

Math 203 - Multivariable Calculus

Course Syllabus

Fall 2017

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Office : Copley 234
Office Hours : MWF 17:00-18:30
drop in and by appointment
Class Time : MWF 11:30-13:00
Class Location : Copley 200
Course Webpage : <http://faculty.rmc.edu/edwardburkard/?page=Teaching/203F17>

1. CATALOG COURSE DESCRIPTION

This course is a continuation of MATH 132/142. Topics to be covered will include: vectors; vector valued functions; functions of two or more variables; partial derivatives; multiple integrals; vector fields; and Greens Theorem. We will use Mathematica as an aid in graphing and exploring mathematical problems. Satisfies CAR Computing.

2. COURSE EXPECTATIONS

Multivariable Calculus is a difficult course and will require a significant amount of effort and work for most people. However, do not be discouraged by this! In my experience, the statement “I cannot do math” and ones like them are flat out false. For some of you, it may come more easily than others, but this does not mean anyone is innately bad at math (in fact, research backs this up!). What I will ask of you in this class is to give it your best effort and practice regularly. As one of my former teachers would say, ”Math is not a spectator sport; you will learn only by doing!”

Please use any and all available resources to help you succeed in this class! I have set office hours, but you are welcome to come by anytime to ask for help. If I’m not otherwise busy, I would love to help you!

3. COURSE STYLE

In this class, we will use the “flipped classroom” style. Your homework will be to watch lecture videos (made by a colleague and myself) and solve a couple exercises. We will spend class time answering questions on the lectures, practicing multiple exercises, and using Mathematica. There will be little to no lecturing done in the classroom. Because of this, it is imperative that you watch the lectures before class starts.

4. TEXTBOOK

The required textbook for this class is *Calculus: Early Transcendentals*, 2nd Edition, by Briggs, Cochran, and Gillett. However, I recommend just buying access to the online homework system (the cards with the access codes are available at the bookstore), or you can purchase access directly at the MyMathLab website <https://www.pearsonmylabandmastering.com/northamerica/mymathlab/>. (If you took Calculus I/II here and used online homework, you should be able to access the homework for this class at no additional cost.) My recommendation is to use the trial access and not actually purchase access until you are sure you will stay in the class (you get 2 weeks of trial access). You do not need to buy a physical copy of a textbook as MyMathLab comes with access to an ebook version of this textbook, but if you would like to have a physical textbook, my recommendation would be to buy an older edition of the Calculus textbook by Ron Larson.

5. MATHEMATICA

We will be using the Mathematica software program. Use of this software will enable us to visualize functions in two and three dimensions, manipulate and simplify algebraic expressions, solve equations, typeset written work, and explore (and discover) some beautiful ideas from the world of vector-valued functions and real-valued functions in several variables. A student version of Mathematica is available (for free) under the Colleges site license, and you can also use the computers in the classroom. Some assignments will require that you use Mathematica. To download Mathematica, go to www.rmc.edu/departments/mathematics/mathematica.

6. GRADE

There will be 900 total points in this class, distributed as follows:

Item	Homework	Midterms	Final	Class Participation	Total
Points	160	300	200	240	900

Your grade will be determined by the percentage of the total points you've obtained. The grade scale will be no stricter than

Letter	A	B	C	D	F
Cutoff	92%	82%	72%	57%	0%

with +’s and –’s to be used as needed for the final grade only. That is, getting at least 92% will guarantee an A, getting at least 82% will guarantee a B, getting at least 72% will guarantee a C, and getting at least 57% will guarantee a D.

6.1. Exams. There will be 3 midterm exams for this class. The exam dates are September 27th, October 25th, and November 20th. Each midterm exam will be worth 100 points. The final is worth 200 points and is on Tuesday, December 12th at 8:30am. Most exam problems will closely resemble those of the worksheets and homework problems. Missed exams may only be made up with an appropriately excused absence. If you are extremely ill and unable to attend an exam you must call or email me **before** the exam and let me know the situation. An unexcused absence from an exam, including the final exam, will result in a score of zero on that exam.

6.2. Homework. We will use the MyMathLab system for homework, available here: <https://www.pearsonmylabandmastering.com/northamerica/mymathlab/>. To sign up for our class, use the Course ID: **burkard12803**. If you find that the problems in the homework assignments and the in-class worksheets are insufficient practice, there will be large practice assignments that you can work on in MyMathLab to help you practice. These will not be worth any points, but can be essential in helping you study.

6.3. Worksheets and Class Participation. Every day (except exam days), we will work on a worksheet containing several problems based on the lectures from the previous day's homework. These will play a major role in learning in this class, and as such, you will be expected to be actively working on them each day. You are allowed, and even encouraged, to work with other classmates on these worksheets as working together can help deepen your understanding of mathematics! Each class day will have a total of 7 points awarded for attendance, participation in class, and completion of the worksheet. There are a total of 36 class days and I will drop the score on your lowest 3 days. You will also receive a base 9 points in this category, but 3 unexcused absences will cause you to forfeit these points.

7. DISABILITY

Randolph-Macon College is committed to providing access to programs and services for qualified students with disabilities. If you are a student with a disability and require accommodations to participate and complete requirements for this course, notify me immediately and contact the Disability Support Services Office (DSS@rmc.edu or 804-752-7343) for verification of eligibility and determination of specific accommodations.

8. CODE OF ACADEMIC INTEGRITY

Your compliance with the Code of Academic Integrity is assumed at all times in this class. This includes, but is not limited to, submitting your own work (even if you work together on assignments) and not cheating on exams. Please make sure you have read and understand this, which can be found here: <https://issuu.com/rmcstudentlife/docs/fishtales/2?ff=true&e=6746978/38436627>

9. CONDUCT

You are expected to act in a respectable manner. If you are disruptive, you will be asked to leave. If you have a cell phone, please turn it off (or at least place it on silent) during class time. Lectures being interrupted by cell phones going off is disrespectful to everyone in the classroom. You may use a laptop for taking notes or for looking at the lecture notes, but otherwise browsing the internet is unacceptable.

Material in the syllabus may be changed in the event of an unforeseen event (for example: emergencies, school closures). Any changes will be announced in class with a discussion of reasons why.