Math 1113 – Precalculus – 4 Credit Hrs
Section 05, Spring 2016
MTWF 8:00-8:52 am; Boyd 305

Instructor: Mr. Ricky Johnson
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Office Hours: 10:00-12:00 on Tues; 2:00-5:00 on Wed/Thurs; 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

MyMathLab: Homework assignments will be done online. You will be required to purchase a subscription to MyMathLab.com. This is a website which includes (along with the homework assignments) several useful resources that can help you with this course. To activate a subscription on MyMathLab.com, you will need to enter the following course ID when you register: johnson72465. To purchase the subscription, you can either buy an access code at the bookstore or pay directly on the website. The subscription lasts for one semester and grants you access to an online version of the textbook. Therefore, a physical copy of the textbook is not required. Please use your UWG email address when registering. Detailed instructions on how to enroll in MyMathLab.com are on courseDen at https://westga.view.usg.edu.

Math Tutoring Center: Located in room 205 on the second floor of the Boyd Bldg, the MTC offers personalized help with math. No appointment necessary, just walk in.

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

**CourseDen**: I will be using CourseDen at https://westga.view.usg.edu. You should check courseDen regularly for any class announcements. I use CourseDen to post grades for tests; to post extra-credit homework assignments, as well as additional practice problems; to post solutions for tests, quizzes, and extra credit homeworks. Please do not use courseDen to email me, use rjohnson@westga.edu instead.

**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. If you miss a class, you are still responsible for all material you may have missed including lecture notes and announcements. If you miss a test, you may take a make-up a test only in the event of an excused absence. An excused absence is one where you have documentation from a third party for an illness or a sponsored university event (e.g. athletes). However, no make-ups will be given for the Final Exam or bonus quizzes.

**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>4 Tests (tentative dates, subject to change) 60% (15% each)</td>
<td>15%</td>
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<tr>
<td>Test 1 Friday, February 5</td>
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<td>Test 2 Friday, February 26</td>
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<td>Test 3 Monday, March 28</td>
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<td>Test 4 Friday, April 15</td>
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<tr>
<td>Homework Assignments</td>
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<tr>
<td>Final (Comprehensive) Fri, April 29</td>
<td>25%</td>
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<tr>
<td>Total</td>
<td>100%</td>
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**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.

**Homework Assignments:** In most cases, there will be one homework assignment for each section of the text that we cover. These homework assignments and their due dates will be found on Mymathlab.com. At the end of the semester the lowest 4 online homework grades will be dropped. For the first online homework assignment, mymathlab will give you an unlimited number of tries to answer a problem correctly. After the first assignment, you will have 3 tries to get each problem correct. No extension on the due dates will be given, so plan your time accordingly. If you have computer/laptop problems with Mymathlab, it is your responsibility to resolve them. There are computer terminals in the Library as well as the Math Tutoring Center.

**Extra Credit Homework:** In addition to the online homework assignments, problems for extra credit will be assigned from your textbook. (check courseden for listing and due dates) Credit will only be given if legible and all work is shown. At the end of the semester, you will receive up to a 3% bonus added on to your overall course grade based on the number of points you received from these extra credit problems. No late submissions will be accepted for ANY reason.

**Practice Problems:** In addition to the homework assignments, additional problems from the textbook will be assigned for practice. These do NOT need to be turned in; they are for practice only. They will be labeled “Practice Problems” and listed on CourseDen. It is highly suggested, however, that you work them as they are designed to help you study for the tests/quizzes.

**Bonus Quizzes:** There will be several short quizzes throughout the semester. These will usually be unannounced and consist of 1 or 2 short problems. They will count as bonus points to be added on to your next test.

**Disabilities:** Students with documented disabilities (through West Georgia’s Disability Services) will be given all reasonable accommodations. 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. All electronic correspondence between student and instructor should be by way of your UWG email account.
3. 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.
4. Arriving late and leaving early is discouraged as it is distracting and disrespectful.
5. Additional course policies:  http://tinyurl.com/UWGsyllabusPolicies
Important Dates:
January 11-13: Open Drop
January 11-14: Open Add
January 18: MLK Day (no classes, offices closed)
March 3: Last day to withdraw with a grade of W
March 14-19: Spring break (no classes)
April 22: Last Day of Class
April 29: Final Exam Friday, 8:00 am – 10:30 am

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