Syllabus for Precalculus (MATH 115)

Fall 2011 (Aug 18 – Dec 12), Section 007

Department of Mathematics

University of South Carolina - Columbia

Instructor	Danny Rorabaugh
Office	LeConte 123B
Office Hours	Mon/Wed 09:00 – 10:00 am Fri 10:30 – 11:30 Am
Email Address	rorabaug@email.sc.edu

Class Where'n'When

Room	*Days*	*Time*
Gambrell (GAMB) 402	Mon/Wed	08:00 – 08:50 am
Gambrell (GAMB) 006	Tue/Thu	09:30 – 10:45 am

Overview

The prerequisite for Precalculus (Math 115) is either qualification through placement or a grade of C or better in Math 111 or 111I. This course will cover various topics in algebra and trigonometry, including:

- Polynomials and rational functions;
- Inverse functions;
- Logarithms and exponential functions;
- Polar and parametric functions;
- Analytic trigonometry;
- Conic sections.

Course Materials

Your textbook package for this class is available in the bookstore for $155.80. It includes a custom version of the textbook listed below and an access code for CourseCompass – http://www.coursecompass.com – the online system we will be using for homework. To register for our class, the Course ID is **rorabaugh06172**. Access to CourseCompass is **required** for this course. However, since the online system comes with an eBook of our textbook, the textbook itself is *optional*. If you choose not to purchase the textbook from the bookstore, then you can purchase your access code online for $80.00 when you enroll.

Textbook: *College Algebra and Trigonometry: A Unit Circle Approach* 5e
Mark Dugopolski
ISBN: 9780321644770

Various handouts and other class-related materials will also be posted on CourseCompass under Announcements. Grades will also be posted on CourseCompass under GRADEBOOK. In addition, all emails regarding the class will be sent through CourseCompass. Please ensure that the email tied to your account is one you check regularly.

A scientific or graphing calculator is necessary for many parts of this course, and should be brought to class every day. However, CAS/symbolic calculators (e.g., TI-89 and TI-92) will not be permitted on quizzes or tests.

Grading
Your grade will be based on attendance, online assignments, regular quizzes, four midterm exams, and one final exam. The weight designated for each is as follows:

Attendance	5%
Assignments	15%
Quizzes	20%
Exams	60%

Letter Grades
An 'A' in the class reflects superb mastery of the concepts; a 'B' reflects mastery; a 'C' demonstrates an average understanding of the material; a 'D' or 'F' shows a below average understanding of the material. Below is the quantitative breakdown of the aforementioned grades.

A	[90%, 100%]
B	[80%, 90%)
C	[70%, 80%)
D	[60%, 70%)
F	[0%, 60%)

Attendance
Even though attendance only counts toward 5% of your grade, it is necessary to regularly attend class in order to stay on top of the material. By standard policy, students missing more than 10% of the class meetings can have their overall grade lowered. After the fifth absence, each absence will result in a loss of 0.5 of the 5.0 percentage points allocated to attendance. **When roll is not taken, do not forget to initial the roll sheet at the end of each class session.** Leaving class early counts as an absence. Your five penalty-free absences should be saved for the unforeseen emergencies of life; I will not accept doctors' notes or other excuses aside from extenuating, long-term situations.

Assignments
Assignments make up 15% of your grade. All assignments will be completed online in CourseCompass. In most cases, you will be provided with multiple attempts and problem solving resources on the problems. However, keep in mind that these resources will not be available on quizzes and tests. It is your responsibility to work through the homework problems in their entirety in order to gain mastery of the material. Students are encouraged to work together on homework, but each student must personally submit his or her own solutions in CourseCompass.

Quizzes
Quizzes make up 20% of your grade. There will be at least one quiz per week, usually at the beginning of class. The quizzes are intended to test you on material that has been covered in class and on homework, and to prepare you for the sorts of questions that will be on your exams. I will drop each student's lowest quiz grade at the end of the course. There will be no make-up quizzes.

Exams
Exams make up 60% of your grade. We will have a midterm every three (3) weeks. Dates are 09/08, 09/29, 10/19 and 11/10. There will be no make-up exams. The final exam will be in Gambrell (GAMB) 006 on Tuesday, December 6 (2011/12/06) at 2:00 pm. By university policy, students must attend the final exam to pass the course.

Electronics in Class
No electronics are to be used in class. This includes laptops, cell phones, and mp3 players. Calculators, watches, pacemakers, hearing aids, etc. are obvious exceptions to this rule.

Learning Outcomes
In Math 115, students will gain a mastery of the topics in algebra and trigonometry, specifically in preparation for calculus. Furthermore students will achieve a greater ability to represent real-life situation in numerical forms and use mathematics to solve real-life problems.

Additional Help
If you're having any trouble in the course, please visit me during my office hours (see top of syllabus). Additionally, free help is available at the Math Tutoring Center in LeConte 105 (http://www.math.sc.edu/mathlab.html), or you can hire somebody for private tutoring (http://www.math.sc.edu/mathlab/private/). More student resources are available at the Academic Centers for Excellence (http://www.housing.sc.edu/ace/).

Academic Honesty
Cheating and plagiarism will not be tolerated. You may discuss all assignments with others, but the work you submit must be your own. Exams are always independent tasks. Violations of this policy will be dealt with according to University guidelines. You can find a link to the University Honor Code at http://www.sc.edu/academicintegrity/. The following are examples - not a comprehensive list - of actions considered as academic dishonesty:

- Turning in work copied (whole or in part) from another student or resource (print or electronic) as your own.
- Communicating with other persons or using unauthorized resources during tests and quizzes.

Course Topics

Textbook Section(s)	*Topic*
P.1-P.3	Prerequisites/Review
1.1-1.2	One-Variable Equations
1.3-1.4	Two-Variable Equations
1.6	Quadratic Equations
1.7	Inequalities
2.1-2.4	Functions (Fun. for short)
2.5	Inverse Fun.
2.6	Fun. with Variations
P.4-P.6	Polynomial Review
3.1	Quadratic Fun.
3.2-3.3	Zeroes of Polynomials
3.4-3.6	More Fun.
4.1	Exponential Fun.
4.2-4.3	Logarithms
4.4	Applications of Exponentials and Logarithms
5.1	Angles
5.2-5.5	Trigonometric Fun.
5.6	Right Triangle Trigonometry
6.1-6.5	Trigonometric Identities
7.1-7.2	Law of Sines and Law of Cosines
7.6	Polar Equations
7.7	Parametric Equations
8.1-8.2	Systems of Linear Equations
8.3	Nonlinear Systems of Equations
8.4	Partial Fractions
8.5	Systems of Inequalities
11.1-11.3	Sequences and Series
10.1-10.3	Conic Sections