course drop form. Just stopping attendance and participation WILL NOT automatically result in your being dropped from the class. Please
consult the Academic Calendar ([http://www.tamucc.edu/academics/calendar/](http://www.tamucc.edu/academics/calendar/)) for the last day to drop a course.

- **Grade Appeals (College of Science and Engineering)**
  As stated in university procedure 13.02.99.C2.01, Student grade appeal procedures, a student who believes that he or she has not been held to appropriate academic standards as outlined in the class syllabus, equitable evaluation procedures, or appropriate grading, may appeal the final grade given in the course. The burden of proof is upon the student to demonstrate the appropriateness of the appeal. A student with a complaint about a grade is encouraged to first discuss the matter with the instructor. For complete details, including the responsibilities of the parties involved in the process and the number of days allowed for completing the steps in the process, see University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures. These documents are accessible through the University Rules website at [http://www.tamucc.edu/provost/university_rules/index.html](http://www.tamucc.edu/provost/university_rules/index.html), and the College of Science and Engineering Grade Appeals webpage at [http://sci.tamucc.edu/students/GradeAppeal.html](http://sci.tamucc.edu/students/GradeAppeal.html). For assistance and/or guidance in the grade appeal process, students may contact the chair or director of the appropriate department or school, the Office of the College of Science and Engineering Dean, or the Office of the Provost.

- **Disability Services**
  The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please call (361) 825-5816 or visit Disability Services in Corpus Christi Hall 116.

  If you are a returning veteran and are experiencing cognitive and/or physical access issues in the classroom or on campus, please contact the Disability Services office for assistance at (361) 825-5816. [http://disabilityservices.tamucc.edu/](http://disabilityservices.tamucc.edu/)

- **Statement of Academic Continuity**
  In the event of an unforeseen adverse event, such as a major hurricane and classes could not be held on the campus of Texas A&M University-Corpus Christi; this course would continue through the use of Blackboard and/or email. In addition, the syllabus and class activities may be modified to allow continuation of the course. Ideally, University facilities (i.e., emails, web sites, and Blackboard) will be operational within two days of the closing of the physical campus. However, students need to make certain that the course instructor has a primary and a secondary means of contacting each student.

### L. OTHER INFORMATION

- **Academic Advising**
  The College of Science & Engineering requires that students meet with an Academic Advisor as soon as they are ready to declare a major. The Academic Advisor will set up a degree plan,
which must be signed by the student, a faculty mentor, and the department chair. Meetings are by appointment only; advisors do not take walk-ins. Please call or stop by the Advising Center to check availability and schedule an appointment. The College’s Academic Advising Center is located in Center for Instruction 350 or can be reached at (361) 825-3928.

GENERAL DISCLAIMER
I reserve the right to modify the information, schedule, assignments, deadlines, and course policies in this syllabus if and when necessary. I will announce such changes in a timely manner during regularly scheduled lecture periods.