

University of West Georgia

Course Syllabus

Trigonometry & Calculus for In-Service P-8 Teachers (MATH 7513)

Fall 2007

Instructor: M. Yazdani, Ph.D.

E-mail: myazdani@westga.edu

Phone: 678-839-4132

Office: 322 Boyd Building

Conference Hours: Tuesday (11:00 – 2:00 and 3:30 – 5:30), Wednesday (1:00 – 3:00), and Thursday (11:00 – 2:00). I am available at any other time by Appointment.

Website: mathematics-science.org

Text: LaTorre, D., et al., Calculus Concepts, an Informal Approach to the Mathematics of Change, 4th Edition, Houghton Mifflin Company, Boston, Massachusetts.

STUDENT LEARNING OUTCOMES

After completion of the course, the student will demonstrate the following:

1. An understanding of standard vocabulary and symbols associated with trigonometry and calculus;
2. A better understanding of fundamental concepts in trigonometry, including angle measure (degree and radian), trig ratios, identities, Law of Sines, Law of Cosines, solving triangles, and graphing trigonometric functions;
3. A better understanding of fundamental concepts in calculus, including limits, continuity, derivatives and their applications;
4. An understanding of the scope and sequence of the P-12 mathematics curriculum.

INSTRUCTIONAL METHODS AND ACTIVITIES

Class lectures will include the following: presentation of material and concepts, problem solving techniques, and class discussions.

Quizzes will be given periodically through out the semester.

All tests will be comprehensive.

There is no make up for daily quizzes. There is no make up for the tests unless the student presents a legitimate excuse.

EVALUATION AND GRADE ASSIGNMENT

Quizzes	10%
Lesson Presentation (s)	10%
Reflection on Trig. & Cal. Ed. Issues	10%
Activity Project	5%
Research Paper	5%
2 Tests	40%
Final Exam	20%

Final grade will be determined by point accumulation as follows:

- A = 90% -100%
 B = 80% - 89%
 C = 70% - 79%
 D = 60% - 69%
 F = Below 60%

Course Schedule

Week	Topic
1	Radian and degree measure
1	Co-terminal angles
2	Right-angle trigonometry
2	Trigonometric functions
3	Solving right triangles (applications)
4	Graph of sine and cosine functions
4	Graphs of other trigonometric functions
5	Law of sines
6	Law of cosines
7	Solving any triangle (applications)
8	Slope of a curve at a point
9	Definition of the derivative
10	Formal definition of the limit
11	Binomial theorem, derivatives of powers of x
12	Linearity of the derivative, derivatives of all polynomials
13	Distance traveled at non-constant velocity
14	Area under a curve
15	Definition of the definite integral
16	Fundamental Theorem of Calculus

SUPPLEMENTARY REFERENCES:

1. Larson, R., Edwards, B., (1999), Brief Calculus, An Applied Approach to Mathematics. Houghton Mifflin Company, Boston, MA.
2. Kay, D. (2001), Trigonometry. Cliff Notes, Inc. New York, New York
3. Stewart, J., (2003), Single Variable Calculus Early Transcendentals, Thompson Brooks/Cole, Belmont, California. ISBN: 0-495-01613-6

CLASS POLICIES

Attendance: Attendance is mandatory.

I expect each student to attend all classes and follow university policy. There are only 5 unexcused or excused absences allowed per semester. If you exceed 5 absences you will **fail** the course. Attendance will be checked each class period and it is your responsibility to sign the attendance sheet.

Conferences: Conferences can be beneficial and are encouraged. All conferences should occur during the instructor's office hours, whenever possible. If these hours conflict with a student's schedule, then appointments should be made. The conference time is not to be used for duplication of lectures that were missed; it is the student's responsibility to obtain and review lecture notes before consulting with the instructor. The instructor is very concerned about the student's achievement and well-being and encourages anyone having difficulties with the course to come by the office for extra help.

Note: If you have a documented disability, which will make it difficult for you to carry out the course work as I have outlined and / or if you need special accommodation or assistance due to disability, please contact me as soon as possible.