Syllabus for: (name of class)
Math 50C

Semester & Year:	Fall 2015
Course ID and Section Number:	**E8033**
Number of Credits/Units:	4
Day/Time:	MTThF, 11:40-12:45
Location:	SC 202
Instructor's Name:	David Arnold
Contact Information:	Office location and hours: SC 216H, MTThF 1-2pm, CCCConfer MW 9-10pm Phone: 476-4222 Email: david-arnold@redwoods.edu

Course Description (catalog description as described in course outline): The third in the series of three calculus courses. Multivariable Calculus applies the techniques and theory of differentiation and integration to a thorough study of vectors in two and three dimensions, vector-valued functions, calculus of functions of more than one variable, partial derivatives, multiple integration, Green's Theorem, Stokes' Theorem, Divergence Theorem; includes motion in two and three dimensions, curves and surfaces.

Student Learning Outcomes (as described in course outline) :

1. Formulate equations of lines and planes including a tangent plane to a surface at a point.
2. Evaluate partial derivatives, and two- and three-dimensional integrals. Apply techniques to real-world problems.
3. Perform vector operations. Differentiate and integrate vector-valued functions. Compute arc length. Use the theory of vectors as a fundamental problem-solving tool.
4. Determine for a function of several variables: the limit at a point, differentiability, local extrema and test for saddle points. Solve constraint problems using Lagrange multipliers.
5. Find the divergence and curl of a vector field. Apply Green's, Stokes', and Divergence Theorems.
6.

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://redwoods.edu/District/Board/New/Chapter5/AP%205500%20Conduct%20Code%20final%2002-07-2012.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 homepage.
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.

David Arnold

Mathematics

- Department Home Page
- Canvas
- WebAdvisor
- Optimath
- David Arnold Home

Math 50C: Instructor's Syllabus

There are files on this site in PDF format. You will need to download a free copy of the Acrobat Reader to read them. Click the following icon to obtain a free copy of the Acrobat Reader.

It is important that you have the most current version of the Acrobat Reader that your system will allow. The above links will take you to the Adobe site. The Adobe site will analyze your system, but you may be asked to choose the appropriate version of the reader for your system. If this happens, carefully select the appropriate version of the reader.

Official Course Outline

The official course outline for College Algebra, including content, objectives, and student learning outcomes, can be viewed online via the following link:

Math 50c Course Outline

You'll find the following course learning outcomes on the course outline:

1. Formulate equations of lines and planes including a tangent plane to a surface at a point.
2. Evaluate partial derivatives, and two- and three-dimensional integrals. Apply techniques to real-world problems.
3. Perform vector operations. Differentiate and integrate vector-valued functions.
4. Compute arc length. Use the theory of vectors as a fundamental problem-solving tool.
5. Determine for a function of several variables: the limit at a point, differentiability, local extrema and test for saddle points. Solve constraint problems using Lagrange multipliers.
6. Find the divergence and curl of a vector field. Apply Green's, Stokes', and Divergence Theorems.

Prerequisite Classes

Math 50B (or equivalent) with a grade of "C" or better

Instructor's Schedule

The following link contains a copy of my schedule, including office hours.

Schedule and Office Hours

Note: These are "official" office hours. However, I will make myself available whenever I can. Please do not be afraid to ask for help at any time as I am always eager to help.

Office Location and Phone

- Science building SC 216H
- Office phone: (707) 476-4222

Cancelled Classes

Those driving long distances to attend classes are advised to call (707) 476-4210 before driving to the CR campus. Choose #5 from a menu of choices. You will then be advised of any cancelled classes for the day in the Physical Sciences complex (math/science). Thus, you can avoid the frustration of driving to campus, only to find that your class has been cancelled.

Email

My email address is: David-Arnold@redwoods.edu

Getting Help

Help is available in many forms.

- Your instructor is always available for help in SC 216H when he isn't teaching class or attending a meeting. Take advantage.
- The Academic Support Center (ASC) in the library provides individual and group tutoring. You need to check in at the ASC desk and make an appointment to meet with a tutor.
- Guidance 205 (GUID 205) is a non credit course which can be taken for free. This qualifies you to get help in the Mathlab. If you simply go to the Mathlab (in the ASC -- CR Library) and tell the instructor who is working when you get there that you would like to enroll in GUID 205, you will be given a form to fill out. No need to do anything else.
- The "Mathlab" resides along the windows in the ASC. You must first go to registration (Forum Building) and register for Math 52 to make use of the mathlab. You can either register for 1/2 unit or a full unit. You can also register via Webadvisor.
    1. If you register for 1/2 unit, you must complete 22.5 hours in the mathlab. This amounts on average to 1.5 hours per week.
    2. If you register for 1 unit, you must complete 45 hours in the mathlab. This amounts on average to 3 hours per week.

    After you complete the registration process, proceed to the Mathlab which is located in the Academic Support Center (ASC) of the Learning Resource Center (LRC). There will be an instructor there who will give you an information page, and a contract to sign.

    If you have already taken Math 52, and passed the corresponding course while you took Math 52, you cannot take it again. In this case, use GUID 205 (described above).

Comprehensive information on the Mathlab is available at the following link:

Information on the MathLab

You can find a list of instructors who work in the Mathlab and a schedule for the hours that Mathlab is open at the following links:

Mathlab Instructor Schedule and Hours

The mathlab is not the place to get personal, extensive, one-on-one tutoring (you should make an appointment with an ASC tutor for that), but it is a great place to work on your homework and get quick help when you are stuck. People work on their homework, then raise their hand when stuck, and tutors come by as soon as they are available. Tutors are trained to jump around from student to student, hopefully not taking too much time with each question, so it's likely that you can get quick attention as you need it.

Classroom Environment

It is expected that everyone involved in this class, teacher and students alike, will act in a manner conducive to providing a comfortable environment for learning, a classroom where students feel free to ask and answer questions without fear of embarrassment or ridicule.

It is important to stay on task when class is in session. Hence, conversation not pertaining to the subject at hand should be taken outside the classroom.

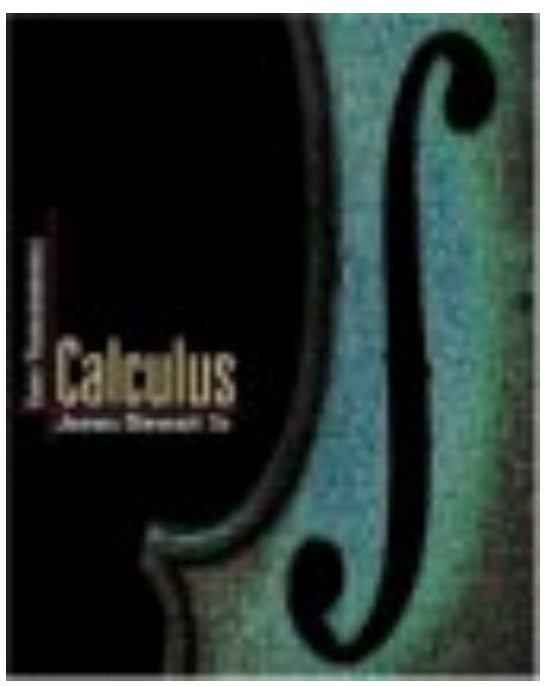
I understand that students will have to get up and leave the room for various reasons and I also understand that students will arrive late from time to time. However, courtesy requires that you enter and leave as quietly as possible, without disturbing discussion or lecture.

It is essential for student success to maintain a good environment in the classroom. If you have any personal difficulties with the learning envrionment in the classroom, please visit me in my office to discuss them.

Textbooks

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 $200, 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 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: Multivariable Solution Manual

  It's really important that you get the correct ISBN: 0534393608.

Reading the Textbook

It is important that you read and work the examples in the textbook before attemping the exercises. Many students will work the process in reverse. That is, they begin working the exercises, then if stuck, they page back through the narrative in the text seeking a similar example to the exercise on which they are working. This is **not** a recommended approach to the study of mathematics.

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.

- The Documents folder is 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 Information: A nice summary of information for our computer labs is available in the document Math Computer Labs.

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.

One important issue is the TI89 graphing calculator, which does symbolic calculation, including differentiation

and integration. It is my position that you should be able to both integrate and differentiate without the use of this calculator. Therefore, it is essential that you show all steps on your homework when performing any integrations to receive full credit for your work.

Calculators will not be allowed on in-class examinations.

Mathematica

Mathematica is a powerful software package created by the engineers at the Wolfram Mathematica. Mathemaica 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, go to Mathematica at College of the Redwoods. Slide down to where it says **Student personally owned machines** and click on **Fill out this form.** Make sure you use **Student personally owned machines** and note the sections for faculty or campus machine use. You must also fill out everything on the form, including your mycr.redwoods.edu email address.

Quizzes

Over the years, I have become more and more frustrated with the approach that students take in their studies. Typically, 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 stuggle 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.

Homework

Homework will be assigned daily and will be due the next class meeting. Each homework will be assigned a grade ranging from 0-10 points, bases on completeness, the following of directions, and the quality of work.

It is essential that students keep up with the homework on a daily basis. Each time you come to class without your homework, you are not prepared to take part in the class at a level geared to your success. Therefore, students are encouraged to hand in homework on time. However, I am acutely aware of the responsibilities that many students have to deal with outside the classroom. Consequently, I do allow a "grace period" of one class period for late work. That is, if you hand your homework in by the next class period, I will still accept the assignment. However, there is an automatic 2-point deduction for late work. Homework later than one class period will not be accepted.

If you are experiencing difficulty getting your homework in on time, or if you know an upcoming event will interfere with getting your homework in on time, please discuss this with your instructor. We can possibly make some arrangment to help facilitate the completion of your work.

In order to facilitate the recording of homework scores, students are required to place their name in the upper

right-hand corner of their homework assignment and staple the pages together with a single staple in the upper left-hand corner. On the first line of the of the first page of your homework, please write down the assignement number, the pages that encompass the assignement, and list each exercise number assigned. For example, the first line of your homework might read:

Assignment #12, Page 150, #1, 3, 5, 7, 8, 10, 11, 23, 45

Exams

We will have two in-class midterms and a final cumulative examination.

Attendance Policy

A student who is absent from class for the amount of time equal to two weeks of classes, will be withdrawn from the course, unless there are extenuating circumstances that are communicated to the instructor in a timely manner. This "faculty withdrawal" can occur between Week 4 and Week 10 of the semester.

Attendance will be recorded each class session. If you know you will be missing class, you should let your instructor know.

Grades

To determine your grade in the class, points from homework, quizzes, midterms, and final exams will be totaled. You will be able to keep up with your current grade by logging into the Gradebook throughout the semester.

Gradebook

When Problems Arise

Should problems arise during the semester, always contact your instructor to let me know what's going on. That's the only way I can help.

Emergency Procedures

Please review the campus evacuation sites, including the closest site to this classroom (posted by the exit of each room) and review http://www.redwoods.edu/safety/ for information on campus Emergency Procedures.

During an evacuation:

- Be aware of all marked exits from your area and building. Know the routes from your work area to the nearest exits.
- 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. (Be aware CR's lower parking lot and 101 frontage are within the Tsunami Zone).

RAVE - College of the Redwoods has implemented an emergency alert system. Everyone is entered already to receive a message at their CR email address. In the event of an emergency on campus, you can also elect to receive an alert through your personal email, and/or phones at your home, office, and cell. This emergency alert system will be available to all students, staff, and other interested parties.

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."

We will test the system each semester to be sure that you are getting alerts at all of your destinations. Please contact Public Safety, 707-476-4112, security@redwoods.edu, if you have any questions.

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. However, in general, I do not anticipate making changes.