

Instructor: Kris Kissel
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Office: SMT 331
Office Hours: Monday-Thursday, 10:00-10:30 a.m. and 2:00-2:30 p.m.
or by appointment

Class Meeting Time: Monday-Thursday, 12:20 p.m. - 1:50 p.m.
Class Meeting Place: SMT 221
Textbook: *Calculus – Concepts and Contexts, 3rd Edition*,
by James Stewart (REQUIRED)

Class Web Site: www.instruction.greenriver.edu/kkissel/254summer2009

WAMAP Web Site: www.wamap.org
WAMAP Course ID: 1545
WAMAP Enrollment Key: calculus4

Exams: Thursday, July 3 (Exam #1)
Thursday, July 30 (Exam#2)
Thursday, August 13 (Final Exam)

Prerequisite: Math 153 (formerly Math 126) with a grade of 2.0 or higher,
or appropriate placement, or instructor's permission.

Calculator: A graphing calculator is required for this course.

COURSE DESCRIPTION

This fourth course of a four-quarter calculus sequence is an introduction to functions of two and three variables; limits and continuity; partial differentiation; gradients; multiple integration; iterated integrals; vector analysis including such topics as divergence, curl, line integrals, and the fundamental theorems of vector calculus. Graphing calculator required. *Satisfies quantitative skills or natural science requirement for AA degree.*

EMAIL

Email is the best way to contact me outside of class. I won't necessarily be able to answer a detailed math question in writing, though it is a good way to set up an appointment if you need to see me but cannot make it to my office hour.

Green River Community College has provided email accounts for all students, with addresses that end with @mail.greenriver.edu. (Incidentally, having such an address will allow you to receive special offers, for example on software prices, which are only available to students.)

Your first homework assignment will require you to activate this account if you have not already done so. I will send messages to these accounts during the quarter, and you will be responsible for any information sent to yours. You must therefore either read that account regularly, or set up automatic forwarding to an account that you do read regularly. The website where you can set-up and start using your GRCC email is:

<http://www.greenriver.edu/studentemail>

CALCULATOR

A graphing calculator is required for this course. I will be using a TI-84 calculator for class demonstrations. I recommend a TI-83, TI-83+, or TI-84. If you use another calculator, I will not be able to assist you with its use, and you'll be expected to learn how to use it entirely on your own. If you would prefer to avoid the cost of buying a calculator, you can rent one for the quarter from the Math Learning Center in SMT 355. You must have your own calculator for this course because *sharing calculators on quizzes and exams is prohibited.*

CLASS FORMAT

We will use all of the following in this course: lectures, exams, online quizzes, and in-class activities. Students will also submit homework for grading.

Attendance is very important! Since there are no make-ups for missed work, your grade will be affected by absences. I expect you to be here and to be on time each day. *Please make a decision today as to whether you can fulfill this obligation.*

WORK OUTSIDE CLASS

In my opinion, the most important part of this course is the work you do *outside of class time*. You don't get stronger by watching someone else exercise, and you don't get better at math by watching

someone else solve problems. To develop skill with mathematics, you have to struggle with it on your own.

I will assign homework for you to submit for grading, but these will only be a portion of what I think you need to do to learn the material. I will also assign practice problems that you will not turn in; I strongly recommend you do all the assigned practice problems.

Study groups are *strongly encouraged*. Part of what I want you to learn in this course is how to communicate with mathematics effectively, in both written and verbal modes. Plan to meet with your group on a regular basis, and always prepare for those meetings by attempting the problems beforehand.

BEHAVIOR (AND CELL PHONES, AND MP3 PLAYERS)

Absolutely no cheating or plagiarism will be tolerated in this class. At the very least, a grade of zero will be given on the assignment. The consequences may be even more severe, at the instructor's discretion, up to and including a failing grade for the entire course.

Do not engage in any behavior that even makes the instructor *suspect* that you might be cheating, like glancing at another student's quiz, talking during an exam, having notes in view when they are not permitted, etc. The instructor may think you are cheating, but even if you are not, these would be unacceptable behaviors and subject to the same sanctions.

Respect of all others in this class is a necessity. Please refer to the GRCC Student Code of Conduct for rules governing appropriate behavior both inside and outside the classroom. Behavior that disrupts the class, or that is distracting to students or instructor, is not allowed. Such behavior will result in *negative* credit for the in-class activities component of the grade since it detracts from the learning environment. If disruptive behavior persists, the instructor may require students to change their seat or to leave the classroom.

If you are expecting a possible emergency phone call (e.g. due to a sick family member), inform me before class and make sure your cell phone is in silent mode. Otherwise, all cell phones must be turned off during class. Also, there should be no text-messaging during class, and you may not use your cell phone as a calculator.

MP3 players (such as iPods and other devices) should be turned off during class. They may not be used at all during exams.

ADA STATEMENT

If you believe you qualify for course adaptations or special accommodations under the Americans With Disabilities Act, it is your responsibility to contact the Disability Support Services Coordinator in the LSC and provide the appropriate documentation. If you have already documented a disability or other condition through the GRCC Disability Support Services Office, which would qualify you for special accommodations, or if you have emergency medical information or special needs I should know about, please notify me during the first week of class. You can reach me by phone at 253-833-9111, x4506. Or, you can schedule an office appointment during my posted office hours or at another mutually determined time. If this location is not convenient for you, we will schedule an alternative place for the meeting. If you use an alternative medium for communicating, let me know well in advance of the meeting (at least one week) so that appropriate accommodations can be arranged.

INCLEMENT WEATHER, EMERGENCIES AND CLASS CANCELLATIONS

If an assignment or test is scheduled for a day when class is cancelled, students should expect the assignment or test to be due the next day that class actually meets. If classes are cancelled a day immediately or shortly before something is due, but not on the due date itself, students should expect the due date to remain unchanged. If classes are cancelled for several days before an assignment or test is due, the instructor reserves the right to make changes to due dates. *Announcements of such changes will be made on the class web site and sent to your mail.greenriver.edu email.*

If school is closed on the day of the final exam, I will use your average on the midterm exams to give you a grade for the final. This way I will be able to assign grades so that you can enroll for next quarter. If you then wish to take the final to try to improve your grade, you can do so the first week of the next quarter. It is your responsibility to contact me if you wish to schedule such an exam.

EVALUATION

Exams: You will be given two midterm exams, plus a final exam. Each exam will be worth 20 percent of your grade, and the final will be worth 25 percent. There will be *no make-up tests* except for reasons of serious illness, religious reasons or issues of grave personal import, and any missed test will receive a grade of 0. You cannot, for example, reschedule an exam to accommodate a vacation. In the case of an emergency, contact me as soon as possible to let me know the situation, just as you would contact an employer. The final exam will be given in class on Thursday, August 13, from 12:10 p.m. to 1:50 p.m. The final exam *will be comprehensive*. You will be allowed to use one sheet (8"x11", both sides) of your own handwritten notes during each exam.

Online Quizzes: There will be an online quiz each week, using the WAMAP online assessment system. You can access this web site from any computer with internet access. Once a quiz is made available, you will have one week to complete it. Quizzes will usually be made available after class on Thursdays and will be due before class begins on the following Thursday. Check the due dates online for the exact information for each quiz. The first quiz is available immediately and is due by 9:00 a.m. on Thursday, April 1. Online quizzes will be worth a total of 10 percent of your grade.

Homework: Students will submit written homework solutions on Monday of each week (starting the second week). These problems will usually be involved – many of them will not resemble examples done in the textbook or in class, so students will be expected to think deeply to find solutions. Therefore, it is important to start your homework early each week. The homework will be graded for correctness as well as for clarity of the presentation. For example, a very well-written assignment that is clearly organized and carefully explained will earn more points than a sloppy assignment that is difficult to read and hard to follow. It is therefore recommended that students do scratch work to solve the problems before writing up careful solutions for submission. Written homework will count for 15 percent of the total grade for the course.

Activities: In-class activities will also count as 10 percent toward your grade. These are usually worksheets completed in groups. You must be in class to participate and there will be no way to make up any missed points. You can miss two in-class activities without penalty.

GRADING SYSTEM

The breakdown of your grade by percentage is as shown in the table at right.

Exam #1, #2	20% each
Final Exam	25%
Written Homework	15%
Online Quizzes	10%
In-class Activities	10%

If you wish to take this class “Pass/No-Credit”, you must fill out a form at the Registrar's Office. There is a deadline for doing this (see below). A “Pass” will be recorded on your transcript if you earned a grade of 1.5 or better. Decimal grades reported for this class will range from 4.0 to 0.0. A grade of “I” (incomplete) will only be given for emergency situations and only if at least 75% of the work has been completed with a projected passing grade. The minimum grades that will be assigned are as follow:

Percentage	Decimal Grade
95	4.0
93	3.9
91	3.8
89	3.7
87	3.6
85	3.5
84	3.4
83	3.3
82	3.2
81	3.1
80	3.0
79	2.9
78	2.8
77	2.7
76	2.6
75	2.5
74	2.4
73	2.3
72	2.2

Percentage	Decimal Grade
71	2.1
70	2.0
69	1.9
68	1.8
67	1.7
66	1.6
65	1.5
64	1.4
63	1.3
62	1.2
61	1.1
60	1.0
59	0.9
58	0.8
57	0.7
56	0.6
55	0.5
Below 55	0.0

Here is a list of registration deadlines for the current quarter:

Withdrawal Without Grades Posted on Transcript	July 8
Pass/No-Credit Petition or Official Withdrawal	July 31

UNDERSTANDING DECIMAL GRADES

According to the 2006-2008 Green River Community College Catalog (p. 37), you can use the following chart to interpret your decimal grade as a letter grade:

A -- 3.5 to 4.0	B -- 2.5 to 3.4	C -- 1.5 to 2.4	D -- 1.0 to 1.4	F -- 0.0 to 0.9
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ASSESSMENT OUTCOMES

The following GRCC Assessment Outcomes are applicable in this course:

Quantitative/Symbolic Reasoning:

- Student evaluates and interprets information and data.
- Student recognizes which processes or methods are appropriate for solving a given problem, and correctly implements those processes.
- Student demonstrates the ability to estimate a solution to a presented problem.
- Student translates data into formats such as graphs, tables, formulas, and sentences.

Critical Thinking:

- Student provides reasons for the conclusions they reach and assess the relevance and adequacy of those reasons.
- Student connects past learning with current topics.

LEARNING OBJECTIVES

Students will demonstrate the ability to:

1. Use and apply multivariate functions in various applications such as optimization;
2. Determine domains, ranges, limits and continuity for multivariate functions;
3. Use and apply the partial and directional derivatives, the gradient and the chain rule;
4. Calculate differentials and tangent planes;
5. Use double and triple integrals in applications such as surface area, volume, area, density and centers of mass;
6. Convert rectangular integrals into polar, cylindrical or spherical integrals;
7. Use and apply vector fields in various applications such as work;
8. Evaluate line integrals using the Fundamental Theorem of Line Integrals, Green's Theorem and parametrization of paths;
9. Find the divergence and curl for vector fields;
10. Investigate parametric surfaces;
11. Evaluate surface integrals using Stoke's Theorem and the Divergence Theorem.

LATE PASSES

Submit one of the "Late Passes" below to be given one extra week past the original due date for a homework assignment or online quiz. To use one of these passes, complete it and staple it to the front (top left corner) of the late homework assignment or hand it to the instructor at least one day in advance of completing the online quiz. These may not be used on exams or in-class activities. You may use at most two late passes total.

Student Name:	Student Name:
Circle One: Online Quiz Homework	Circle One: Online Quiz Homework
Original Due Date:	Original Due Date:
Changed Due Date:	Changed Due Date: