Math 1113 – Precalculus – 4 Credit Hrs
Section 03, Fall 2016
MWF 3:35-4:25 am, Tu 2:30-3:20; Callaway Science Bldg 205

Instructor: Mr. Ricky Johnson
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Phone: (678) 839-4129
E-mail: rjohnson@westga.edu
Office Hours: MWF 2:00-3:00, Tu 10:00-1:00, Fri 10:00-12:00; 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. Math Department recommends a minimum ALEKS Placement score of 61 to be successful in the class.

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.


CourseDen: I will be using CourseDen at https://westga.view.usg.edu to post any announcements and all grades – this includes tests, quizzes, midterm, final exam, and final grade. Please do not use courseDen to email me, use rjohnson@westga.edu instead.

ALEKS: Homework and quizzes will be done online. All students in MATH 1113 are required to have an ALEKS Account. Go to www.aleks.com to purchase an account. To activate a subscription on aleks.com, you will need to enter the following course code when you register: JJXFX-9RH4T. The subscription lasts for 18 weeks and also grants you access to an online version of the textbook. Therefore, a physical copy of the textbook is optional. Please use your UWG email address when registering. Detailed instructions on how to enroll in ALEKS are on courseDen. If you currently do not have the funds, you may use the Financial Aid Access Code (can be found on courseDen) in place of the access code on the purchase page. This will grant you temporary access for 17 days without having to pay. After 17 days, however, your account will be frozen until payment is made. Please renew the same account, otherwise credit for any work done will be lost.

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 solve systems of equations
10. An understanding of how to find the values of the trigonometric functions from right triangles and circles
11. An understanding of how to graph the trigonometric functions
12. An understanding of how to prove trigonometric identities
13. An understanding of how to use the sum, difference, double-angle and half-angle formulas for sine and cosine
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

**Homework (ALEKS modules):** There are 14 interactive learning modules that must be completed by the due dates in ALEKS. Each module consists of problems from topics we will cover in class. Once the due dates have passed your score will be calculated based on the number of topics you have mastered. After the due date, you will no longer be able to improve your score for that particular module. The overall score you receive from the modules will **NOT** be part of your final course grade. At the end of the semester, if your overall module score is at least 70%, you may retake one of the first 3 tests (excluding the midterm). Note, when you first begin ALEKS, you will need to take the “Initial Knowledge Check.” Do **NOT** skip this. The course will then tailor to your needs as a student, and will cover content you struggle with in more detail. The “Initial Knowledge Check” will count as 1 quiz grade on a pass/fail basis. If you skip it, you get a ‘0’. If you take it, you get a ‘100%’ regardless of your score.

**Quizzes (ALEKS):** Separate from the modules, there will be 5 quizzes throughout the semester (6 including the “Initial Knowledge Check”). These will be taken through ALEKS. Unlike the modules, the quiz scores **WILL** be part of your final course grade. These scores will be downloaded to courseDen. Once a quiz becomes available, you will have 1 week to start it. Once a quiz is started, you will have a limited amount of time to complete it. Note, that the quiz scores are separate from the module scores. Since you have a full week to take a quiz, extensions will not be granted for any reason. At the end of the semester, your lowest quiz score will be dropped.
**Tests:** There will be 4 tests throughout the semester. The test dates given below are tentative and are subject to change. As stated earlier, at the end of the semester, you will be allowed to retake one of the first 3 tests. To be eligible to retake a test, you must have an overall ALEKS score of 70%. (Note, the overall score in ALEKS will come from your performance on the modules, not the quizzes). Test retakes will cover the same topics but with different problems. You may also drop your lowest test score and replace it with the score you receive on the final exam if higher. For this reason, I do not allow make-up tests for any reason. The one exception being if you are participating in a university sponsored event (i.e. student athletes). In that case I will need documentation, and the test can be taken earlier.

**Practice Problems:** In addition to the modules in ALEKS, 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.

**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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</thead>
<tbody>
<tr>
<td>4 Tests (tentative dates, subject to change)</td>
<td>50% (12.5% each)</td>
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<tr>
<td>Test 1 Friday, September 9</td>
<td></td>
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<td>Test 2 Wednesday, September 28</td>
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<td>Test 3 Tuesday, October 25</td>
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<tr>
<td>Test 4 Tuesday, November 29</td>
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<tr>
<td>Quizzes (ALEKS)</td>
<td>10%</td>
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<tr>
<td>Midterm, Monday, October 3</td>
<td>15%</td>
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<tr>
<td>Final (Comprehensive) Fri, December 9</td>
<td>25%</td>
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<tr>
<td><strong>Total</strong></td>
<td>100%</td>
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**Tutoring and Extra Credit:** Extra credit will be awarded by attending the following:
1. **Supplemental Instruction:** You must attend 50 minutes of a 1 hour session with our SI leader for 1 bonus point.
2. **Center for Academic Success (Room 200 of the University Community Center):** You must attend a 1 hour session of tutoring at the Center for Academic Success for 1 bonus point. The full hour must be attended. You must submit a CAS verification card for tutoring.
3. **Intervention Tutoring:** If you are a High-Risk student, you can attend a 1 hour intervention tutoring session for 1 bonus point. You must sign up with the instructor to be eligible to attend. Results of the prequiz will identify the high-risk students.

You may receive a maximum of 20 bonus points during the semester to go toward your test grade. The dates for eligibility will be August 15 – November 18.
**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. However, no extra credit points will be awarded for attending the math tutoring center.

**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 either retake it (if eligible as described above) or let the final exam score replace it. No make-up tests will be given for any reason (except for participation in university sponsored events – student athletes.) If you miss the midterm, you may only take a make-up if you have a doctor’s excuse or for participation in a university sponsored event (documentation required). The test can be taken no more than 2 days later. No make-up for any reason for 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:**
- August 10-12: Open Drop
- August 10-15: Open Add
- September 5: Labor Day (no classes, offices closed)
- September 30: Last day to withdraw with a grade of W
- October 6-7: Fall Break; no classes
- November 21-25: Thanksgiving Break (no classes, offices closed)
- December 2: Last Day of Class
- December 9: Final Exam Friday, 2:00 pm – 4:00 pm

**Tentative Course Schedule:**

<table>
<thead>
<tr>
<th>WEEK of</th>
<th>Section</th>
<th>Title</th>
<th>Learning Outcome</th>
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</thead>
<tbody>
<tr>
<td>8/8/16</td>
<td>Intro/Prequiz</td>
<td></td>
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<tr>
<td></td>
<td>Ch R/1</td>
<td>Algebra Review (Selected Sections from Ch R, Ch 1)</td>
<td></td>
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<tr>
<td>8/15/16</td>
<td>Ch R/1</td>
<td>Algebra Review (Selected Sections from Ch R, Ch 1)</td>
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<tr>
<td></td>
<td>2.3</td>
<td>Functions and Relations</td>
<td>1</td>
</tr>
<tr>
<td>Date</td>
<td>Section</td>
<td>Topic</td>
<td>Page</td>
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<tr>
<td>8/22/16</td>
<td>2.6</td>
<td>Transformations of Graphs</td>
<td>1</td>
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<tr>
<td>8/22/16</td>
<td>2.7</td>
<td>Analyzing Graphs of Functions and Piecewise Defined Functions</td>
<td>3</td>
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<tr>
<td>8/22/16</td>
<td>2.8</td>
<td>Algebra of Functions and Function Composition</td>
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<tr>
<td>8/29/16</td>
<td>3.1</td>
<td>Quadratic Functions</td>
<td>3</td>
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<tr>
<td>8/29/16</td>
<td>3.2-3.4</td>
<td>Polynomials</td>
<td>5</td>
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<tr>
<td>8/29/16</td>
<td>3.5</td>
<td>Rational Functions</td>
<td>4</td>
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<tr>
<td>9/5/16</td>
<td>3.6</td>
<td>Polynomial and Rational Inequalities</td>
<td>4,5</td>
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<td></td>
<td></td>
<td><strong>TEST 1</strong></td>
<td></td>
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<tr>
<td>9/12/16</td>
<td>4.1</td>
<td>Inverse Functions</td>
<td>6</td>
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<tr>
<td>9/12/16</td>
<td>4.2</td>
<td>Exponential Functions</td>
<td>7</td>
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<tr>
<td>9/12/16</td>
<td>4.3</td>
<td>Logarithmic Functions</td>
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<tr>
<td>9/19/16</td>
<td>4.4</td>
<td>Properties of Logarithms</td>
<td>7</td>
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<tr>
<td>9/19/16</td>
<td>4.5</td>
<td>Exponential and Logarithmic Equations</td>
<td>8</td>
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<tr>
<td>9/26/16</td>
<td>4.6</td>
<td>Modeling with Exponential and Logarithmic Functions</td>
<td>16</td>
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<td></td>
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<td><strong>TEST 2</strong></td>
<td></td>
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<tr>
<td>10/3/16</td>
<td>5.1</td>
<td>Angles and Their Measures</td>
<td>10</td>
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<tr>
<td>10/3/16</td>
<td>5.2</td>
<td>Right Triangle Trigonometry</td>
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<tr>
<td>10/10/16</td>
<td>5.3</td>
<td>Trigonometric Functions of Any Angle</td>
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<tr>
<td>10/10/16</td>
<td>5.4</td>
<td>Trigonometric Functions Defined on the Unit Circle</td>
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<tr>
<td>10/17/16</td>
<td>5.5</td>
<td>Graphs of Sine and Cosine</td>
<td>11</td>
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<tr>
<td>10/17/16</td>
<td>5.6</td>
<td>Graphs of Other Trigonometric Functions</td>
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<tr>
<td>10/24/16</td>
<td>5.7</td>
<td>Inverse Trigonometric Functions</td>
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<td><strong>TEST 3</strong></td>
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<tr>
<td>11/7/16</td>
<td>6.1</td>
<td>Fundamental Trigonometric Identities</td>
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<tr>
<td>11/7/16</td>
<td>6.2</td>
<td>Sum and Difference Formula</td>
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<td>11/7/16</td>
<td>6.3</td>
<td>Double Angle and Half Angle</td>
<td>13</td>
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<tr>
<td>11/14/16</td>
<td>7.1</td>
<td>Applications of Right Triangles</td>
<td>16</td>
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<tr>
<td>11/14/16</td>
<td>7.2</td>
<td>Law of Sines</td>
<td>14</td>
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<tr>
<td>11/14/16</td>
<td>7.3</td>
<td>Law of Cosines</td>
<td>14</td>
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<tr>
<td>11/21/16</td>
<td>9.1</td>
<td>Systems of Linear Equations in Two Variables and Applications</td>
<td>9</td>
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<tr>
<td>11/21/16</td>
<td></td>
<td><strong>No Classes. Thanksgiving Week</strong></td>
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<tr>
<td>11/28/16</td>
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<td><strong>TEST 4</strong></td>
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<td></td>
<td></td>
<td>Review, <strong>Test Retakes</strong></td>
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