MATH 2312.001: Precalculus
Texas A&M University – Corpus Christi, Fall 2012

I. COURSE INFORMATION
Instructor: Vivian Marie Martinez
E-mail: vivian.martinez@tamucc.edu
Office location: CI 311
Office phone: leave message at (361)825-3754
Office hours: MW 4:50-6:50
Meeting place: CS 114
Meeting times: MW 7:00-8:15 pm

II. COURSE DESCRIPTION
As suggested by the catalog description (below), this course focuses on algebra and trigonometry concepts underpinning calculus. Topics include data analysis, functions, graphs, limits, trigonometry, exponential & logarithmic functions, other functions, and math modeling.

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.

III. PREREQUISITES for the COURSE
MATH 1314: College Algebra or placement into MATH 2312

IV. REQUIRED TEXTBOOKS and OTHER MATERIALS
• Precalculus, by Lial, Hornsby and Schneider, Pearson Addison Wesley, 4th Ed
• A graphing calculator
• Frequent access to high speed internet, word-processing, and spreadsheet software
• . MyMathLab is utilized to help student master a variety of algebraic skills in the course via online homework and quizzes.

V. STUDENT LEARNING OUTCOMES
At the end of the course the student should be able to:

On successful completion of this course students should be able to do the following [corresponding text book section numbers in brackets]:
1. Solve linear equations in one variable. [1.1]
2. Solve formulas for indicated variables. [1.1]
3. Solve applications of linear equations and problems involving linear modeling. [1.2]
4. Work with complex numbers. [1.3]
5. Solve equations using the quadratic formula. [1.4]
6. Solve problems involving quadratic modeling. [1.5 & 3.1]
7. Solve equations with rational expressions. [1.6]
8. Solve equations with radical expressions. [1.6]
9. Solve equations with absolute value expressions. [1.8]
10. Solve polynomial inequalities. [1.7]
11. Solve rational inequalities. [1.7]
12. Solve absolute value inequalities. [1.8]
13. Find radius, center, domain and range of the circle and graph it. [2.2]
14. Solve applied problems using distance and midpoint formulas. [2.1]
15. Decide whether a relation defines a function. [2.3]
16. Find domain and range of the function from the graph. [2.3]
17. Find domain of the function from the equation. [2.3]
18. Determine values for which a function is increasing, decreasing and/or constant. [2.3]
19. Graph linear functions. [2.4]
20. Find slope given a description of the line. [2.4, 2.5]
21. Given an equation, find slope and sketch the graph. [2.4, 2.5]
22. Find and interpret rate of change. [2.4, 2.5]
23. Find composition of functions. [2.8]
24. Analyze graphs of functions using transformations. [2.7 & 2.8]
25. Graph quadratic functions and find vertex (min/max), axis of symmetry, domain and range. [3.1]
26. Solve problems about quadratic models. [1.5 & 3.1]
27. Decide whether a function is one-to-one. [4.1]
28. Determine whether functions are inverses of each other. [4.1]
29. Use graph to find inverse function values. [4.1]
30. Use the change-of-base theorem. [4.4]
31. Use the product, quotient and power properties of logarithms. [4.3]
32. Solve exponential equations. [4.2 & 4.5]
33. Solve logarithmic equations. [4.3 & 4.5]
34. Use exponential expressions and functions to model and solve real world situations. [4.5 & 4.6]
35. Use logarithmic expressions and functions to model and solve real world situations. [4.5 & 4.6]
36. Evaluate trigonometric functions [5.1, 5.2 & 5.3]
37. Solve right triangles. [5.3 & 5.4]
38. Graph trigonometric functions [6.1 through 6.5]
39. Solve trigonometric equations. [7.6 & 7.7]
40. Solve problems involving trigonometric functions. [8.1 & 8.2]

VI. INSTRUCTIONAL METHODS and ACTIVITIES

The course will be a combination of instructional presentation of new material and concepts, whole-class discussion, individual investigations of mathematics, and optional one-on-one discussion time between students and the instructor outside of class. Students may be required to give individual or group presentations. All students are expected to actively engage in group and whole class activities with respect and perseverance.
VII. MAJOR COURSE REQUIREMENTS and ASSESSMENTS

Final course grades will be the weighted average of mean scores under the following weights:

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework</td>
<td>15%</td>
</tr>
<tr>
<td>Quizzes</td>
<td>5%</td>
</tr>
<tr>
<td>Exams</td>
<td>50%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>30%</td>
</tr>
</tbody>
</table>

Final weighted grades are rounded to the nearest percent. Those $\geq 90\%$ earn a letter grade of A, $\geq 80\%$ earn at least a B; $\geq 70\%$ earn at least a C; $\geq 60\%$ earn at least a D; $< 60\%$ earn an F.

**Homework** – Practice is an essential component of developing math skills. I will assign homework each class we meet.

**Exams** – Show your understanding of the most important concepts in the class through individual exams during regular class time. Make-up exams will not be given. But the final can replace the lowest test exam.

**Quizzes** – Be prepared to take a quiz each time you come to class. It is important you attend class *everytime* on time.

**Final Exam** – complete a comprehensive summative evaluation of your knowledge through an individual exam. The final exam cannot be made-up if missed.

VIII. COURSE OUTLINE (attachment of schedule)

**Course Policies**
Course grade will be based upon the percentage of the total possible points that a student earns and the following grading scale A: >90% of total points, B: >80% of total points, C: >70% of total points, D: >60% of total points.

Attendance is mandatory. Attendance will be checked each class period. I am available during regular office hours or through special arrangement.

Each student is expected to take notes during lectures, and keep a record of his/her assignments, tests and overall grades.

Campus will be closed on **Sep. 3rd** for Labor Day Holiday and during the Thanksgiving Holiday, which is **Nov. 22-23**.

Last day of classes is **Dec. 4th**.

**Dates to Remember**

**Fall 2012**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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</thead>
<tbody>
<tr>
<td>August 9, Thursday</td>
<td>Last day to apply for December 2012 graduation</td>
</tr>
<tr>
<td>August 20, Monday</td>
<td>Faculty Start Date</td>
</tr>
<tr>
<td>August 22, Wednesday</td>
<td>Classes begin</td>
</tr>
<tr>
<td>August 29, Wednesday</td>
<td>Last day to register or add a class</td>
</tr>
<tr>
<td>September 3, Monday</td>
<td>Labor Day Holiday</td>
</tr>
<tr>
<td>November 2, Friday</td>
<td>Last day to drop a class</td>
</tr>
<tr>
<td>November 22-23, Thursday-Friday</td>
<td>Thanksgiving Holidays</td>
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<tr>
<td>Date</td>
<td>Event</td>
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</tr>
<tr>
<td>December 3, Monday</td>
<td>Last day to withdraw from the University</td>
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<tr>
<td>December 4, Tuesday</td>
<td>Last day of classes</td>
</tr>
<tr>
<td>December 5, Wednesday</td>
<td>Last day to apply for May 2013 graduation</td>
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<tr>
<td>December 6-7, Thursday-Friday</td>
<td>Reading Day</td>
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<tr>
<td>December 10-12, Monday-Wednesday</td>
<td>Final examinations</td>
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<tr>
<td>December 13-14, Thursday-Friday</td>
<td>Grading days</td>
</tr>
<tr>
<td>December 15, Saturday</td>
<td>Fall Commencement</td>
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IX. CLASS POLICIES

**Attendance/Tardiness.** You’re expected to attend every class session, arrive on time, and complete all in-class activities. If you need to miss part or all of a class session, please contact me before class or as soon as possible. Email is usually best.

**Late Homework.** Homework will usually be due weekly, and will be subject to “hard deadlines” set through the homework website. No partial credit or extensions are allowed for homework, but your two lowest homework scores will be dropped from the grading.

**Cell Phones/Electronic Devices.** Please silence electronic devices during class and step out of class to use them. You may not use any personal electronic device during exams.

**In-Class Activities.** Please take responsibility for the learning of yourself and the others around you in class. By maintaining a spirit of respect and challenge, you can expect classroom activities to be inviting, lively, and challenging.

**Dropping a class.** 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 me before you decide to drop to be sure it is the best thing to do. 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 & participation WILL NOT automatically result in your being dropped from the class.**

**Academic integrity.** 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 minimum of a 0 on the assignment or test.

**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 or visit Disability Services at (361) 825-5816 in Driftwood 101. 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.

**Grade appeals process.** As stated in University Rule 13.02.99.C2, Student Grade Appeals, 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 Rule 13.02.99.C2, Student Grade Appeals, and University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures. These documents are accessible through the University Rules Web site at tamucc.edu/provost/university.rules. For assistance and/or guidance in the grade appeal process, students may contact the Office of Student Affairs.

**Classroom 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.

**Changes.** The instructor may amend the syllabus by announcing the changes in class.

**Final Schedule:**  
*Final Exam Mon Dec. 10  7:15pm-9:45 pm*

### Fall 2012 Exam Schedule

<table>
<thead>
<tr>
<th>FINAL EXAM TIME</th>
<th>Meet time</th>
<th>Meet time</th>
<th>Meet time</th>
<th>Meet time</th>
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<th>Meet time</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 a.m. - 10:30 a.m.</td>
<td>8:00 TR</td>
<td>8:00 MWF</td>
<td>9:00 S</td>
<td>9:00 MWF</td>
<td>9:30 TR</td>
<td>10:00 MWF</td>
</tr>
<tr>
<td>11:00 a.m. - 1:30 p.m.</td>
<td>11:00 TR</td>
<td>11:00 MWF</td>
<td>12:00 S</td>
<td>12:00 MWF</td>
<td>12:30 TR</td>
<td>1:00 MWF</td>
</tr>
<tr>
<td>1:45 p.m. - 4:15 p.m.</td>
<td>2:00 TR</td>
<td>2:00 F</td>
<td>2:00 MW</td>
<td>3:30 TR</td>
<td>3:30 MW</td>
<td></td>
</tr>
<tr>
<td>4:30 p.m. - 7:00 p.m.</td>
<td>4:20 R</td>
<td>4:20 M</td>
<td>4:20 T</td>
<td>4:20 W</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7:15 p.m. - 9:45 p.m.</td>
<td>7:00 R</td>
<td>7:00 M</td>
<td>7:00 T</td>
<td>7:00 W</td>
<td></td>
<td></td>
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</tbody>
</table>

Your final exam will take place on:  
**Thurs December 06**  **Fri December 07**  **Sat December 08**  **Mon December 10**  **Tues December 11**  **Wed December 12**