Math 1113 – Precalculus – 4 Credit Hrs
Section 05, Spring 2017
MW 9:30-10:45 am Nursing Bldg 110; Fri 9:05-9:55 Callaway Bldg Annex 146

Instructor: Mr. Ricky Johnson
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Phone: (678) 839-4129
E-mail: rjohnson@westga.edu
Office Hours: MW 2:00-4:00, Th 12:00-4:00; 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, 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 purchase the subscription, you can either buy an access code at the bookstore or pay directly on the website. To activate a subscription on aleks.com, you will need to enter the following course code when you register: V6XDY-H4MAL. 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 following Financial Aid Access Code: 6E47E-D36AF-963B5-B96B0 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 12 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. However, at the end of the semester, your overall module score may replace your lowest in-class test score (if it is higher.) Note, when you first begin ALEKS, you will need to take the “Initial Knowledge Check.” Do NOT skip this. The better you score on the “Initial Knowledge Check”, the fewer topics you will have to complete in the remaining modules. Extensions for module due dates will not be granted for any reason. However, the lowest module score will be dropped.

**Quizzes (ALEKS):** There will be 13 quizzes throughout the semester. Quiz 1 will be the “Initial Knowledge Check”. The Initial Knowledge Check will be counted as a pass/fail quiz score. Regardless of your performance, if you take it, you will receive a ‘100’ for quiz #1. If you skip it, you will receive a ‘0’. There will also be 1 quiz after each of the 12 modules. 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 2 days 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 NOT factored into your overall module score. Extensions for quiz due dates will not be granted for any reason. However, your lowest 3 quiz scores will be dropped. Note, in addition to the 13 quizzes, there will also be an optional bonus quiz given the first week of class (it will be a take-home quiz worth 20 extra-credit quiz grade pts). It covers topics from Ch R and Ch 1.

Tests: There will be 4 tests throughout the semester. The test dates given below are tentative and are subject to change. At the end of the semester, you may drop your lowest test score and replace it with your ALEKS overall module score. Make-up tests can only be given if you have WRITTEN documentation for an illness or a university approved activity (eg. participation in athletic events). AND you must notify before the test. However, there will be no make-ups for the Final Exam for ANY reason.

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>
</tr>
</thead>
<tbody>
<tr>
<td>4 Tests (tentative dates, subject to change)</td>
<td>60% (15% each)</td>
</tr>
<tr>
<td>Test 1 Wednesday, February 8</td>
<td></td>
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<tr>
<td>Test 2 Monday, February 27</td>
<td></td>
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<tr>
<td>Test 3 Friday, March 17</td>
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<tr>
<td>Test 4 Friday, April 28</td>
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<tr>
<td>Quizzes (ALEKS)</td>
<td>15%</td>
</tr>
<tr>
<td>Final (Comprehensive) Mon, May 8</td>
<td>25%</td>
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<tr>
<td>Total</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.

You may receive a maximum of 20 bonus points during the semester to go toward your test grade. The dates for eligibility will be January 16 – April 21.

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. As stated earlier, make-up tests will only be given if you notify me before the test and with proper written documentation for an illness or university approved excuse. However, the final exam is mandatory with no make-ups given.

**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:**

**Drop Ends:** Wednesday, January 11th
**Last Day to Withdrawal with W:** Thursday, March 2nd
**Last Day of Class:** Monday, May 1
**Final Exam:** Monday, May 8, 8:00 am – 10:00 am
**No classes:**
   - Monday, January 16th (MLK Day)
   - March 20th-24th (Spring Break)
## Tentative Course Schedule:

<table>
<thead>
<tr>
<th>WEEK OF</th>
<th>ALEKS Module</th>
<th>SECTION</th>
<th>TITLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/9/17</td>
<td>1</td>
<td>Intro Ch R/Ch 1 2.3</td>
<td>Algebra Review (Selected Sections from Ch R, Ch 1) Functions and Relations</td>
</tr>
<tr>
<td>1/16/17</td>
<td>1 2</td>
<td>2.6 2.7</td>
<td>Transformations of Graphs Analyzing Graphs of Functions and Piecewise Defined Functions</td>
</tr>
<tr>
<td>1/23/17</td>
<td>2 2 3 3</td>
<td>2.8 2.6 3.1 3.2</td>
<td>Algebra of Functions and Function Composition Quadratic Functions Polynomials Polynomial Division/Remainder Thm</td>
</tr>
<tr>
<td>1/30/17</td>
<td>3 3 3 3</td>
<td>3.4 3.5 3.6</td>
<td>Zeros of Polynomials Rational Functions Polynomial and Rational Inequalities</td>
</tr>
<tr>
<td>2/6/17</td>
<td>3 4</td>
<td>3.6 4.1</td>
<td>Polynomial and Rational Inequalities Inverse Functions</td>
</tr>
<tr>
<td>2/13/17</td>
<td>4 5 5</td>
<td>4.2 4.3 4.4</td>
<td>Exponential Functions Logarithmic Functions Properties of Logarithms</td>
</tr>
<tr>
<td>2/20/17</td>
<td>6 6</td>
<td>4.5 4.6</td>
<td>Exponential and Logarithmic Equations Modeling with Exponential and Logarithmic Functions</td>
</tr>
<tr>
<td>2/27/17</td>
<td>Test 2 7 7 7</td>
<td>5.1 5.2</td>
<td>Angles and Their Measures Right Triangle Trigonometry</td>
</tr>
<tr>
<td>3/6/17</td>
<td>8 8 9</td>
<td>5.3 5.4 5.5</td>
<td>Trigonometric Functions of Any Angle Trigonometric Functions Defined on the Unit Circle Graphs of Sine and Cosine</td>
</tr>
<tr>
<td>3/13/17</td>
<td>9 9</td>
<td>5.6 5.7</td>
<td>Graphs of Other Trigonometric Functions Inverse Trigonometric Functions</td>
</tr>
<tr>
<td>3/20/17</td>
<td>Test 3 10 10 10</td>
<td>6.1 6.2 6.3</td>
<td>Fundamental Trigonometric Identities Sum and Difference Formula Double Angle and Half Angle</td>
</tr>
<tr>
<td>4/3/17</td>
<td>11</td>
<td>6.5</td>
<td>Trigonometric Equations</td>
</tr>
<tr>
<td>4/10/17</td>
<td>12 12</td>
<td>7.1 7.2</td>
<td>Applications of Right Triangles Law of Sines</td>
</tr>
<tr>
<td>4/17/17</td>
<td>12 12</td>
<td>7.3 8.1</td>
<td>Law of Cosines Polar Coordinates</td>
</tr>
<tr>
<td>4/24/17</td>
<td>12 12</td>
<td>8.2</td>
<td>Graphs of Polar Equations</td>
</tr>
<tr>
<td>5/1/17</td>
<td></td>
<td>Review</td>
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1) **Read the syllabus**  
A copy of the syllabus can be found in CourseDen.

2) **Purchase the ALEKs 360 access code and register for my class.**  
Go to [www.aleks.com](http://www.aleks.com) and click on New Student Sign up. You will need my course id (this is found on the first page of the syllabus) to register and purchase a subscription. If you are awaiting financial aid, you can gain two weeks of temporary access (see courseDen).

3) **TAKE THE ALEKS KNOWLEDGE CHECK**  
After you register for my class, ALEKs will go through a short tutorial. Please do not skip this. After the tutorial, you can start the Knowledge Check.

   *The Knowledge Check will test your current knowledge of the course material. Please, do not receive any help during this test. The course will then tailor to your needs as a student, and will cover content you struggle with in more detail.

   *You will need around 1 hour for the Knowledge Check. (Some students may need much longer than that, some not quite an hour). Just make sure you give yourself enough time to take the test so you are not rushed and you can do your best.

   *The Knowledge Check will be counted as a pass/fail quiz score. Regardless of your performance, if you take it, you will receive a ‘100’ for quiz #1. If you skip it, you will receive a ‘0’.

4) **Review the algebraic topics listed below**  
The course requires you to know how to perform common algebraic operations. These operations are not covered this is class’s curriculum, however, I find most students at least need a “refresher” on the topics. These topics are covered in Chapter R and Chapter 1 of our textbook. Please contact me if you need additional help. Tutoring is encouraged.

   i)  Properties of Exponents (R.2)
   ii) Reducing Radicals (R.3/R.4)
   iii) Factoring two, three, and four term polynomials (R.5)
   iv) Rational Expressions (R.6)
   v) Equations (1.1-1.2/1.4-1.6)

**Good luck this semester!!**