Syllabus for Math 50a - Differential Calculus (Telepresence) – Eureka/Del Norte/Klamath Campuses		
Semester & Year	Fall 2017	
Course ID and Section #	Math 50A E3193	
Instructor's Name	Kyle Falbo	
Day/Time	Monday, Wednesday, Friday 4:30-5:45pm	
Location	LRC 105	
Number of Credits/Units	4.0	
Contact Information	*Office location*	SC 216G
	Office hours	WF 3-4:00pm, Th 5-6:00pm
	Phone number	(707) 476-4351
	Email address	kyle-falbo@redwoods.edu
Textbook Information	*Title & Edition*	Calculus, Early Trancendentals , 5th Edition
	Author	Stewart
	ISBN	0-534-39321-7

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.

Note: Graphing calculator required, TI-83 or TI-84 recommended.

Student Learning Outcomes

1. Evaluate the limit of a function at a real number and determine if a function is continuous at a real number. Use the limit to find the derivative of a function.

2. Use the derivative to find the equation of a tangent line to a function;

3. Use the differentiation formulas to compute derivatives and use differentiation to solve applications such as related rate problems and optimization problems.

4. Analyze the rate of change of an implicit function using implicit differentiation.

5. Graph functions using methods of calculus.

6. Evaluate a definite integral as a limit.

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 at 707-476-4280.

Academic Support

Academic support is available at Counseling and Advising and includes academic advising and educational planning, Academic Support Center for tutoring and proctored tests, and Extended Opportunity Programs & Services, for eligible students, with advising, assistance, tutoring, and more.

Academic Honesty

In the academic community, the high value placed on truth implies a corresponding intolerance of scholastic dishonesty. In cases involving academic dishonesty, determination of the grade and of the student's status in the course is left primarily to the discretion of the faculty member. In such cases, where the instructor determines that a student has demonstrated academic dishonesty, the student may receive a failing grade for the assignment and/or exam and may be reported to the Chief Student Services Officer or designee. The Student Code of Conduct (AP 5500) is available on the College of the Redwoods website at: www.redwoods.edu/district/board/new/chapter5/documents/AP5500StudentConductCodeandDisciplinaryProceduresrev1.pdf Additional information about the rights and responsibilities of students, Board policies, and administrative procedures is located in the college catalog and on the College of the Redwoods website.

Disruptive Classroom Behavior

Student behavior or speech that disrupts the instructional setting will not be tolerated. Disruptive conduct may include, but is not limited to: unwarranted interruptions; failure to adhere to instructor's directions; vulgar or obscene language; slurs or other forms of intimidation; and physically or verbally abusive behavior. In such cases where the instructor determines that a student has disrupted the educational process a disruptive student may be temporarily removed from class. In addition, he or she may be reported to the Chief Student Services Officer or designee. The Student Code of Conduct (AP 5500) is available on the College of the Redwoods website at: www.redwoods.edu/district/board/new/chapter5/documents/AP5500StudentConductCodeandDisciplinaryProceduresrev1.pdf
Additional information about the rights and responsibilities of students, Board policies, and administrative procedures is located in the college catalog and on the College of the Redwoods website.

Emergency Procedures for the Eureka campus:

Please review the campus evacuation sites, including the closest site to this classroom (posted by the exit of each room). The Eureka **campus emergency map** is available at: (http://www.redwoods.edu/Eureka/campus-maps/EurekaMap_emergency.pdf). For more information on Public Safety, go to http://redwoods.edu/safety/ In an emergency that requires an evacuation of the building:

- Be aware of all marked exits from your area and building.
- Once outside, move to the nearest evacuation point outside your building:
- Keep streets and walkways clear for emergency vehicles and personnel.
- Do not leave campus, unless it has been deemed safe by the Incident Commander or campus authorities. (CR's lower parking lot and Tompkins Hill Rd are within the Tsunami Zone.)

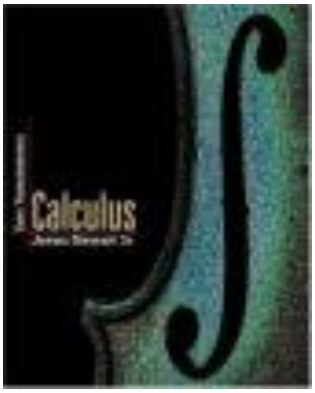
RAVE – College of the Redwoods has implemented an emergency alert system. In the event of an emergency on campus you can receive an alert through your personal email and/or phones at your home, office, and cell. Registration is necessary in order to receive emergency alerts. Please go to https://www.GetRave.com/login/Redwoods and use the "Register" button on the top right portion of the registration page to create an account. During the registration process you can elect to add additional information, such as office phone, home phone, cell phone, and personal email. Please use your CR email address as your primary Registration Email. Your CR email address ends with "redwoods.edu." Please contact Public Safety at 707-476-4112 or security@redwoods.edu if you have any questions.

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.

Prerequisite:
Math 30 (College Algebra) and Math 25 (Trigonometry) with a grade of "C" or better or appropriate score on the assessment test.

Text:
We will be using:

- *Calculus, Early Transcendentals, 5th Edition*, Stewart, Thompson Brooks/Cole Publishers.



- The mathematics department has determined that the rising costs in textbooks presents a barrier to many students education in mathematics. Typically, a new calculus text runs in the neighborhood of $270, and constant new editions of the text seem to appear every two years, adding to the rising costs of the textbook. Consequently, the mathematics department has a policy for textbooks for its calculus sequence.
  - The deparment has purchased 100 copies and have put them in the library. If you do not have a textbook, you may check one out at the library. You are responsible to turn the book in at the end of the semester in good condition, as you would be with any other library book. The calculus books will only be checked out to registered calculus students.
  - If you prefer to buy your textbook, we recommend that you search online. Make sure you get *Calculus, Early Transcendentals, 5th Edition*, by James Stewart, Brooks Cole Publishers.The ISBN on my text is 0-534-39321-7. For example:
    - Amazon search: **Calculus, Early Transcendentals, 5ed., James Stewart, Brooks Cole Publishing**.
    - Campusbooks.com search: **Calculus, Early Transcendentals, 5ed., James Stewart, Brooks Cole Publishing**

    It's really important that you get the correct ISBN 0-534-39421-7. Note that this edition also contains the multivariable calculus material needed if you intend to take Math 50C, multivariable calculus.
  - Solution manuals are not available in the library, but they are available online. You need the second volume of two solutions manuals for Stewart's text. For example:
    - Amazon search: **Calculus Early Transcendentals Single Variable (Student Solutions Manual) 5th Edition**

    It's really important that you get the correct ISBN: 0534393330.

Objectives:

1. The use of the graphing calculator and/or mathematical software as a fundamental problem-solving tool.
2. The presentation of mathematical solutions in a logical coherent structure, including the use of fundamental writing skills, grammar, and punctuation.
3. Limits and their role in the major theorems of calculus.
4. Continuity and its role in the major theorems of calculus.
5. Differentiation and its role in the major theorems of calculus.
6. Integration and its role in the major theorems of calculus.
7. The connection between integration and differentiation.

Computing Resources:

The Eureka campus houses computing facilities for its calculus students. They are located in the Science building, room SC 212. There are a number of powerful software packages on the machines in this room that will aid in the study of calculus. See your instructor for login name and password.

- **Your personal login gives you a folder where you can submit your work.** This folder is secure and the files in this folder cannot be read or written to by anyone but you.

Computer Lab -- Code of Conduct

Please see **Computer Labs --- Code of Conduct** for a set of rules and guidelines for computer use and maintaining decorum in the study rooms available in the physical sciences building.

Calculators

Most of our computation and plotting will be done with Mathematica. Whatever graphing calculator you currently own will be sufficient for your needs in this course.

Mathematica

Mathematica is a powerful software package created by the engineers at the **Wolfram Mathematica**. Mathematica software can be installed on several platforms, including Linux, Mac OS X, and Windows XP+.

Mathematica is installed on the computers in the SC 212 computer lab. Mathematica is also installed on the computers in the ASC.

To obtain a free version of Mathematica for use on your personal computer, go to **Mathematica at College of the Redwoods.** Slide down to where it says **Student personally owned machines**. Make sure you use **Student personally owned machines** and not the sections for faculty or campus machine use. Once you are at the section **Student personally owned machines**, perform each of the following tasks:

1. In number one, part (a), click the **user.wolfram.com** link and fill out (completely) the form using your @mycr.redwoods.edu email address.
2. Once you have completed the first step, go to step 2 and click on the **Fill out this form** link to request an activation key. It usually takes less than a day or two to receive an email with an activation key and instructions for downloading and installing Mathematica.
3. If you experience any problems, contact me via a Canvas email.

Instructor Expectations of Students:
Math 50A, Differential Calculus, is the first in a three-course sequence in calculus offered by the mathematics department at College of the Redwoods. The next two courses are Math 50B, Integral Calculus, and Math 50C, Multivariable Calculus.

Depending on the student major, some students will have to take all three courses in the sequence, others will only need to take one or two of the courses. Students should consult the requirements of their major at the college to which they hope to transfer. However, students should understand that each course is taught at a level needed to prepare students for the next course in the sequence.

Math 50A begins with an introduction to the concept called the average rate of change of a function, then uses the concept of the limit of a function to make the connection between the average rate of change and the instantaneous rate of change of a function. The concept of instantaneous rate of change is then connected to the derivative of a function. Hence the name, "Differential Calculus."

Instructors will make extensive use of technology, calculators, and computers to help create visualizations that will enhance and deepen the understanding of the concepts introduced in the course. Students should be prepared and willing to use computer software to explore concepts and verify the results of the calculations required on their homework.

Netiquette:
Please be respectful to your classmates. Be kind, considerate, and forgiving in all of your in-class discussions, postings and responses in the discussion forum. Adhere to the same standards of behavior online that you follow in real life.

Student Expectations of Instructor:
I dedicate as much or more time to this class compared to a traditional class. I will access the class website regularly and respond to posted questions and messages within 24 hours during the week. There is also regular instructor-based communication with CCCConfer office hours, weekly announcements, lectures, evaluative feedback to your written work and discussion posts, and emails/messages to students who fall behind.

Office Hour Communication:
General questions (analogous to raising a hand in class) should be posted in the Discussions section of Canvas using the “Questions for the Instructor” forum. Similar hand-raising protocol takes place in the CCCConfer office hours. Personal questions should be communicated by using Canvas Messaging.

Homework:
Regular homework assignments will be posted and submitted via Canvas and/or submitted in person, in class. Details regarding Canvas usage and homework submission guidelines will be provided in class.

Quizzes

Over the years, when students know an exam is coming up, they put on hold studies in their other classes to "cram" for the upcoming test. This is perfectly understandable and I freely admit that I did much the same thing when I was a student.

However, this is really not a good way to learn. Often, students are frustrated to find themselves behind in their other classes as they struggle to prepare for an exam. They are unable to participate in lectures and they cannot follow the material in class because they are sections behind in their work. This is also frustrating for the teacher as he often winds up talking to himself during lecture.

Consequently, you will regularly be given quizzes throughout the semester to take home and work on. In order for this to work, you must understand that any work on the quizzes must be your own. You are not allowed to work together on quizzes, nor are you allowed to ask for help of any kind from your fellow students, tutors, or other professionals. The work must be your own.

Examinations

We will have two midterm examinations and a comprehensive final examination. Students should sit for all examinations on the day that they are administered (**Final Exams Schedule**). If you miss an examination, there is no guarantee that you will be allowed to make up the examination. Indeed, makeup examinations are given only at the instructor's discretion. If you know ahead of time that you have a conflict that will prevent you from sitting for an examination, please meet with me to discuss alternatives.

Students who need special arrangements for examinations are expected to meet with the instructor before **each** examination to insure that all examination materials are on file in the Academic Support Center (the ASC is in the Learning Resource Center (library)).

Every student will be required to sit for a final, cumulative examination. The time and day of this examination is posted in the Schedule of Classes and students are expected to sit for the exam at the time and on the day posted. No exceptions. Any student failing to sit for the final examination will receive an F in the class. Please keep this in mind when making travel plans for the end of the semester. Plan ahead!

Final Exam:

The day and time of the final exam for this course is **Wednesday, December 11th, 3:15-5:15pm**. This is a hard date. You must be at this arranged time and date in order to take the final exam. Plan your travel accordingly.

Attendance:

While attendance to this course is not required. You will find that missing any class especially in a two day a week course, it will be hard to catch up. If you miss a class you should contact one of your fellow classmates immediately to get a copy of the notes for that day, as well as to find out any important in class announcements that were made.

Grade System:

Homework:	20%
Quizzes:	15%
Exams (2 in-class):	40%
Final Exam:	25% of your final grade.

If you wish to discuss your grades, contact me to arrange a time outside of class to discuss grades in person.

Tutors and Math 52:
There is tutoring services available for this class. I highly recommend that you take advantage of them. Math 52 is a lab course that offers 0.5 to 1.09 units of credit to get assistance with your math skills. If math has been a struggle or you are in search of the A grade, I strongly recommend Math 52. It has been very successful in helping students achieve their goals in mathematics. In addition to Math 52, other non-credit Math Lab options and free 1-on-1 tutoring is made available through the ASC.

Study Groups:
Mathematics is very much like a language. Speaking mathematics amongst your peers is one of the best ways to solidify the material in your own mind. Hearing the material explained in a voice other than your instructor can give you insight that you might miss only hearing it once. I encourage my students to form study groups. Some of my closest friendships that I have today were formed through math study groups in college. Take advantage of the opportunity to socialize while learning. It's a lot more fun that way.

The Syllabus is Subject to Change

As instructor, I reserve the right to make adjustments to the syllabus should things not proceed as smoothly as expected.