Math 1113 – Precalculus – 4 Credit Hrs
Section 09, Fall 2015
MWF 8:00-8:52 am, Boyd 305; Tues 8:00-8:52 am; Boyd 303

Instructor: Mr. Ricky Johnson
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Office Hours: 10:00-12:00 on Wed/Fri; 2:00-4:00 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

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 enter the following course ID when you register: johnson40827. 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. With access to MyMathLab you will have access to an additional set of homework problems. See “Homework Assignments” below.

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, homeworks, etc, as well as your final course grade; to post weekly homework assignments (not including the MyMathLab homeworks), weekly practice problems. 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. You will receive a 2% bonus added on to your overall grade if you have no more than 2 unexcused absences for the entire semester. 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%).

4 Tests (tentative dates, subject to change) 60% (15% each)
  Test 1 Tuesday, September 15
  Test 2 Tuesday, October 6
  Test 3 Monday, November 7
  Test 4 Wednesday, December 2

Homework Assignments 15%
Final (Comprehensive) Fri, Dec 11 25%
Total 100%

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:** There will be weekly homework assignments (in most cases taken from the textbook) each week. They will be announced in class and the list posted on CourseDen as well. Full credit will only be given if legible and all work is shown. However, with each assignment you have the option of turning in the written homework OR completing homework sets online at Mymathlab.com, which will be due the same day. The online problems will be different from the textbook problems but they cover the same material. If for any assignment you complete both (written and online), your grade will be the higher of the two. In addition, (if you complete both) you will receive extra credit: 10% of the lower score will be added to the higher score. In most cases, the online homework sets will consist of more problems than the written homework sets. However, the online homework sets allow an unlimited number of tries (up until the due date) to answer problems correctly. The lowest 3 weekly homework grades will be dropped. Consequently, no late homework will be accepted for ANY reason.

**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.

**Practice Problems:** In addition to the weekly homework assignment, 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.

**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:**
August 24 – August 26: Open Drop
August 24 – August 27: Open Add
September 7: Labor Day (no classes, offices closed)
October 14: Last day to withdraw with a grade of W
November 23-27: Thanksgiving break (no classes)
December 4: Last Day of Class
December 11: 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