Math 112, Spring 2011 **Office Hours**: 11:00-11:50 & 2:00-3:00 Mon, Wed & Fri
Mrs. Karen Spike (other times by appointment)
Office: Bear Hall, room 121 **Phone: 962-3823** **uncw email: spikek**
MAT 112-002 meets at 12:00-12:50 MWF and MAT 112-003 meets at 1:00-1:50 MWF.
(I also teach MAT 141 at 9:00- 9:50 & 10:00-10:50 on MWF)

TEXT: Algebra & Trigonometry: Enhanced with Graphing Utilities, 5th edition by Sullivan and Sullivan, Prentice Hall Publishing Company.

Additional Resources:

1. **Class website: http://people.uncw.edu/spikek/mat112.htm**
2. MyMathLab computer software with PORTAL ACCESS CODE.
   The Course Compass ID is different for each section and will be given to you in class.
3. **The Student Solutions Manual** for the text is very helpful. It is available in printed form (free if purchased bundled with a new text) or online (free when purchased with MyMathLab).
4. **CALCULATOR: A graphing calculator is required,** but as a learning tool and for reinforcing concepts, not as a replacement for your work**.** Instructor use of the TI-84 calculator will be integrated into the teaching of the course. Thus the TI-83 or TI-84 is highly recommended as the one for students to purchase. But if you own and know how to use another similar type of graphing calculator you may use it. However, work must be shown on tests and quizzes. Please bring your calculator to class every day.

COURSE OUTLINE:

MAT 112. Trigonometry (3) Prerequisite: MAT 111 or equivalent or satisfactory performance on the UNCW mathematics placement test. Topics from trigonometry and algebra include trigonometric functions, identities and equations; zeros of polynomials, sequences. (No credit granted after the completion, with a grade of "C-" or better, of MAT 115 or a mathematics course numbered 152 or higher.)
The sections listed below will be covered:

Chapter	Topic/Title	Sections
5	The zeros of Polynomial Functions	5.5 & 5.6
7	Trigonometric Functions	7.1 – 7.8
8	Analytic Trigonometry	8.1 – 8.5, 8.7, 8.8
9	Applications of Trigonometric Functions	9.1 – 9.5 (9.5 is optional)
10	The Complex Plane; De Moivre's Theorem	10.3
11	Sequences and the Binomial Theorem	13.1-13.3, 13.5

GRADING:

It is your responsibility to read the text, review lecture notes, utilize features available on **Course Compass**, and do the **online homework problems**. I will give frequent **quizzes** to evaluate how well you understand the concepts covered. There will be **no makeup quizzes!** Each quiz missed is a zero, but this will not affect your grade until you miss more than two quizzes since I will drop your two lowest quiz scores. You will also have **3 tests** during the semester, and a **cumulative final exam**. There are **no makeup tests without prior permission. At anytime during the semester, to calculate your grade you just divide your total points by the number of points possible, convert this to a percent and use the following scale:**

93-100% **A,** 90-92% **A-**
87-89% **B+,** 83-86% **B**, 80-82% **B-**
77-79% **C+,** 73-76% **C**, 70-72% **C-**
67-69% **D+,** 63-66% **D**, 60-62% **D-**
below 60% **F**

Quizzes (in class) = 100 points
Homework = 100 points
3 tests at 100 points each = 300 points
cumulative final exam = 150 points
total points for the semester = 650 points

(If your semester % is on the border between grades, I consider such factors as attendance and improvement during the semester.)

MATH LAB (Learning Center):

The University Learning Center (Math Lab), located in Westside Hall, is available for students to receive free tutoring for this course. Information (location, hours of operation, etc.) can be found at the following link: http://www.uncw.edu/stuaff/uls/math.htm. Math tutors help students make the transition to college mathematics as well as supporting students in math and statistics courses. Math Services is now offering one-on-one appointments for **MAT 112**, MAT 115, MAT 141-142, MAT 161-2, and STT 215. Students can set their own appointments through our website: http://www.uncw.edu/stuaff/uls/onlineappointment.html.

ATTENDANCE:

It is important that you attend class regularly! If you must miss class, please use the course website and Course Compass to keep up with your assignments. Feel free to talk with me if you have an attendance problem. **If you are absent 3 or fewer classes you have the option of replacing one test score with your percentage from your final exam.**

STUDENT DISABILITIES:

UNCW Disability Services supplies information about disability law, documentation procedures and accommodations that can be found at **http://www.uncw.edu/stuaff/disability/** . To obtain accommodations the student should first contact Disability Services and present their documentation to the coordinator for review and verification. (If you feel that you should qualify for disability testing or accommodations during this course, contact the Office of Disability Services in Westside Hall, first floor, or call 910-962-7555.

HONOR CODE:

"All students enrolled at UNCW are subject to the UNCW Student Academic Honor Code, which is intended to help every member of the UNCW community appreciate the high value placed on academic integrity and the means that will be employed to ensure its preservation**."** For the new honor code please see this website http://www.uncw.edu/stuaff/odos/honorcode/

SEAHAWK RESPECT COMPACT:

Framed copies of the Seahawk Respect Compact have been posted in buildings and classrooms across campus. The Compact expresses the core values essential to an open, respectful learning and working environment. Please see this website for a statement of this compact: http://www.uncw.edu/diversity/src.html .

CELL PHONES: Cell phone use is not permitted during class.

EMERGENCY HOTLINE:

If the university is officially closed, the hours of closing will be announced on the emergency hotline (910-962-3991 or toll-free 888-657-5751) and published on @UNCW.

"UNCW practices a zero-tolerance policy for violence and harassment of any kind. For emergencies contact UNCW CARE at 962-2273, Campus Police at 962-2222, or Wilmington Police at 911. For University or community resources visit ***http://www.uncw.edu/wsrc/crisis.html*** ***or*** ***http://www.uncw.edu/stuaff/care/***

IMPORTANT DATES: **http://www.uncw.edu/reg/calendars.htm**

Wednesday, Jan 19th – Last day to add a class, or drop without a grade.
Monday, February 14th – **Test 1**
Tuesday, March 1st – Last day to withdraw with a **W**

Please bring your graphing calculator to class every day. The following syllabus is a schedule for the first part of the semester. Changes and additions will be discussed in class and posted on Course Compass.

Wed Jan 12	**Syllabus, Course Compass Info, Preview of Course; Tentative Plan Follows:**
Fri Jan 14	5.5 The Real Zeros of a Polynomial
Mon Jan 17	*Martin Luther King, Jr., Holiday -- no classes*
Wed Jan 19	5.6 Complex Zeros; the Fundamental Theorem of Algebra
Fri Jan 21	Quiz on sections 5.5-5.6 & Discussion of section 7.1 Angles and Their Measure
Mon Jan 24	7.2 Right Triangle Trigonometry

Second part of the syllabus for MAT 112 Spring 2011:
This schedule is subject to change but is my best estimate of when each section should be done.
You should read the section in the text and do the Course Compass Homework. When reviewing for a quiz, do odd numbered problems in the textbook. All the odd numbered problems are worked out completely in the Student Solutions Manual that is available in Course Compass. Click on Chapter Contents in the menu on the left side of the screen. Then click on Tool for Success and the link for the Student Solutions Manual. Choose the chapter you want and scroll down to the problem you want to check.

Wed Jan 26	7.3 Computing the Values of Trig Functions of Acute Angles
Fri Jan 28	In-class Quiz on sections 7.1-7.3. Discussion of section 7.4.
Mon Jan 31	7.4 Trig Functions of General Angles
Wed Feb 2	7.5 Unit Circle Approach; Properties of Trig Functions
Fri Feb 4	Quiz on 7.4-7.5 and 7.6 Graphs of the Sine and Cosine Functions
Mon Feb 7	7.7 Graphs of the Tangent, Cotangent, Cosecant, and Secant Functions
Wed Feb 9	7.8 Phase Shift; Sinusoidal Curve Fitting
Fri Feb 11	Review for test 1 and review of transformations while graphing trig functions.
Mon Feb 14	**Test 1 (on sections 5.5-5.6 and 7.1-7.5)**
Wed Feb 16	section 6.2, One-to-one functions and Inverse Functions
Fri Feb 18	Quiz on 7.6-7.8 & 8.1 Inverse Trig Functions (Inverse of Sine, Cos & Tan)
Mon Feb 21	8.2 Inverse Trig Functions, continued (Inverse of other trig functions)
Wed Feb 23	8.3 Trig Identities
Fri Feb 25	8.4 Sum and Difference Formulas
Mon Feb 28	8.3 & 8.4 Continued practice with trig identities *(Tue March 1st is the Last Day to Withdraw from a class)*
Wed Mar 2	8.5 Double-Angle and Half-Angle Formulas
Fri Mar 4	Quiz on 8.3-8.4. Continue 8.5 Double-Angle and Half-Angle Formulas
Mon Mar 7	Continue 8.5 with more examples
Wed Mar 9	Review for test 2 & 8.7 Trig Equations, part I
Fri Mar 11	**Test 2 (on sections 7.6-7.8 and 8.1-8.5)**
Week of March 14 - 18: Spring Break	
Mon Mar 21	8.8 Trig Equations, part II
Wed Mar 23	8.8 Trig Equations, part II (continued)
Fri Mar 25	Quiz on 8.7 & 8.8. Also 9.1 Applications Involving Right Triangles
Mon Mar 28	9.2 Law of Sines
Wed Mar 30	Finish 9.2 doing the SSA ambiguous case for Law of Sines
Fri April 1	9.3 Law of Cosines
Mon April 4	9.4 Area of a Triangle
Wed April 6	9.5 Simple Harmonic Motion; Damped Motion; Combining Waves
Fri April 8	13.1 Sequences
Mon Apr 11	13.2 Arithmetic Sequences
Wed Apr 13	13.3 Geometric Sequences; Geometric Series
Fri Apr 15	13.3 continued
Mon Apr 18	Review
Wed Apr 20	**Test 3**

Thu and Fri Apr 21-22: Easter Weekend – State Holiday - no classes	
Mon Apr 25	13.5 The Binomial Theorem
Wed Apr 27	10.1 & 10.2 Polar Equations and Graphs
Fri Apr 29	10.3 The Complex Plane, De Moivre' Theorem
Mon May 1	Last Day of Classes, Review
Tue May 2	*Reading Day*
Fri May 6	**Noon class, section 002 -- Final Exam at 11:30 - 2:30 pm**
Mon May 9	**1:00 class, section 003 – Final Exam at 11:30 - 2:30 pm**