Math 1113 – Precalculus – 4 Credit Hrs
Section 91, Summer 2020

Instructor: Mr. Ricky Johnson
E-mail: rjohnson@westga.edu (Do NOT use courseDen email)

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. This course will be taught fully online.

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, quizzes, and final exam), and solutions. **Please do not use courseDen to email me, use rjohnson@westga.edu instead.**

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.

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

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).

Tests	50% (includes +4% bonus)
MyOpenMath	10%
Quizzes	15%
Final (Comprehensive) 7/22-7/23/2020	25%
Total	100%

MyOpenMath: Online website for homework assignments and bonus problems. All students are required to register an account at www.myopenmath.com. It costs nothing. **See the file "MyOpenMath Instructions"** for how to setup an account and additional instructions.

Video Lectures: Each week you are required to watch the videos I have recorded that cover the sections we study. These are in courseDen and you can watch them anytime during the week. There is also a pdf file for each section that contains the notes from which I record**.** In addition to the lectures I have recorded, I will also post links to additional helpful videos. While these additional videos are not required, they can be extremely helpful, so I strongly recommend watching them if needed.

MyOpenMath Homework: Homework assignments must be completed by ***Monday nights*** at midnight (*Note, the first week there is an assignment due on Thursday, June 4. This is an introductory assignment on how to use MyOpenMath).

MyOpenMath Bonus Problems: In addition to the regular homework problem sets, there are also bonus problem sets also due on Monday nights.

Quizzes: 7 quizzes (posted on Fridays and due on Mondays). These will usually consist of 3-5 problems which you will be required to show your work. The quizzes will become available on Fridays and you will have until Monday 5 pm to complete them. In the courseDen table of contents, you will see a link for the weekly quiz (although it will not become active until Friday). Once the link is active you can click on it and you will be able to download the quiz. Write out your answers and then either scan it or take a pic. Use the provided upload link to upload the file to courseDen. Note: **you MUST show your work with your answers**. You have until Monday 5 pm to upload your answers. Solutions will be posted at 5 pm, so late work will NOT be accepted. No make-up quizzes for any reason, but the lowest quiz score will be dropped

Tests: Starting Tuesday, June 9, there will be a timed 1-hour test every Tuesday (7 total). These will be in a multiple-choice format administered through courseDen. They can be taken anytime between 6 am and 11 pm on Tuesdays. But once started, you will have only 1 hour to complete them. It will kick you out at 11 pm, so make sure you start it no later than 10 pm. The tests will cover the material from the previous week. Solutions will be posted afterward No make-up tests for any reason, but the lowest test score will be dropped.

Final Exam: May be taken either Wednesday, July 22 or Thursday, July 23. It is a timed test, so once started you have 2 hours to complete it. The test will be administered through courseDen. The Final is cumulative (all topics covered during the semester). The Final Exam is mandatory and cannot be made-up or replaced.

Practice Problems: Additional problems labeled "Practice Problems" on courseDen are for practice only and need not be turned in. They refer to problems from the textbook.

Algebra Review Videos: This course does require a fundamental knowledge of many Algebra concepts. But I know many of you will need a refresher on some of these. So, I have included several videos (5-10 min in length) that cover many of the Algebra concepts we use in this course. View them if you need additional help.

Bonus Points: You will be able to earn approximately 300-350 bonus points from bonus problems on MyOpenMath (and Tutoring – see below). You will receive 1 bonus point per correct problem. The bonus points will be worth 4% added to your overall test average.

> Example: The student's test average from 6 highest tests is 89. Student earns 175 bonus points out of a maximum of 350 bonus points. Therefore, since (175/350) * 4 = 2, student earns a 2% bonus. Student's test average is now 91.

Tutoring: The Math Tutoring Center Online Tutoring service is available in CourseDen. You can access live tutoring by going to **MTC Online Tutoring** in the CourseDen, from the top course menu "Communication", choosing "Collaborate Ultra", and then enter a live session when available. More information is available in **MTC Online Tutoring** in the CourseDen. Note: if you participate in a MTC online tutoring session (30-minute minimum) I will award you 2 bonus pts – maximum 20 pts. Just record your sessions on the "Math Tutoring Ctr Verification Form" provided in courseDen and return to me by the end of the semester. These points will be combined with the MyOpenMath bonus points.

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 my attention well in advance of the test (at least **one week** prior).

Other General Course Policies: **https://www.westga.edu/UWGSyllabusPolicies/**

IMPORTANT DATES:

Drop/Add Ends:	Tuesday, June 2
MyOpenMath Introductory Assignment	Thursday, June 4
Last Day to Withdrawal with W:	Wednesday, June 24
Final Exam:	Wed, July 22 or Thursday, July 23

WEEKLY SCHEDULE:

MON-FRI:	**Watch Video Lectures in courseDen.**
FRIDAYS:	**Weekly Quiz becomes available for download.**
MONDAYS:	**Quiz due at 5 pm. MyOpenMath problems due by midnight.**
TUESDAYS:	**Weekly test becomes available – due by 11 pm.**

Tentative Weekly Course Schedule

Dates	SECTION # and TITLE
6/1 – 6/7	Ch 1/Ch 2: Algebra Review 3.1: Functions and Function Notation 3.2: Domain and Range 3.3: Rates of Change and Behavior of Graphs 3.4: Composition of Functions
6/8 - 6/14	3.5: Transformation of Functions 4.1: Linear Functions 5.1: Quadratic Functions 5.2: Polynomial Functions 5.3: Graphs of Polynomial Functions
6/15 – 6/21	5.6: Rational Functions 3.7: Inverse Functions 6.1: Exponential Functions 6.2: Graphs of Exponential Functions 6.3: Logarithmic Functions 6.4: Graphs of Logarithmic Functions 6.5: Logarithmic Properties
6/22 – 6/28	6.6: Solving Exponential and Logarithmic Equations 6.7: Exponential and Logarithmic Models 7.1: Angles 7.2: Right Triangle Trigonometry
6/29 – 7/3	7.3: Unit Circle 7.4: Other Trigonometric Functions 8.1: Graphs of Sine and Cosine Functions 8.2: Graphs of Other Trigonometric Functions
7/6 – 7/12	8.3: Inverse Trigonometric Functions 9.1: Using Fundamental Trigonometric Identities 9.2: Sum and Difference Identities 9.3: Double-Angle, Half-Angle, Reduction Formulas 9.4: Sum-to-Product, Product-to-Sum Formulas 9.5: Solving Trigonometric Equations
7/13 – 7/19	10.1: Non-Right Triangles: Law of Sines 10.2: Non-Right Triangles: Law of Cosines 10.3/4: Polar Coordinate System
7/20 – 7/23	**Last Quiz: due Monday 7/20/2020** **Last Test: Tuesday, 7/21/2020** **Final Exam: Wed 7/22/2020 – Thurs 7/23/2020**