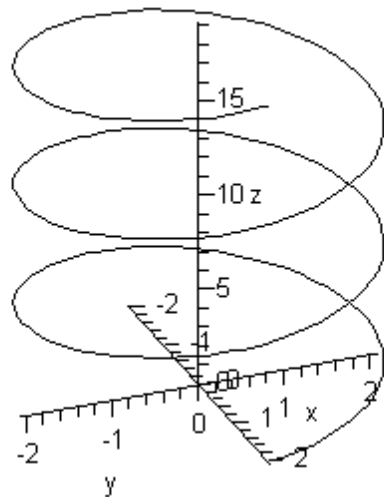
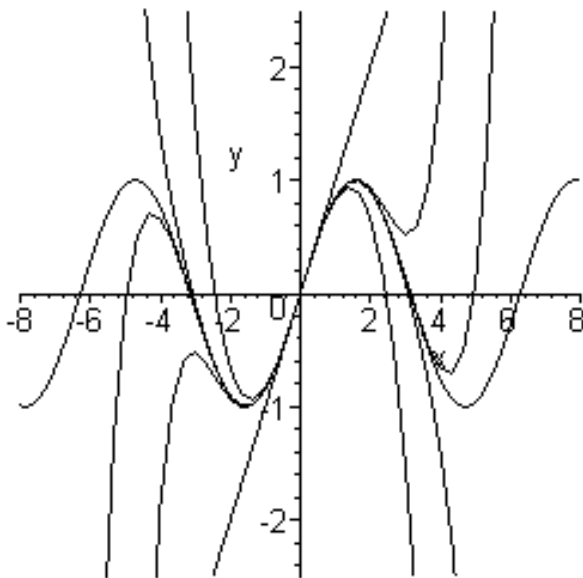


WELCOME TO MATH& 153
CALCULUS III
SPRING 2014



INSTRUCTOR: LAURA MOORE-MUELLER

Math& 153 (5 credits)

Item #: 6239, Section UU:

Daily: 7:15 - 9:35 PM, CH - 203

HOW TO CONTACT ME:

Office Hours: Daily 9:00 - 9:50
M,W 6:45 - 7:10 PM OR by appointment

Office: CH 301-11

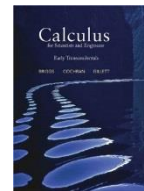
Email: Lmooremueller@greenriver.edu

Phone: (253) 833-9111 ext.4444

Web Site: <http://www.instruction.greenriver.edu/lmueller> Fax: (253)-288 - 3464

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

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



TECHNOLOGY:

A graphing calculator is **required** for this course. I will demonstrate with a TI-84+. In addition, we will be using the computer algebra software (CAS), **Maple**.

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

SIGN-UP FOR Homework assignments: **MyMathLab** 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 **MyMathLab** by the end of the first 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: moore-mueller62693

SIGN-UP FOR GRADES and HANDOUTS:

WAMAP Website: <http://wamap.org>
WAMAP Course ID: 7355
WAMAP Enrollment Key: calc_3

COURSE PRE-REQUISITE: Math& 152 with 2.0 or better, or instructor's permission.

COURSE DESCRIPTION:

Math& 153 is very different from Math& 151 and 152. Instead of a single main topic, we examine several unique topics, all of which require the use of differential and integral calculus. We begin with a look at infinities (both large and small!) This study includes sequences, series, and convergence tests; Taylor series approximations to functions and error analysis. Moving into three dimensions we study different coordinate systems, parametric equations and vectors in both two and three dimensions. Ending the course with a look at a very new kind of function called a vector function we examine how calculus applies to vector functions.

LEARNING OBJECTIVES: Students will demonstrate the ability to:

1. Find limits of sequences using appropriate techniques;
2. Apply basic convergence tests for infinite series such as the comparison, p-series, integral, limit comparison, and ratio tests;
3. Determine the sum of a convergent infinite geometric series;
4. Express basic and transcendental functions as power series;
5. Derive Taylor and Maclaurin series;
6. Find the nth degree Taylor polynomial for a function;
7. Graph vectors in two and three dimensions;
8. Apply dot and cross products to applications involving geometry, work or torque;
9. Determine and graph lines and planes in three dimensions using vectors;
10. Solve problems involving distances and angles between lines using vectors;
11. Write equations of lines and planes using vectors;
12. Recognize and graph basic quadric three-dimensional surfaces;
13. Determine domain and limits for a vector-valued function;
14. Determine and graph derivatives and anti-derivatives for space curves written as parametric equations (vector-valued functions);
15. Represent graphically the velocity and acceleration of a particle moving according to a vector function $r(t) = \langle x(t), y(t), z(t) \rangle$;
16. Compute arc length and curvature in two and three dimensions;
17. Interpret and communicate effectively orally and in written form;
18. Work cooperatively in groups: respect others' ways of thinking, have confidence in your own knowledge, share information, pool knowledge, and listen effectively;
19. 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;
20. Recognize problems may have alternative solutions and 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 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, homework, tests, projects and activities.

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:**

- If the assignment is received by 9 AM after the day it is due you will receive 80% of the final score.
- If the assignment is received by 9 AM of the following day, you will receive 50% of the final score.
- After 2 PM on the second day after the due date, any assignments will be corrected but will receive a score of zero.

ASSESSMENT: 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)

Grades will be weighted as follows:

Homework	5%
Labs	25%
Tests	45%
Final Exam	25%

Homework: Homework problems are taken from the textbook but the numbers are randomized and the problems are evaluated on My Math Lab (MML). This means that the problem you work on your online homework corresponds to a problem from your textbook. Each homework 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 either use the help available on MML or use the forum on WAMAP to communicate to other students.

Besides doing all of the homework, you have the opportunity to increase your homework grade in several ways: I will be monitoring the homework forum on WAMAP. If you help other students with suggestions for solving homework questions you will earn points that will go towards your homework grade. These points will take the place of (or, in some cases, act as extra credit for) a homework problem that you might have missed. 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.

Labs: All activities and labs are included in this category. We will be using a computer algebra system called Maple for many of the labs.

Tests: Your tests are scheduled for taking in the Assessment and Testing Center (ATC) in the Welcome Center. The ATC is open Monday/Tuesday 8:00AM - 7:00PM, Wednesday/Thursday 8:00AM - 5:00 PM, Friday 9:30 AM - 4:30 PM, Saturday 8:00 AM - 12:00 PM. Your tests are scheduled for Fridays/Saturdays. If an 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 emergency, you will be allowed to make-up one test for the quarter.

Final: Your final exam will be in class on Wednesday, June 11, from 7:15 – 9:35 PM. Your exam will be comprehensive.

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**. Directions for signing into WAMAP will be handed out the first week of class.

% 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 register for Math& 254. 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 May 23, 2014.

OPERATING RULES:

- **Rule #1: Respect your classmates and instructor.**
- All cell phones, beepers, MP 3 players 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 text-messaging. 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. (See rule #1.)
- Any disruptive behavior will not be tolerated as this detracts from the learning environment; this includes arriving late to class. (See rule #1.)
- 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! (See rule #1.)
- 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 per student code of conduct.

SPECIAL NEEDS:

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, extension 4444. Or, you can schedule an office appointment to meet me in the Cedar Hall, 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.

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.

SIGN UP FOR E-MAIL:

You may set up your e-mail 4U accounts at www.greenriver.edu/studentemail . This allows you to receive important information from the school. Your address account for WAMAP should be this address.



Math & 153
Calculus III
Spring 2014 - Laura Moore-Mueller

	Monday	Tuesday	Wednesday	Thursday	Friday
Wk 1	Mar-31	Apr-1	Apr-2	Apr-3	Apr-4
	9.1/9.2		9.2/9.3		
Wk 2	Apr-7	Apr-8	Apr-9	Apr-10	Apr-11
	9.3		9.3/9.4		
Wk 3	Apr-14	Apr-15	Apr-16	Apr-17	Apr-18
	9.4		9.5		TEST 1 (test in TAC for today or Saturday 9 - 12)
Wk 4	Apr-21	Apr-22	Apr-23	Apr-24	Apr-25
	<i>In-Service Day</i> <i>No Day Classes</i> 9.6		10.1/10.2		
Wk 5	Apr-28	Apr-29	Apr-30	May-1	May-2
	10.2/10.3		10.2/10.3		
Wk 6	May-5	May-6	May-7	May-8	May-9
	10.3/10.4		11.1/11.2		TEST 2 (test in TAC for today or Saturday 9 - 12)
Wk 7	May-12	May-13	May-14	May-15	May-16
	11.2/11.3		11.3		
Wk 8	May-19	May-20	May-21	May-22	May-23
	12.1/12.2		12.2/12.3		TEST 3 (test in TAC for today or Saturday 9 - 12)
Wk 9	May-26	May-27	May-28	May-29	May-30
	Memorial Day <i>No Classes</i>		12.4/12.5		
Wk 10	Jun-2	Jun-3	Jun-4	Jun-5	Jun-6
	12.6/12.7		12.8/12.9		
Wk 11	Jun-9	Jun-10	Jun-11	Jun-12	Jun-13
	13.1	Study Day <i>No Day Classes</i>	FINAL EXAM 7:15 - 9:35 PM		
Note: This schedule is tentative and subject to changes (announced in class) as needed.					

Math& 153

Homework Assignments

9.1	9, 14, 21, 23, 26, 31, 33, 35, 53, 63, 68, 71, 78, 79
9.2	9, 13, 16, 19, 31, 33, 36, 40, 47, 49, 52, 55, 59, 61, 79, 81, 92
9.3	11, 17, 22, 25, 32, 47, 55, 58, 61, 71, 75, 79, 86
9.4	9, 11, 15, 16, 24, 25, 28, 31, 33, 35, 43, 53, 55, 56, 58
9.5	11, 17, 30, 33, 34, 37, 47, 53, 55, 65, 71, 77, 80
9.6	17, 22, 24, 34, 39, 44, 45, 49, 53, 58

10.1	9, 12, 15, 21, 31, 35, 40, 44, 49, 56, 65, 69, 77
10.2	13, 17, 23, 29, 30, 39, 44, 47, 58, 71, 72
10.3	12, 14, 16, 23, 25, 33, 36, 60
10.4	9, 12, 13, 15, 28, 37, 38, 45, 79 or 80

11.1	7, 8, 15, 19, 21, 23, 27, 34, 39, 45, 56, 59, 65, 71, 79
11.2	9, 11, 17, 25, 27, 35, 63, 69, 103
11.3	5, 11, 17, 27, 35, 43, 61

12.1	16, 19, 30, 36, 42
12.2	9, 11, 13, 21, 23, 25, 32, 45, 56, 63, 75
12.3	11, 13, 19, 21, 25, 29, 37, 42, 79, 82
12.4	3, 7, 11, 18, 23, 27, 37, 39, 51, 57
12.5	5, 9, 15, 17, 19, 28, 31, 33, 43, 45, 51, 53, 66, 68
12.6	11, 13, 18, 26, 27, 37, 43, 50, 53, 58, 63, 69, 81
12.7	7, 11, 15, 21, 29, 33, 35, 41, 55
12.8	11, 16, 21, 23, 35, 40, 59, 62
12.9	13, 23, 28, 40, 51, 73

13.1	13, 15, 19, 22, 25, 35, 41, 45, 52, 63, 86
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This is a minimum number of problems for success in this class. I recommend that you do more than what is listed here for better understanding and more practice.

