MULTIVARIABLE CALCULUS (01:640:251:34-36)

Fall 2016

Instructor: **Mariya Naumova**

E-mail: mnaumova@math.rutgers.edu

Lectures: Tuesday, Friday, 8:40-10am, TIL 264, Livingston Campus

Office hours:

Monday, 9:00 - 10:15 AM, office 527 (or classroom 525), 5th floor, Hill, Busch campus
Tuesday, 7:30 - 8:30 PM, office 527 (or classroom 525), 5th floor, Hill, Busch campus
Wednesday, 8:30 - 9:30 PM, office 5134, 5th floor, Rutgers Business School, Livingston campus
Thursday, 9:00 - 10:15 AM, office 527 (or classroom 525), 5th floor, Hill, Busch campus

I understand that there might be some students who have other activities planned during my regular office hours and want to come at a different time. In this case, please email me stating the days and times when you are available and can meet, and I will find some time that will work for both of us.

There can be cancellations of office hours as well as additional office hours/review sessions.
Check weekly announcements!

Teaching assistant: **Surya Teja Gavva**

E-mail: suryateja.gavva@rutgers.edu

Recitations:

Section 34 Wednesday 3:20 - 4:40 PM, BE 103, Livingston campus
Section 35 Wednesday 5:00 - 6:20 PM, BE 103, Livingston campus
Section 36 Wednesday 6:40 - 8:00 PM, BE 103, Livingston campus

Office hours:

Monday, 2:00 - 4:00 PM, office 608, 6th floor, Hill, Busch campus

Course topics
Math 251 is the third course in the calculus sequence at Rutgers - New Brunswick for majors in mathematical sciences, physical sciences, and engineering.

Topics covered include: Analytic geometry of three dimensions, partial derivatives, optimization techniques, multiple integrals, vectors in Euclidean space, and vector analysis.

Course webpage
All course materials, assignments and interim grades will be posted on Sakai (see sakai.rutgers.edu). If you are not familiar with Sakai and have any difficulties using it, please contact me immediately.

Textbook: *Jon Rogawski & Colin Adams*, **Calculus, Early Transcendentals, 3rd edition** and **WebAssign**

Purchase options:

- Hardcover custom 3rd edition and WebAssign premium access code (for the duration of the 3rd edition).
  ISBN 978-1-319-04853-2
- E-book custom 3rd edition and WebAssign premium access code (for the duration of the 3rd edition)
  ISBN 978-1-319-04911-9

The publisher is unable to replace WebAssign code if it is lost, so *be careful to retain it.*

Calculator
You should have a graphing calculator available in class and while doing homework and workshops. Students have traditionally used the TI-83 or 83+, but any calculator with equivalent capacities can be used, such as the TI-85 or 86 or 89. Note, however, that calculators may not be used during quizzes and examinations.

Grading scheme
Your final grade in this course will be determined on the basis of your performance on homework, in-class quizzes, Maple labs, workshop participation and write-ups, two midterm exams and a final, with the following weighting:

Components	Weight in total score
Homework (WebAssign)	5%
Maple Labs	4%
Quizzes	10%
Workshops	6%
1st Exam	20%
2nd Exam	20%
Final Exam	35%

The cutoffs for the final grades will be determined after the final exam and will not be higher than 90% for A, 85% for B+, 80% for B, 75% for C+, 70% for C, and 60% for D.

Notice that you won't be able to get a passing grade for the course if you score less than 40% on the final exam.

Homework

Homework will be given every week. In addition to WebAssign homework problems, there will be suggested homework sets assigned every week. I strongly suggest that you do all problems from the suggested set. The answers to them will be posted on Sakai and you will have 3 points added to your quiz grade that week if you show the completed solutions to your TA during the corresponding recitation class. Quizzes are graded out of 20 points.

Homework exercises provide crucial practice for in-depth workshop problems and all exams. To encourage you to work on all suggested homework problems, very often one problem on the quiz will be drawn directly from the current recommended homework set.

I will drop two lowest homework grades at the end of the semester. The grade for Homework 0 (Calculus I and II review) cannot be dropped.

Workshops & Quizzes

Every week during your recitation period you will be engaged in workshop sessions in which you will work in groups of 3 or 4 students, solving a number of assigned workshop problems. At the end of the session, you will be asked to prepare a write-up with the solution to one of the problems. Notice that this write-up should be your own (individual) work!
The workshop write-up assigned each Wednesday will be due in the beginning of the next recitation class. Workshop solutions cannot be sent by email, they can only be handed in during the recitation.
Please see a handout how to write excellent solutions for workshop problems.

Workshops will be graded out of 10 points: 5 points for mathematical solution, 5 points for presentation. If you missed the workshop where the problems were discussed or didn't actively participate, your workshop will be graded out of 7 points: 3.5 points for mathematical solution, 3.5 points for presentation.

A brief quiz (out of 20 points) will be administered every Wednesday as well.

No makeup workshops or quizzes will be allowed

I will drop three lowest grades you received for quizzes and two lowest grades for workshops. There will be one workshop for which the score cannot be dropped.

Maple labs

You are responsible for completing 5 Maple labs. They will be due periodically throughout the semester.

No extension of time for Maple lab submissions will be allowed. No grades for Maple labs will be dropped.

Exams
There will be 2 midterm exams and a final exam.

No electronic devices will be allowed during exams.

Students are not allowed to bring any formula sheet to any exam (midterm or final exam) and I (as well as other instructors) DO NOT include any formula sheet with any exam (midterm or final exam).

Each midterm exam will take roughly 80 minutes, while the final exam will be of 3 hours.
The final exam will be cumulative, covering all topics of the course.

The topics included in each exam will be specified on Sakai in advance.

Extra help
Free tutoring is available at Rutgers Learning Centers (see their schedule on the course Sakai webpage).

Attendance policy
The University is committed to a culture of academic engagement between students and faculty. Part of this commitment involves taking responsibility for attending your classes, workshops and exams, and informing your instructors when you cannot attend. University policy excuses absences due to religious observance or participation in Rutgers-approved activities, and permits students to make up work missed for these circumstances. Students have to contact the instructor in advance and will be asked to submit their work before the class they have to miss.

An absence due to emergency may also be excused, provided that you can supply acceptable written evidence if required, and that you notify the lecturer as soon as possible.

If you will be absent from a class, lab or exam for any reason, please **report your absence via the SAS webpage on class attendance.**

All students are expected to bring a positive attitude to the classroom, and to respect the learning environment. This means, at a minimum, that no student will disrupt the learning environment, even in small ways, which includes sending or receiving text messages, or surfing the internet, or tweeting, or talking to other students about anything unrelated to the subject matter at hand. So, **PLEASE NO CELLPHONES or OTHER ELECTRONIC DEVICES IN CLASS** unless you are asked to use them.

Please notice that office hour time is reserved for students who have attended class; it is not for giving private classes to students who did not attend at the scheduled time, however good their reasons.

I understand that you might have to miss a class or two during the semester. In this case, you are encouraged to obtain class notes from your peers, read the textbook and come to office hours to clarify any topics you have difficulty with.

There is a strong correlation between attendance and performance in undergraduate Math classes at Rutgers. So, please come to class!

Academic integrity
All students enrolled in Rutgers courses are expected to be familiar with and abide by the academic integrity policy (http://academicintegrity.rutgers.edu/policy-on-academic-integrity).

Violations of this policy are taken very seriously.

During exams and quizzes, cell phones, tablets, laptops and any other wifi or cellular capable devices must be turned off (not just silenced), and completely put away; **having a cell phone, tablet, or laptop visible during the exam or quiz will automatically be reported as an academic integrity violation, with a minimum penalty of receiving a 0 on the exam.** Moreover, during any exam or quiz, if you leave the room you must turn in your exam paper, and will not be able to return to continue working on it.
You are strongly encouraged to discuss homework problems with me or with other students. On the other hand, after you have finished discussing a problem, you must write your solution independently, not in concert with others. If you consult any source other than the textbook and the class notes and material from that source contributes significantly to the preparation of homework, you must acknowledge this by citing that source; moreover, the work you turn in **must** be written up in your own words, not copied from a source. Failure to observe these restrictions will be treated as a violation of the Rutgers Academic Integrity Policy.

Copying homework solutions straight from the Solutions Manual, from other students or online resources will be treated as a violation of the Rutgers Academic Integrity Policy.

Disability Accommodations
If you have a disability, you must coordinate with the Office of Disability Services to contact your Instructor and a TA right away. In order to make the necessary arrangements to ensure a successful learning experience, please provide the letter by the end of the second week of the course.

Caution
The information in this syllabus is subject to change, as announced in class or via email/Sakai. No major changes are anticipated, but you are expected to attend class and check email regularly.

A few friendly words of advice
Never fall behind in a math course! The ideas we'll be discussing need time to sink in, and are very difficult to learn quickly right before an exam, so it is important to clear up your confusions sooner rather than later. An excellent way to improve your understanding of the subject is to study and work on homework together with classmates. Explaining mathematical ideas to others is often the most effective way to sort out your own confusions and clarify your understanding; you don't know just what it is that you don't know until you try explaining it to someone else.

You are also warmly invited to ask questions in class, which students are far too hesitant to do in math courses, or in office hours.