Syllabus for Math 50C – Eureka Campus		
Semester & Year	Spring 2016	
Course ID and Section #	Math 50C – E9156	
Instructor's Name	Bruce Wagner	
Day/Time	MTuThF 11:40-12:45	
Location	SC 214	
Number of Credits/Units	4	
Contact Information	*Office location*	SC 216K
	Office hours	MThF 12:45-1:05
	Phone number	707-476-4207
	Email address	bruce-wagner@redwoods.edu
Textbook Information	*Title & Edition*	Calculus, Early Transcendentals, 5th ed.
	Author	Stewart
	ISBN	#0534393217

Course Description

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

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.

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.

Math 50C: Multivariable Calculus

Spring 2016

Eureka on-campus section E9156

Instructor: Bruce Wagner
Office: Science 216K
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/math50C
Class Sessions: MTuThF 11:40-12:45 in SC 214

COURSE DESCRIPTION: Multivariable Calculus is the third in the series of three calculus courses, and is a core course in most math, science, and engineering programs. In this course, we will apply the techniques and theory of differentiation and integration to vector-valued functions and functions of more than one variable. The course presents a thorough study of vectors in two and three dimensions, vector-valued functions, curves and surfaces, motion in two and three dimensions, derivatives and integrals of functions of more than one variable, the use of other coordinate systems (polar, cylindrical, and spherical), and an introduction to vector fields, line integrals, and surface integrals.

PREREQUISITES: Grade of C or better in Math 50B (or the equivalent)

TEXTBOOK: *Calculus (Early Transcendentals)*, 5th edition, by Stewart. Chapters 12-16 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 four 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 may also be some 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 before each exam. However, you are encouraged to submit these daily assignments early, and you will receive extra credit in that case.

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 turn in homework assignments on time.

GRADING:

Homework, quizzes, and class participation:	260 points
Midterm exams:	40 points each
Final exam:	100 points

Your course grade is guaranteed if you make the grade cutoffs given in the table below.

85-100%	A
70-84%	B
60-69%	C
50-59%	D

USE OF CALCULATORS AND COMPUTERS: A good graphing calculator is required. The calculator must be able to do parametric plots and polar plots in addition to usual plots of functions, and should be able to solve equations numerically. Recommended calculators for students in calculus are the TI-83+, TI-92, TI-89, TI-86, or TI-85. However, brands from other manufacturers can also be used. You will be expected to be able to use your calculator 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, I believe that you should be able to both integrate and differentiate without the use of the calculator. Therefore, you will be expected to show all steps on your homework when performing any integration to receive full credit for your work.

Our class will also learn to use Mathematica as a computational and visual aid to understanding the course material. We will use Mathematica in the classroom, and you may also use it in the computer lab in the Science building to help with homework. You may also download a copy to use at home. However, no prior computer knowledge is required for the course – you will receive initial instructions on how to use Mathematica.

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.

ATTENDANCE POLICY: Any student who is absent from class for the amount of time equal to two weeks of classes through week 10 will be withdrawn from the course, unless there are extenuating circumstances that are communicated to the instructor in a timely manner. This policy conforms to Mathematics Department guidelines regarding Faculty Withdrawal of students after census day.

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.