Syllabus for: Math 50A	
Semester & Year:	Fall 2012
Course ID and Section Number:	E1907
Number of Credits/Units:	4
Day/Time: **Location:**	MWF 11:40-12:55 PS 117
Instructor's Name:	Bruce Wagner
Contact Information:	Office location and hours: PS 103, M 10:30-11;30, W 1:30-2:30 & TuTh 4:30-5:30 Phone: 707-476-4207 Email: bruce-wagner@redwoods.edu

Course Description (catalog description as described in course outline):
A study of limits, continuity, and derivatives of algebraic, transcendental, and trigonometric functions. Applications of the derivative include optimization, related rates, examples from the natural and social sciences, and graphing of functions. The course introduces the integral and the connection between the integral and derivative.

Student Learning Outcomes (as described in course outline) :
1. Read, write, and speak accurately about mathematical ideas and use correct mathematical notation.
2. Use graphing technology to visualize functions, explore mathematical concepts, and verify their work.
3. Apply differentiation techniques and theory to functions of one variable.
4. Apply the concept of the derivative and integral to solve real-world problems and applications.
5. Demonstrate the fundamental relationship between the derivative and the integral.
6. Use numerical, graphical, symbolic, and verbal representations to solve problems and communicate with others.

Special accommodations: College of the Redwoods complies with the Americans with Disabilities Act in making reasonable accommodations for qualified students with disabilities. Please present your written accommodation request at least one week before the first test so that necessary arrangements can be made. No last-minute arrangements or post-test adjustments will be made. If you have a disability or believe you might benefit from disability related services and may need accommodations, please see me or contact Disabled Students Programs and Services. Students may make requests for alternative media by contacting DSPS.

Academic Misconduct: Cheating, plagiarism, collusion, abuse of resource materials, computer misuse, fabrication or falsification, multiple submissions, complicity in academic misconduct, and/ or bearing false witness will not be tolerated. Violations will be dealt with according to the procedures and sanctions proscribed by the College of the Redwoods. Students caught plagiarizing or cheating on exams will receive an "F" in the course.

The student code of conduct is available on the College of the Redwoods website at:
http://www.redwoods.edu/District/Board/New/Chapter5/Ap5500.pdf

College of the Redwoods is committed to equal opportunity in employment, admission to the college, and in the conduct of all of its programs and activities.

Math 50A: Differential Calculus

Fall 2012

section E1907

Instructor: Bruce Wagner
Office: 103 Physical Science
Office hours: M 10:30-11:30, Tu 4:30-5:30, W 1:30-2:30, Th 4:30-5:30
Phone: 707-476-4207
Fax: 707-476-4424
E-mail: bruce-wagner@redwoods.edu
WWW: http://msemac.redwoods.edu/~wagner

Course Homepage: http://msemac.redwoods.edu/~wagner/math50A
Class Sessions: MWF 11:40-12:55 in 117 Physical Science

COURSE DESCRIPTION: Differential Calculus is the first in the series of three calculus courses, and is a core course in most math, science, and engineering programs. This course presents a thorough study of limits, continuity, and derivatives of algebraic, transcendental, and trigonometric functions. Applications of the derivative include optimization, related rates, examples from the natural and social sciences, and graphing of functions. The course also introduces the integral and the connection between the integral and the derivative.

PREREQUISITES: Grade of C or better in Math 30 and Math 25 (or the equivalent), or an appropriate score on the math placement exam.

TEXTBOOK: *Calculus (Early Transcendentals)*, 5th edition, by Stewart. Chapters 2-5 will be the focus of this course. You do not need to purchase the textbook. The Mathematics Department has provided copies for you to borrow for the semester (available at the library). It is your responsibility to return the textbook in good condition at the end of the semester.

EXAMS: There will be three midterm exams and one final exam. The final exam will be comprehensive over the entire semester. Dates for the midterms will be announced later on the course homepage. There will also be some short quizzes.

Makeup exams will only be given if there is a very good and verifiable reason for missing the exam, such as illness or emergency. Notify me immediately if you cannot take an exam. If you know you are going to be away, then you are expected to arrange to take the exam early.

Calculators will be allowed (and may be necessary) on most quizzes and exams. However, there may be some quizzes and portions of exams on which a calculator cannot be used.

HOMEWORK: There will be daily reading and homework assignments that will be mostly computational and routine, and assigned mostly for practice. You are expected to complete these assignments each day, and come to class prepared to discuss them. You are also required to keep a neatly organized binder with your completed written homework assignments, and I will collect and check these occasionally. Also, some of the problems on the daily assignments will need to be completed on our online testing system.

In addition, there will be (approximately) weekly homework assignments that will be collected and graded. These assignments will generally be more challenging and will involve more intermediate steps, synthesis of concepts, experimentation, and writing.

In general, the homework will be indicative of the type and difficulty of material that you need to know for the exams. You are expected to complete homework assignments on time.

GRADING:

Homework, quizzes, class activities, and class participation:	250 points
Midterm exams:	50 points each
Final exam:	100 points

USE OF CALCULATORS AND COMPUTERS: A good graphing calculator is required. The calculator must be able to do usual plots of functions, and should be able to solve equations numerically. Recommended calculators for students in calculus are the TI-83+, TI-84+, TI-89, TI-92, TI-86, or TI-85. However, brands from other manufacturers can also be used. You will be expected to be able to use your calculators to numerically solve equations, analyze graphs, and work with data in the course of solving some problems.

The TI-89 and TI-92 can do symbolic calculations, including differentiation and integration. While these calculators are powerful and useful tools, you must be able to both differentiate and integrate functions without the use of the calculator. Therefore, you will be expected to show all steps on your homework when performing any differentiation or integration to receive full credit for your work.

Our class will also learn to use some computer software as a computational and visual aid to understanding the course material. This software is available in the computer lab in 116 Physical Science, and you may use it to help with homework and projects. However, no prior computer knowledge is required for the course.

COURSE INFORMATION ON THE WEB: Course information will be available throughout the semester on the World Wide Web. You should consult the homepage for this course (listed above) regularly for information on homework assignments, exams, etc.

DISABILITIES: Any student who feels that s/he may need an accommodation based on the impact of a disability should contact the instructor as soon as possible. The student will also need to visit the Disabled Student Programs and Services office (476-4280) and obtain a DSPS Support Services Agreement. Every effort will be made to meet accommodation requests. However, no retroactive accommodations will be provided.