Math 1113 – Precalculus – 4 Credit Hrs
Section 10; Fall 2018
Tu, Th 3:30-4:45 pm, Boyd 305; Fri 3:30-4:20 pm, Boyd 301

Instructor: Mr. Ricky Johnson
Office: 106D Boyd Bldg., 1st Floor
E-mail: rjohnson@westga.edu
Office Hours: Wed 1:00-4:00; Fri 1:00-3:00; or by appointment

Prerequisites: A grade of C or better in MATH 1111 or an SAT Math score of at least 500 or an ACT Math score of at least 20.

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.

Text: College Algebra and Trigonometry, Abramson, Openstax. Student can download for free at https://openstax.org/details/books/algebra-and-trigonometry. Students should go to “Download a PDF” and download the High Resolution version.

CourseDen: I will be using CourseDen at https://westga.view.usg.edu to post any announcements, videos, lecture notes, grades (tests, MyOpenMath score, bonus points, worksheets, and final exam), and solutions. Please do not use courseDen to email me, use rjohnson@westga.edu instead.

Supplemental Instruction Hours: This class includes 2 hours per week of optional supplemental instruction. Time/Location TBA.

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 types of functions.
4. An understanding of rational functions and their graphs, including intercepts and asymptotes
5. An understanding of how to find the zeros of a polynomial and how to factor polynomials
6. An understanding of inverse functions and how to find them graphically and algebraically
7. An understanding of the properties of exponential and logarithmic equations
8. An understanding of how to solve exponential and logarithmic equations
9. An understanding of how to find the values of the trigonometric functions from right triangles and circles
10. An understanding of how to graph the trigonometric functions
11. An understanding of how to prove trigonometric identities
12. An understanding of how to use the sum, difference, double-angle and half-angle formulas for sine and cosine
13. An understanding of how to solve trig equations
14. An understanding of how to solve triangle using the law of sines and law of cosines
15. An understanding of polar coordinates and graphs
16. An understanding of how to analyze and solve applied problems

MyOpenMath: 15% of final grade. All students are required to register an account at www.myopenmath.com. It costs nothing. This is where all homeworks, quizzes, and bonus problems will be done. Students need to use the course ID: 37921 and enrollment key: 2189xbxb52 when creating an account. Your total MyOpenMath score is comprised of: homework (70%), quizzes (30%).
**MyOpenMath Homework:** There will be weekly online homework assignments that must be completed by the due dates shown. After the due dates, scores will not be recorded, but you can still access the assignment for review. You will be allowed 3 attempts for each problem. The lowest 2 homework scores will be dropped.

**MyOpenMath Quizzes:** There will be weekly online quizzes due within 1 day after every homework due date. 2 attempts per problem (30% penalty after 1st attempt). Note, once a quiz is started you will have a limited amount of time to complete it – usually about 3 hours. The lowest 2 quiz scores will be dropped. Note, at the end of the semester you may use your average quiz score to replace your lowest in-class test score.

**MyOpenMath Bonus Problems:** Most weeks there will be a set of problems that can be completed for bonus points. Only 1 attempt per problem.

**MyOpenMath LatePasses:** No extensions will be granted for any reason on any assignment in MyOpenMath. However, you will be granted 4 LatePasses that can be used to extend the due date of a homework or a quiz (but not for bonus problems) by 72 hours (3 days). You may only use 1 LatePass per homework (or quiz). After 72 hours past the due date, a LatePass cannot be used. If using a LatePass, your score will be reduced by 30%. Note, if you have accessed the assignment after the due date in review mode, the LatePass will not work.

**Tests:** 47% of final grade. 4 in-class tests, 100 points each. At the end of the semester, you may drop your lowest test score and replace it with your average MyOpenMath quiz score. After that, you may also have your lowest test score replaced with the score you receive on the final exam if higher. **NO** make-up tests for any reason (with the exception of participation in university approved activities - eg. athletic events - and you must notify me before the test.) If you miss a test, you can use 1 of the previous 2 options to replace it. There will be no make-ups for the Final Exam for ANY reason.

**Worksheets:** 10% of final grade. Except for test weeks, there will be weekly worksheets handed out on Tuesdays. You will be given time during class (either on Tuesday or Thursday) to work on these. However, they will be due no later than the start of class on Friday. You may work in groups to complete them and you may work on them at home as well. Note, I will not accept late submissions for any reason. I will NOT accept them by email either. They MUST be turned in to me during class only. These cannot be made-up if missed. Lowest 2 scores dropped.

**Worksheet Grading:** You will receive 1 point for each problem worked and completed (regardless of correctness). In addition, I will randomly select 2 problems (the same 2 for everyone) to grade for correctness. If correct, 3 points for each. At the end of the semester, the lowest 2 scores will be dropped. Solutions will be posted on CourseDen the day they are due. Note, you must show all work, or you will not receive credit for a problem.

**Practice Problems:** Additional practice problems are posted on CourseDen. These do NOT need to be turned in.

**Bonus Points**
You will be able to earn anywhere from 200-300 bonus points throughout the semester. The bonus points will be worth 4% added to your overall test average. There are 3 ways to earn bonus points:

1. Up to 20 points may be earned by going to the **Math Tutoring Center** (Boyd– room 205). You need to swipe your UWG ID card when entering and leaving. You will receive 2 bonus points for every day you visited the MTC (you must have stayed for at least 30 minutes) and received help from a tutor. You must turn in a completed verification form to me by Dec 7, 2018 (form is on courseDen).
2. Up to 20 points may be earned by attending tutoring sessions at: a) The Center for Academic Success (Room 200 of the University Community Center) or b) The Precalculus Tutoring Lab Program. You will receive 2 bonus points for each session (min 50 minutes).
3. **Bonus Problems on MyOpenMath.** You will receive 1 bonus point per correct problem.

**Example:** The student’s test average from all 4 in-class tests is 89. Student earns 180 bonus points out of a maximum of 240 bonus points. Therefore, since (180/240) * 4 = 3, student earns a 3% bonus. Student’s test average is now 92.
**Student-Instructor Meeting:** 3% of final grade. Every student will be required to come to my office for a brief 5 to 10 minute meeting. The purpose is to review the results of your prequiz, determine if any outside resources are needed, and discuss any concerns you may have regarding the course. Over the next 3-4 weeks I will be sending out email invitations to schedule our meeting.

**Precalculus Tutoring Lab Program:** An optional personalized tutoring program. Students meet in groups of 3 or 4 with a tutor on a scheduled day for 1 hour per week. I will be signing up any interested students during our student-instructor meetings.

**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)</td>
<td>47% (includes +4% bonus)</td>
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<tr>
<td>Test 1 Thurs, September 13</td>
<td></td>
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<tr>
<td>Test 2 Tues, October 2</td>
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<tr>
<td>Test 3 Thurs, November 1</td>
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<tr>
<td>Test 4 Thurs, December 6</td>
<td></td>
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<tr>
<td>MyOpenMath Total score</td>
<td>15%</td>
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<tr>
<td>Worksheets</td>
<td>10%</td>
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<tr>
<td>Student-Instructor Meeting</td>
<td>3%</td>
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<tr>
<td>Final Exam (Comprehensive) Thurs, Dec 13, 2:00-4:00 pm</td>
<td>25%</td>
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<tr>
<td>Total</td>
<td>100%</td>
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**Videos:** On CourseDen are several videos related to the material covered in this course. Most are short (5-10 min). It is highly recommended that you watch them if you need extra help on a topic.

**Attendance:** 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. As stated earlier, there will be NO make-ups for missing a test, worksheet, or the Final Exam.

**Disabilities:** Students with documented disabilities (through West Georgia’s Accessibility 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. Arriving late and leaving early is discouraged as it is distracting and disrespectful.
4. Additional course policies:
   - [http://www.westga.edu/assetsDept/vpaa/Common_Language_for_Course_Syllabi.pdf](http://www.westga.edu/assetsDept/vpaa/Common_Language_for_Course_Syllabi.pdf)

**IMPORTANT DATES:**

- **First Day of Class:** Wednesday, August 15
- **Drop Ends:** Friday, August 17
- **Last Day to Withdrawal with W:** Monday, October 8
- **Final Exam:** Thursday, Dec 13, 2:00-4:00 pm
- **No classes:**
  - Monday, September 3 (Labor Day)
  - Thursday October 4 and Friday October 5 (Fall Break)
  - Monday November 19- Friday November 23 (Thanksgiving)
<table>
<thead>
<tr>
<th>Week</th>
<th>Week beginning Mon:</th>
<th>Sections (from the textbook) to be covered during the week:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8/13/2018</td>
<td>Introduction and Prequiz Assessment Ch 1/Ch 2: Algebra Review</td>
</tr>
</tbody>
</table>
| 2    | 8/20/2018           | 3.1: Functions and Function Notation  
3.2: Domain and Range  
3.3: Rates of Change and Behavior of Graphs |
| 3    | 8/27/2018           | 3.4: Composition of Functions  
3.5: Transformation of Functions  
4.1: Linear Functions  
5.1: Quadratic Functions |
| 4    | 9/3/2018            | 5.1: Quadratic Functions  
5.2: Power Functions and Polynomial Functions  
5.3: Graphs of Polynomial Function |
| 5    | 9/10/2018           | 5.6: Rational Function  
Test 1 --- Thursday, 9/13/2018 (Sections 3.1 – 5.3)  
3.7: Inverse Functions |
| 6    | 9/17/2018           | 6.1: Exponential Functions  
6.2: Graphs of Exponential Functions  
6.3: Logarithmic Functions  
6.4: Graphs of Logarithmic Functions  
6.5: Logarithmic Properties |
| 7    | 9/24/2018           | 6.6: Exponential and Logarithmic Equations  
6.7: Exponential and Logarithmic Models  
7.1: Angles |
| 8    | 10/1/2018           | Test 2 --- Tuesday, 10/2/2018 (Sections 5.6 – 6.7)  
FALL BREAK NO CLASSES 10/4 – 10/5 |
| 9    | 10/8/2018           | 7.1: Angles  
7.2: Right Triangle Trigonometry  
7.3: Unit Circle |
| 10   | 10/15/2018          | 7.4: Other Trigonometric Functions  
8.1: Graphs of Sine and Cosine Functions |
| 11   | 10/22/2018          | 8.1: Fundamental Trigonometric Identities  
8.2: Graphs of Other Trigonometric Functions  
8.3: Inverse Trigonometric Functions  
9.1: Solving Trigonometric Equations with Identities |
| 12   | 10/29/2018          | 9.1: Solving Trigonometric Equations with Identities  
Test 3 --- Thursday, 11/1/2018 (Sections 7.1 – 8.3)  
9.2: Sum and Difference Identities  
9.3: Double-Angle, Half-Angle and Reduction Formulas |
9.4: Sum and Difference Formulas  
9.5: Solving Trigonometric Equations |
| 14   | 11/12/2018          | 9.5: Solving Trigonometric Equations  
10.1: Non-Right Triangle: Law of Sines |
| 15   | 11/19/2018          | THANKSGIVING BREAK NO CLASSES 11/19 – 11/23 |
FIRST WEEK TASKS

1) Read the syllabus
   If you have a question regarding anything in the syllabus, please email me. The syllabus is a “contract” between instructor and student of the classroom policies. As your instructor, I must follow all policies that are listed on the syllabus to remain fair to all students. You can find a copy of the syllabus at any time during the semester in CourseDen.

2) Create an account on MyOpenMath.
   Go to www.MyOpenMath.com and click on “Register as a new student”. You will need my course ID and enrollment key (these are found on the first page of the syllabus) to register. After you have created your account, click on “Intro to MyOpenMath” in week 1. If completed by Friday, 8/17, you will receive up to 14 bonus points. This will help to familiarize you with system.

3) Review the algebraic topics in the first 2 chapters of our textbook and work on “Homework Assignment 1” in MyOpenMath due Thursday, 8/23 (Quiz 1 due by Friday, 8/24)
   These topics are not covered in this class’s curriculum; however, I find most students at least need a “refresher” on the topics. There are short videos that you can watch if you need help with some of these topics. See “Algebra Videos” in Course Den.
   i) Properties of Exponents (1.2)
   ii) Reducing Radicals (1.3)
   iii) Polynomials (1.4)
   iv) Factoring two, three, and four term polynomials (1.5)
   v) Rational Expressions (1.6)
   vi) The Rectangular Coordinate System (2.1)
   vii) Linear and Rational Equations (2.2/2.3)
   viii) Complex Numbers (2.4)
   ix) Quadratic Equations (2.5)
   x) Inequalities (2.7)

   Good luck this semester!!