Syllabus for: Math 50a, Differential Calculus	
Semester & Year:	Fall 2015
Course ID and Section Number:	MATH-50A-E8379-2015F MATH-50A-D8380-2015F
Number of Credits/Units:	4
Day/Time: **Location:**	MTTHF 11:40-12:45 LRC 105
Instructor's Name:	Michael Butler
Contact Information:	Office location and hours: SC216D Phone: 476-4234 Email: michael-butler@redwoods.edu

Course Description : 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 :

1. Use the theory of differential calculus as a fundamental problem-solving tool.
2. Apply the concepts of the derivative and the integral to solve real-world problems and applications.
3. Use graphing technology to visualize functions, explore mathematical concepts, and verify results in differential calculus.
4. Use sound mathematical writing and appropriate use of numerical, graphical, and symbolic representations to present solutions of mathematical exercises and applications in differential calculus.

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.

OBJECTIVE:This is the first of our three semester calculus series. Calculus is one of the greatest discoveries of the human species. Calculus is a language that is beautiful, precise, and powerful. However, as with most things that fit this description, it's not always easy to grasp. Don't expect to understand every new topic completely the first time. At times comprehension will come with the first view of a topic, and sometimes it won't. It is just the nature of the beast. Be patient with yourself and have confidence that in time it will make sense. When you finish this course you should have a much better appreciation of how mathematics can be used to describe the real world and how it is a beautiful subject to study.

MATERIALS: You will need to obtain the following for this class:

1) A graphing scientific calculator (TI-84 or TI-89 recommended)
2) Graph paper (cheap stuff will be fine)
3) A composition book to keep quick reference notes in.

HOMEWORK: Homework will be assign every class and it is expected you will have it done by the next class meeting. I may give extensions on the homework if it is warranted, but don't count on that. I will not accept late homework. You get one free assignment. Why do it? Hopefully you'll come to enjoy the homework since it is the place where you really learn to do calculus and you'll fail the course if you don't do it.

1. Done in pencil
2. Name and assignment appear in upper right corner of first page
3. Original problem is stated and ALL WORK IS SHOWN
4. **Work is written neatly and can be easily followed.**
5. Pages are in correct order and stapled in upper left corner.

I have a forgiveness policy on the homework that goes as follows: After receiving your returned homework, if you correct any mistakes (neatly on a separate sheet) and bring it to me during office hours (and go over it with me) I will return full credit.. So, you should get 100% on your homework score.

QUIZZES/ACTIVITIES: There will be doing a quiz pretty much every week. The quizzes will be from one to five questions and will come from the homework and the reading. If you stay up with the homework and reading, the quizzes will be easy points. No make-up quizzes will be allowed unless you make **prior** arrangements. We will be doing a fair amount of activities both in class and at home since some will take more than 50 minutes to complete. These activities count as quizzes in calculating your grade. You can makeup a missed activity for at least ½ credit.

OPPORTUNITIES: I hate the name "exam" or "mid-term" for a major point gathering opportunity. You go to the doctor for an exam and midterms should occur in the middle of the semester. Instead, I prefer to call these "Opportunities." That is what they are; an opportunity for you to show off what you have learned. There will be an in class 100 point Opportunity at the end of every chapter. The final opportunity may cumulative.

NOTE: I grade exams based on the work. The correct answer is worthless if the work is not complete and comprehensible.

COMPOSITION BOOK: You will be keeping a summary notebook during the course that you will find invaluable during the quizzes. Please buy a composition book to keep summary notes in. The first 4 pages are your table of contents. You need to put page numbers in the book and keep track of the concepts that you are summarizing in the table of contents. No Xeroxed material is allowed in the book, everything in there has to be in your handwriting. At the end of the book you may want to keep a glossary of terms from the text-book. Again, you'll find this extremely helpful for the quizzes. You are allowed to use the book on all quizzes and the final, but not on the opportunities. I will be collecting the books at least 3 times during the semester (same day as the opportunities) and grading them. You need to have at least three passing grades on the comp book to use it on the final. These scores count as homework.

ATTENDANCE: To succeed in a mathematics class you need to attend every class meeting. Since we do a fair amount of in class work, this is particularly true in this class. In this spirit, **If you exceed 6 absences, you may be asked to repeat the course.** If you have to miss class, make prior arrangements with a fellow student to get any notes or materials covered that day. You are responsible for the material covered even if you can't attend class.

GRADES: Your final grade will be determined as follows:

Homework.... .....20%

Quizzes..... .....30%

Opportunities 50%

I will be using the plus/minus grade schedule given below

A	93-100%	C	72-76.9%
A–	90-92.9%	D	60-71.9%
B+	87-89.9%	F	0-59.9%
B	83-86.9%		
B–	80-82.9%		
C+	77-79.9%		

MATH LAB: There is a class dedicated to your success in mathematics! The math lab (located in the library) offers 1/2 to 1 unit of credit to get help with your homework. There is also a noncredit option. I strongly recommend you take advantage of this service! Great place to form study groups.

WORDS: The intangibility of an education makes it hard to define. Is it an honor bestowed upon any individual who jumps through the hoops set up by our educational system? At times the *system* part seems to be all there is, an endless set of rules and symbols that are to be mastered to the level of regurgitation necessary to "make the grade." I don't believe that the sum total of your education can be displayed in a G.P.A. or a diploma or a 12 digit annual income. The worth of your education is based solely upon your honest evaluation of how much knowledge you have gained. Notice the emphasis on "you" here. No one can truly evaluate your level of comprehension but you. This is a tough one! How am I supposed to grade you if I believe what I've just written? The "system" is not perfect enough, our level of communication not clear enough, for me to truly evaluate you. Hence, I have set up an imperfect system by which I will administer your final grade. I feel that how I administer grades is fair and does reflect the level of comprehension achieved in this course. It also rewards consistency. The effort you put into this class needs to remain consistent since this grading system rewards consistency. The students that do well in my classes do so by scheduling a consistent effort into their week.

> "The state of mind which enables a person to do work of this kind is akin to that of the religious worshipper or lover. The daily effort comes from no deliberate intention or program, but straight from the heart." Albert Einstein 1918

What Al meant here is that you have to want the knowledge, the freedom and power an education can provide. No one can muster up the gumption to succeed in this class but you. So, enjoy! Calculus at times will blow your mind with it's beauty but you have to do a bit of work to get there.