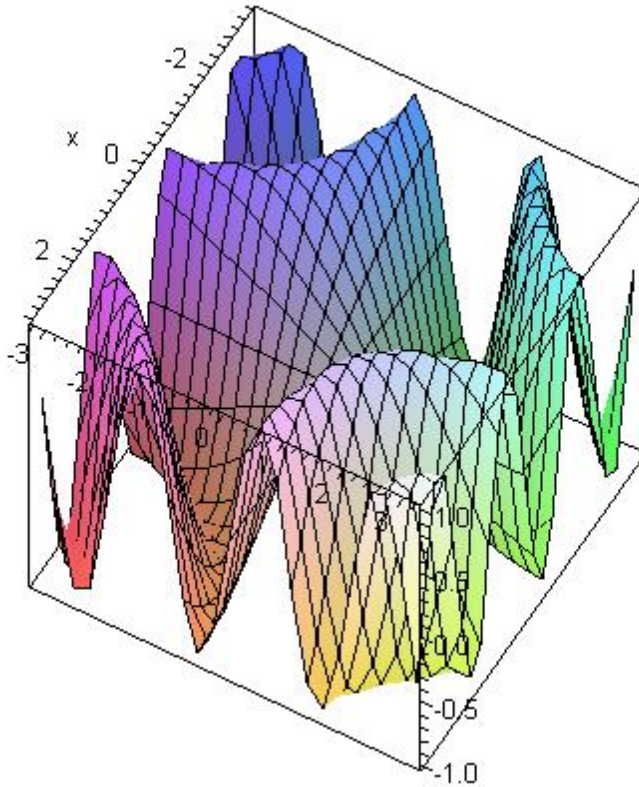


WELCOME TO CALCULUS IV
Winter 2015



INSTRUCTOR: LAURA MOORE-MUELLER

Math& 254 (5 credits)

Daily: 10:00 - 10:50 AM Room: CH 204

Section: 6611 Item: AA

Daily: 11:00 – 11:50 AM Room: IVC 109

Section: 6615 Item: BB

HOW TO CONTACT ME:

Instructor: Laura Moore-Mueller (Laura or Ms. Moore-Mueller)

Office: CH 301-11

Email: lmooremueller@greenriver.edu

Phone: (253) 833-9111 ext.4444

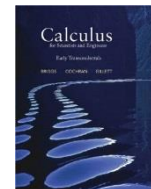
Web Site: <http://www.instruction.greenriver.edu/lmueller>

Fax: (253)-288 - 3464

Office Hours: Daily 9:00 - 9:50 OR by appointment

Mailbox: My mailbox is located at the third floor secretary station of Cedar Hall.

TEXT: *CALCULUS for Scientists and Engineers Early Transcendentals*, by Briggs, Cochran & Gillett. This textbook is used in Math& 151,152,153 and 254.



TECHNOLOGY:

A graphing calculator is **required** for this course. I will demonstrate with a TI-84+. In addition, you will be required to achieve a working knowledge of the software, **Maple 15**.

A computer with internet service will be necessary for your grade, activities and online homework assignments.

COURSE DESCRIPTION: Calculus IV is the study of integral and differential calculus in two or more dimensions using real-valued as well as vector-valued functions. It includes vector calculus! Finally we get to analyze real **surfaces!!!**

COURSE PREREQUISITES: Math& 153 with 2.0 or better, or instructor's permission.

SIGN-UP FOR HOMEWORK ASSIGNMENTS: **MyMathLab** (MML) is the online resource used for homework problems. You will need to purchase the text with access code. All registered students will be expected to register for **MML** by the end of the second day of class. If you use the software at home you will need to download the free CDF player available from Wolfram at <http://www.wolfram.com/cdf-player/>

MyMathLab Website: <http://www.mymathlab.com>

MyMathLab Register: **STUDENT**

MyMathLab Course ID **10 AM:** moore-mueller29794

MyMathLab Course ID **11 AM:** moore-mueller59974

SIGN-UP FOR YOUR GRADE and ACTIVITIES: All registered students will be expected to register for my class on **WAMAP** by the end of the second day of class.

WAMAP Website: <http://wamap.org>

WAMAP Course ID **10:00 AM** class: **9024**

WAMAP Course ID **11:00 AM** class: **9025**

WAMAP Enrollment Key: **calc_4**

LEARNING GOALS: By the end of the quarter, students will demonstrate the ability to

1. Conceptualize calculus in three or more dimensions.
2. Determine equations of lines and planes in space.
3. Use calculus with vector-valued functions.
4. Use partial and directional derivatives.
5. Optimize multivariate functions.
6. Integrate functions in 2 or 3 dimensions.
7. Apply the gradient to real-world situations.
8. Use multiple integrations to solve applications involving volume, surface area, and centroids.
9. Solve problems involving vector fields and the concepts of divergence and curl.
10. Utilize line integrals to determine applications within a vector field such as calculating the work required to move an object along a path within a vector field.
11. Apply the Fundamental Theorem of Calculus in a two-dimensional function using line integrals as introduced by Green's Theorem.
12. Understand, interpret and communicate effectively in oral and written form.
13. Work cooperatively in groups: respect others' ways of thinking, have confidence in your own knowledge, share information, pool knowledge, and listen effectively.
14. Develop problem solving skills: recognize the applicability of previously learned solutions to new problems, recognize and apply reverse reasoning (given the answer, what is the question), and develop an individual problem solving strategy.
15. Recognize that problems may have alternative solutions and that alternative techniques may be used to arrive at those solutions.

CAMPUS-WIDE OUTCOMES:

GRCC has identified ability areas that we believe encompass knowledge and are the most important skills, behaviors, attitudes, and values that students will need in order to be successful during and after college. For a complete description of all of these outcomes, refer to the college catalogue. Among these ability areas, this class will address Responsibility, Quantitative/Symbolic Reasoning, Critical Thinking, and Written and Oral Communications. You will be assessed on these outcomes through classroom participation, activities, tests, projects and homework.

EXPECTATIONS:

I expect you to participate fully in the class and in your own learning. This means being in class, on time, and completing all assignments. Collaborative learning in all its forms (group projects, study groups, etc.) is expected. **Late assignments will be handled as follows:**

- 80% of final score if assignment is received by 2 PM of due date
- 50% of final score if assignment is received by 2 PM of following day
- 0% after 2 PM of day following due date

ASSESSMENT:

Categories of assessment are assigned as follows:

Activities/homework	20%
Project	10%
Tests	45%
Final Exam	25%

Activities/homework: Periodically in class you will be working on activities. These activities are a group effort and will usually be turned in on the day you do the activity. Homework problems are taken from the textbook but the numbers are randomized and the problems are evaluated

on My Math Lab (MML). Each problem you work on your online homework corresponds to a problem from your textbook. Each problem allows three attempts at the same problem before switching to a new set of values. You will be given 5 iterations of the same problem. Do not use up your chances by guessing. If, by the third attempt, you are unable to do the problem use the help available on MML, use the forum on WAMAP to communicate to other students or come to see me. If you receive at least 80% on the homework, the score will be recorded as 100% in WAMAP. The lowest homework score will be dropped.

Tests: Refer to the calendar to see on which day a test will be given. All tests are given during class time. If an extreme emergency occurs and you are unable to take a test, you must call or e-mail me by 8:00 AM the day of the test. In the case of an extreme emergency, you will be allowed to make-up one test for the quarter.

Projects: One group project will be assigned during the course of the quarter. You will work with one or two other students. More details on the project will be forthcoming.

Final: The 10 AM class final exam will be on March 20th from 10 – 11:50 AM. The 11 AM class final exam will be on March 18th from 11 AM -12:50 PM. The final will be a comprehensive exam. This will be the only time to take the final exam. **NO EXCEPTIONS.**

Points will be assigned as follows:

Points	Work
0	No attempt or no correct ideas
1	Answer with no supporting work, or attempt with a correct idea
2	Some correct ideas
3	Half correct ideas
3.5	Concept is correct with errors in work
4	Mostly correct ideas (small mistake that is not conceptual)
5	Perfection (correct answer with correct work)

DECIMAL GRADING: Numerical grades will be assigned based on your overall percentage earned in the class (according to the afore mentioned weighting). You will be able to check your grades on **WAMAP**. Green River uses numerical grading. Numerical equivalents of grades are listed below:

% earned	Grade	%	Gr.	%	Gr.	%	Gr.	%	Gr.	%	Gr.
96 – 100%	4.0	89%	3.4	83%	2.8	77%	2.2	71%	1.6	65%	1.0
94 – 95%	3.9	88%	3.3	82%	2.7	76%	2.1	70%	1.5		
93%	3.8	87%	3.2	81%	2.6	75%	2.0	69%	1.4		
92%	3.7	86%	3.1	80%	2.5	74%	2.0	68%	1.3		
91%	3.6	85%	3.0	79%	2.4	73%	1.8	67%	1.2		
90%	3.5	84%	2.9	78%	2.3	72%	1.7	66%	1.1		

64% AND BELOW: 0.0

If you are taking this class as a prerequisite, you must receive a 2.0 or above to go on to Math 238. If you wish to take this class Pass / Fail or to withdraw from the course, you must fill out a form with the registrar by February 27th.

OPERATING RULES:

- **Rule #1: Respect your classmates and instructor.**
- All cell phones, beepers and other noise makers will be turned off during class. *You should know that GRCC policy officially prohibits the answering of pagers and cellular phones during class periods. This includes texting.* Although your instructor understands that emergencies may occasionally arise when sick family members or other crises are concerned, a repeated pattern of classroom interruption by electronic gadgets will be considered grounds for discipline.
- Any disruptive behavior will not be tolerated as this detracts from the learning environment; this includes arriving late to class.
- You have a responsibility to learn the material and I have a responsibility to teach the material; to make this happen your attendance and participation in class discussions is mandatory.
- Remember that the only dumb questions are the ones not asked!
- No cheating or plagiarism will be tolerated. Consequences range from receiving 0.0 on the assignment to receiving 0.0 for the class. In other words, academic honesty is expected.

Repeated violations of any of these rules may lead to disciplinary actions.

SPECIAL NEEDS:

If you need course adaptations or special accommodations because of a disability, if you have emergency medical information, or if you have special accommodations that need to be shared with me in the event that the building needs to be evacuated, please contact me. If you use an alternate medium for communicating please let me know as soon as possible so that appropriate accommodations can be made.

AN INVITATION:

If you have any questions about the course or the assignments; or have any problems with due dates or your grade; or just want to talk, PLEASE make an appointment to see me during office hours or at an arranged time.



Math& 254

Calculus IV 10:00 & 11:00 AM

Fall 2015 - Laura Moore-Mueller

	Monday	Tuesday	Wednesday	Thursday	Friday
Wk 1	Jan-5 Introduction	Jan-6	Jan-7	Jan-8	Jan-9
	13.1	13.1	13.2	13.2	13.3
Wk 2	Jan-12	Jan-13	Jan-14	Jan-15	Jan-16
	13.3	13.3	13.4	13.4	13.4
Wk 3	Jan-19 MLK Jr Day No classes	Jan-20	Jan-21	Jan-22	Jan-23
		13.5	13.6	13.6	13.7
Wk 4	Jan-26	Jan-27	Jan-28	Jan-29	Jan-30 TEST 1
	13.7	13.7	13.8	13.8	
Wk 5	Feb-2	Feb-3	Feb-4 Intro to Project 1	Feb-5	Feb-6
	13.9	13.9	14.1	14.1	14.2
Wk 6	Feb-9	Feb-10	Feb-11	Feb-12	Feb-13
	14.2	14.3	14.3	14.3/14.4	14.4
Wk 7	Feb-16 Presidents' Day No classes	Feb-17 Project 1 Due	Feb-18	Feb-19	Feb-20 TEST 2
		14.4	14.4/14.5	14.5	
Wk 8	Feb-23	Feb-24	Feb-25	Feb-26	Feb-27 Last day for P/NC or withdraw
	14.5	14.5	14.6	14.6	15.1
Wk 9	Mar-2	Mar-3	Mar-4	Mar-5	Mar-6 TEST 3
	15.1	15.2	15.2	15.2	
Wk 10	Mar-9	Mar-10	Mar-11	Mar-12	Mar-13
	15.3	15.3	15.4	15.4	15.5
Wk 11	Mar-16 Review	Mar-17 Study Day (No day classes)	Mar-18 FINAL EXAM 11:00AM-12:50 PM 11 AM Class	Mar-19 Final Exams	Mar-20 FINAL EXAM 10:00-11:50 AM 10 AM Class
	15.6				

Note: This schedule is tentative and subject to changes (announced in class) as needed.

MATH& 254 MINIMUM HOMEWORK REQUIREMENTS
Moore-Mueller
(CALCULUS, 1st ed. by Rogawski)

These problems are the minimum requirement. You are encouraged to do more problems as needed.

Section	Problems
13.1	13, 15, 19, 22, 25, 35, 41, 45, 52, 63, 86
13.2	13, 15, 17, 22, 27, 29, 32, 35, 38, 44, 60, 63, 66, 70, 71
13.3	13, 15, 18, 19, 24, 27, 32, 35, 39, 47, 48, 53, 60, 65, 69, 72, 79
13.4	3, 10, 16, 18, 19, 23, 26, 34, 37, 45, 56, 57, 61, 68, 72, 76, 82
13.5	11, 14, 17, 21, 25, 28, 33, 37, 44, 58, 62, 64
13.6	7, 11, 15, 21, 29, 33, 41, 46, 55, 65, 71, 75, 79
13.7	11, 24, 27, 31, 40, 44, 47, 53, 59, 62
13.8	14, 22, 27, 33, 37, 40, 43, 48, 60, 68
13.9	7, 13, 15, 17, 26, 50, 64
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14.1	1, 9, 22, 23, 28, 31, 34, 39, 41, 49, 55, 59
14.2	5, 6, 10, 15, 21, 30, 32, 37, 43, 50, 55, 61, 65, 80, 89, 93
14.3	5, 10, 16, 21, 27, 29, 43, 57, 65, 69
14.4	9, 11, 15, 20, 28, 31, 39, 53
14.5	7, 13, 18, 19, 26, 31, 37, 39, 42, 47, 57, 63, 76
14.6	11, 25, 33, 37, 47
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15.1	5, 10, 17, 21, 29, 34, 45, 37, 44, 47
15.2	3, 13, 15, 17, 29, 33, 39, 47, 49, 55, 56, 64
15.3	3, 12, 14, 17, 26, 27, 31, 35, 38, 43, 45, 49
15.4	3, 11, 20, 27, 29, 54, 61
15.5	9, 12, 16, 21, 27, 33, 52, 61
15.6	1, 15, 17, 23, 32, 43



This is a minimum number of problems for success in Math& 254. I encourage you to try other problems. Answer keys for textbook problems are available from me or in the MLC.