Math 1113 – Precalculus – 4 Credit Hrs
Section 07, Spring 2015
MWF 1:00 – 1:52 pm Boyd 305; Th 12:30 – 1:22 pm Boyd 305

Instructor: Mr. Ricky Johnson
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Office Hours: MF 10:00-12:00; M 2:00-4:00; Tue 1:00-3:00; or by appointment

Prerequisites: Four years of high school mathematics including algebra and trigonometry OR MATH 1111.

Course Description: This course is designed to prepare students for calculus, physics and related technical subjects. Topics include an intensive study of algebraic and transcendental functions. Functions and Their Graphs, Polynomial and Rational Functions, Exponential and Logarithmic Equations, Trigonometric Equations, Analytic Trigonometry, Applications of Trigonometric Functions, Polar Coordinates and Systems of Equations.

Text: Precalculus (5th edition) by Robert Blitzer, Pearson/Prentice-Hall

Optional Resources: MyMathLab.com is a website which includes several useful resources that can help you with this course. To activate a subscription on MyMathLab.com, you will need to purchase an access code (either at the website or from the bookstore) and use courseID: Johnson46295. The subscription lasts for one semester and grants you access to an online version of the textbook. Instructions on how to enroll in MyMathLab.com are on courseDen at https://westga.view.usg.edu.

Calculator: You will need a graphing calculator. Calculators equivalent to the TI-83, 84, 85, and 86 will be allowed on exams as well as scientific calculators. Cell phone calculators, the TI-89 and other equivalent calculators will not be permitted.

Learning Outcomes: Students will be able to demonstrate:
1. An understanding of functions and how to graph functions
2. An understanding of operations on functions including function composition
3. An understanding of polynomial and rational graphs, including intercepts and asymptotes
4. An understanding of how to find the zeros of a polynomial and how to factor polynomials
5. An understanding of inverse functions and how to find them graphically and algebraically
6. An understanding of the properties of exponential and logarithmic equations
7. An understanding of how to solve exponential and logarithmic equations
8. An understanding of how to find the values of the trigonometric functions from right triangles and circles
9. An understanding of how to graph the trigonometric functions
10. An understanding of how to prove trigonometric identities
11. An understanding of how to use the sum, difference, double-angle and half-angle formulas for sine and cosine
12. An understanding of how to solve triangle using the law of sines and law of cosines
13. An understanding of polar coordinates and graphs
14. An understanding of how to analyze and solve applied problems

Attendance: Attendance is important in order to do well in this course. Roll will be taken at every class. If you are late and miss the roll, you are absent. You will receive a 2% bonus added on to your overall grade if you have no unexcused absences for the entire semester. Otherwise, $\frac{1}{4}$% will be deducted from the bonus for each unexcused absence (4 or more unexcused absences results in no bonus). An unexcused absence is any absence other than one where you have documentation for an illness or a sponsored university event (e.g. athletes). If you miss a class you are still responsible for all material you may have missed including lecture notes and announcements.

Grading Policy: Final grade will be based on the following scale:

(A=90-100%, B=80-<90%, C=70-<80%, D=60-<70%, F=<60).

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Tests (tentative dates, subject to change)</td>
<td>60% (15% each)</td>
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<tr>
<td>Test 1 Friday, January 23</td>
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<td>Test 2 Wednesday, February 18</td>
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<td>Test 3 Wednesday, March 25</td>
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<td>Test 4 Thursday, April 16</td>
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<tr>
<td>Final (Comprehensive) Wed, April 22</td>
<td>25%</td>
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<tr>
<td>Quizzes</td>
<td>15%</td>
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<tr>
<td>Total</td>
<td>100%</td>
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Practice Problems: Homework problems will be assigned from each section for practice. They will not be taken up nor counted for credit. It is highly suggested, however, that you work all of the homework problems as they are designed to prepare you for tests/quizzes.

Quizzes: Except for weeks with a test, there will be weekly quizzes (usually on Fridays). Quiz problems will be taken from the assigned practice problems or from examples worked in class. If you work the homework problems and come to class you should have no problems with the quizzes. The lowest 2 quiz scores will be dropped. Consequently, there will be no make-up quizzes for ANY reason.

Tests: The test dates are tentative and are subject to change. Make-up tests will only be given for students with a documented excused absence. In that case, students should contact the instructor in advance, if possible, to reschedule the make-up test. Note, that make-up tests will usually be more difficult. There will be no make-up final exam.
Disabilities: Students with documented disabilities (through West Georgia's Disability Services) will be given all reasonable accommodations. Students must take the responsibility to make their disability known and request academic adjustments or auxiliary aids. Adjustments needed in relation to test-taking must be brought to the instructor's attention well in advance of the test (at least one week prior).

Other Course Policies:
1. Cell phones should be set to an inaudible setting or turned off.
2. I use courseDen to record grades, announcements, practice problems.
3. All electronic correspondence between student and instructor should be by way of your UWG email account.
4. You need to be prepared to study a minimum of 6-8 hours every week outside of class in order to do well in this course.
5. Arriving late and leaving early is discouraged as it is distracting and disrespectful.
6. Additional course policies: http://tinyurl.com/UWGSyllabusPolicies

Important Dates:
January 5-January 11: Drop/Add and late registration
January 19: MLK Holiday (no classes, offices closed)
February 27: Last day to withdraw with a grade of W
March 16-20: Spring Break (no classes)
April 17: Last Day of Class
April 22: Final Exam Wednesday 11:00 am -1:30 pm

The following sections of Blitzer’s book will be covered:

Review Chapter P and 1.1-1.6
1.7 Composite Functions
1.8 Inverse Functions
Review Chapter 2.1-2.5
2.6 Rational Functions and Their Graphs
2.7 Polynomial and Rational Inequalities
3.1 Exponential Functions
3.2 Logarithmic Functions
3.3 Properties of Logarithms
3.4 Exponential and Logarithmic Equations
3.5 Exponential Growth and Decay
4.1 Angles and Radian Measures
4.2 The Unit Circle
4.3 Right Triangle Trigonometry
4.4 Trig Functions of Any Angle
4.5 Graphs of Sine and Cosine
4.6  Graphs of Other Trig Functions
4.7  Inverse Trig
4.8  Applications of Trig Functions
5.1  Verifying Trig Identities
5.2  Sum and Difference Formulas
5.3  Double-Angle and Half-Angle Formulas
5.5  Trigonometric Equations
6.1  Law of Sines
6.2  Law of Cosines
6.3  Polar Coordinates
6.4  Graphs of Polar Equations
7.1  Systems of Equations in Two Variables
7.2  Systems of Equations in Three Variables

If time permits:
7.4  Systems of Nonlinear Equations
6.6  Vectors
8.1  Matrices