TEXAS A&M UNIVERSITY – Corpus Christi
Department of Mathematics and Statistics

MATH 2312.003
PRECALCULUS
Spring Semester 2012

I. COURSE INFORMATION
1. Meeting Time & Place: MWF 8:00 – 8:50 AM in CI 122
2. Professor: Dr. Beate Zimmer
3. Office Phone: 825-2682
4. Office Address: CI 310
5. e-mail Address: beate.zimmer@tamucc.edu
6. Web Page Address: http://www.sci.tamucc.edu/~bzimmer
   Additions or changes to this syllabus, exam solutions, and a link to the web-based homework will be posted on the class web page. Be sure to regularly check the class web page.
7. Office Hours:
   MW 12:00 – 2:00 PM
   F 12:00 – 1:00 PM
   Others by appointment
8. Class Hours: three semester hours.

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

III. PREREQUISITE FOR THE COURSE
MATH 1314 or placement into MATH 2312.

IV. TEXTBOOK AND OTHER SUPPLIES REQUIRED
The textbook for the course is Lial, Precalculus, 4th edition. You do need MyMathLab (sometimes called MyLabsPlus) access that should have come bundled with the book or can be bought as a standalone access card. Through the internet homework system you get access to the .pdf files for the textbook, but at the end of the semester this access ceases. Some students have managed to work with just the online materials; it is your call whether you want to buy the book. A graphing calculator is required for this class. I will support the TI-89, but in general you can use any graphing calculator. All the class demonstrations will be done with a TI-89. The homework is in MyLabsPlus, found at http://tamucc.mylabsplus.com/. To register you need the MyLabsPlus access card that was bundled with the book. You may print out the online homework, but don’t have to do so. Exam solutions will be available on the web page, you may print them, but don’t have to print them. Costs for required printouts should not exceed $10.
V. STUDENT LEARNING OUTCOMES
At the end of the course the student should be able to:

1. Work with some basic concepts:
   - multiply and factor polynomials
   - work with rational expressions
   - simplify rational exponents
   - rationalize fractions

2. Solve equations and inequalities:
   - solve linear equations
   - solve quadratic equations
   - determine and graph the solution set of an inequality
   - solve absolute value equations
   - solve exponential and logarithmic equations
   - solve trigonometric equations
   - solve systems of linear equations

3. Graph functions and circles
   - graph circles whose equation needs to be simplified first
   - determine whether a given graph is the graph of a function
   - graph linear functions
   - recognize the graphs of some basic functions
   - use graphing techniques, such as shifts and stretches
   - determine from a polynomial how its graph will look
   - find axis-intersects for polynomials
   - be able to graph trigonometric functions and their translations

4. Work with inverse functions and polynomials
   - determine from the graph of a function whether it has an inverse
   - check whether two functions are inverses of each other
   - find the equation of the inverse of a function
   - use continuous compounding and exponential functions
   - use logarithms as inverse functions of exponential functions
   - simplify logarithmic expressions
   - graph and find values for the inverse circular functions

5. Have a solid base in trigonometry
   - convert between degrees and radians
   - know the values of the basic trig functions for special angles
   - solve right triangles
   - use the circular functions to find coordinates of points on the unit circle
   - have the fundamental trigonometric identities memorized
   - be able to verify trigonometric identities
   - simplify trig expressions using the double angle identities

VI. INSTRUCTIONAL METHODS AND ACTIVITIES
Methods and activities for instruction include: Lectures, calculator demonstrations and group activities.

VII. EVALUATION AND GRADE ASSIGNMENT
The methods of evaluation and the criteria for grade assignments are: Homework through MyMathLab will be assigned every class and is due at the start of the next
class. At the start of each class I will answer homework questions for at most 10 minutes. Office hours are a great opportunity to ask more questions about homework. On-campus free tutoring in the CASA is another way of getting help with the homework. Late homework receives no credit. The weekly quizzes are given online. You can take them anytime between midnight and midnight of the Wednesday of the quiz and you have two attempts to do each quiz. The quizzes are similar to the homework but have no help options available. Of course you may not get any help with the quizzes. Missed quizzes can not be made up, but the lowest two quizzes get dropped. The lowest three homework grades get dropped. No exam grades get dropped. Calculator policies and partial credit: For the quizzes, the exams and the final exam calculators are permitted. The exams do have partial credit, the online quizzes do not have partial credit.

The weights of the different parts of the course towards the final grade are:

<table>
<thead>
<tr>
<th>Part</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Three exams</td>
<td>50%</td>
</tr>
<tr>
<td>Homework</td>
<td>10%</td>
</tr>
<tr>
<td>Best 12 Quizzes</td>
<td>15%</td>
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<tr>
<td>Comprehensive Final Exam</td>
<td>25%</td>
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</tbody>
</table>

Grading Scale: Grades will be no stricter than

- A = 90.00 – 100%
- B = 80.00 – 89.99%
- C = 70.00 – 79.99%
- D = 60.00 – 69.99%
- F = below 60%

VIII. TENTATIVE COURSE SCHEDULE

<table>
<thead>
<tr>
<th>#</th>
<th>Date</th>
<th>Quiz</th>
<th>Sections</th>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>W 1/11</td>
<td></td>
<td>R3, R4</td>
<td>Polynomials, Factoring Polynomials</td>
</tr>
<tr>
<td>2</td>
<td>F 1/13</td>
<td></td>
<td>R5</td>
<td>Rational Expressions</td>
</tr>
<tr>
<td>3</td>
<td>W 1/18</td>
<td>Quiz 1: R3, R4</td>
<td>R6</td>
<td>Rational Exponents</td>
</tr>
<tr>
<td>4</td>
<td>F 1/20</td>
<td></td>
<td>R7</td>
<td>Radical Expressions</td>
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<tr>
<td>5</td>
<td>M 1/23</td>
<td></td>
<td>1.1</td>
<td>Linear Equations</td>
</tr>
<tr>
<td>6</td>
<td>W 1/25</td>
<td>Quiz 2: R5–R7</td>
<td>1.4</td>
<td>Quadratic Equations</td>
</tr>
<tr>
<td>7</td>
<td>F 1/27</td>
<td></td>
<td>1.7</td>
<td>Inequalities</td>
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<tr>
<td>8</td>
<td>M 1/30</td>
<td></td>
<td>1.8</td>
<td>Absolute Value Equations and Inequalities</td>
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<tr>
<td>9</td>
<td>W 2/1</td>
<td>Quiz 3, 1.1–1.7</td>
<td>2.1, 2.2</td>
<td>Rectangular Coordinates and Graphs, Circles</td>
</tr>
<tr>
<td>10</td>
<td>F 2/3</td>
<td></td>
<td>2.3</td>
<td>Functions</td>
</tr>
<tr>
<td>11</td>
<td>M 2/6</td>
<td></td>
<td>2.4</td>
<td>Linear Functions</td>
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<tr>
<td>12</td>
<td>W 2/8</td>
<td>Quiz 4: 1.8–2.3</td>
<td>2.6</td>
<td>Graphs of Basic Functions</td>
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<tr>
<td>13</td>
<td>F 2/10</td>
<td></td>
<td>2.7</td>
<td>Graphing Techniques</td>
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<tr>
<td>14</td>
<td>M 2/13</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>15</td>
<td>W 2/15</td>
<td>Quiz 5: 2.4, 2.6</td>
<td>2.8</td>
<td>Function Operations and Composition</td>
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<tr>
<td>16</td>
<td>F 2/17</td>
<td></td>
<td>3.1</td>
<td>Quadratic Functions</td>
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<tr>
<td>17</td>
<td>M 2/20</td>
<td></td>
<td>3.2</td>
<td>Synthetic Division</td>
</tr>
<tr>
<td>18</td>
<td>W 2/22</td>
<td>Quiz 6: 2.7–3.1</td>
<td>3.3</td>
<td>Zeros of Polynomials</td>
</tr>
</tbody>
</table>

Exam # 1, covering sections R1–2.6
IX. **CLASS POLICIES**

Attendance will be taken each class. For most students attending class is a faster way of learning the material than trying to catch up on missed material solely from the book. Tardiness is often disruptive to the whole class and is not appreciated. If you are delayed and arrive late for class please do so quietly. Cell phones and such must be turned off before class. Each time your phone rings during class, your course grade goes down by 1%.

If you have to miss an exam, it is your responsibility to contact me **no later than the day of the exam.** At most one make-up exam will be scheduled for each exam. Make-up exams tend to be harder than the original exam. Failure to contact me on or before the exam day results in a grade of zero points for the exam. This also applies to the final exam. For missed final exams due to an acceptable excuse the university rules about I (Incomplete) grades apply and the make-up is at the instructor’s convenience early in the next long semester. Only extreme emergencies or official university business are acceptable reasons to miss exams and documentation will be required. Car trouble, routine doctor’s appointments, family reunions or graduations of siblings...
etc. are not valid reasons to miss exams. If your reason to miss the exam is not a valid one, your exam score is 0 points. Be sure to check before missing an exam whether your reason is acceptable. Missed homework or quizzes can not be made up; the drop grades accommodate those.

X. ACADEMIC INTEGRITY/PLAGIARISM
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 grade of zero for the assignment or test and will be reported to the appropriate authorities for further action.

XI. 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 and participation WILL NOT automatically result in your being dropped from the class. Friday, March 30 is the last day to drop a class with an automatic grade of "W" this term.

XII. 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.

XIII. GRADE APPEALS
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 http://www.tamucc.edu/provost/university_rules/index.html.
For assistance and/or guidance in the grade appeal process, students may contact the Office of Student Affairs.

XIV. DISABILITIES ACCOMMODATIONS
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 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.