Course Policies - Math 236 - Multivariable Calculus

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Class Meetings: MWF 10:30-11:20, in SC 1314
Office Hours: M 2:30-3:20, Tu 10:30-11:20, W 1:30-2:20, Th 3:00-3:50
	and by appointment, when necessary.

Course Website – Public: +http://jsklensky.webspace.wheatoncollege.edu/home.html+ - Math 236: Multivariable Calculus
	Links to course policies, syllabus, problem sets, WeBWorK, OnCourse, etc

Course Website – Private: the OnCourse page for this course
	Consists of links to in-class exercises, WeBWorK, the public page, background questionnaire, supplemental materials, study guides

Course Materials: *Calculus,* by Taalman and Kohn. There is also an optional student solutions manual.

Also, *Mathematica* is available for you to use on your own computer if it's connected to the campus network and is running a sufficiently recent operating system. It's also available in SC 1314, SC 1349, the CS lab, and (I believe) the computers in the library, the Kollett Center, or the GIS lab.

Overview:
Calculus I and II focus on single-variable functions. The restriction to a single variable gave us the opportunity to come to grips with the concepts, but limited the applications. In this course, we study the calculus of functions whose outputs are vectors in 2 or 3 dimensions, or whose inputs are points in 2 or 3 (or n) dimensions, *or* whose inputs and outputs both live in more than one dimension. This allows us to move beyond curves in 2 dimensions, to curves that lie in 3 dimensions, or even to surfaces, making our models more realistic and, of course, more complicated. For more specifics, please see the syllabus.

This course is connected to Chem 355 and/or 356 (Physical Chemistry I and/or II).

Is this the right math course for you?
This class is intended for any who want to take it, are ready and willing to put some time and thought into the course, and have had a solid grounding in both Differential and Integral Calculus. Because Calculus 2 at Wheaton includes much of Chapters 12 and 13 (and a quick run through of some of Chapter 10), taking this class without having taken Calc 2 here at Wheaton will be difficult (although not impossible) - talk to me if you are considering it.

Intellectual Integrity and the Honor Code

The purpose of the Honor Code is to give both students and professors more freedom – but with that freedom comes greater responsibility. I believe in the power of the Honor Code to help students act as true scholars and to create a strong bond and morale among the student body. You must believe in it too, since you chose to come here, knowing how important it is to the way Wheaton functions.

As a reminder, all students at Wheaton are expected to conduct themselves with the highest level

of academic integrity. In this class, this means that while you are encouraged to work with other students, you are each ultimately responsible for your own learning, all work turned in must reflect your own understanding, and you must document any help received, whether from a friend, a tutor, a relative, another professor, or an online source or the equivalent.

It is much better for you (intellectually, morally, and for your grade) to turn in an incomplete or not- thoroughly-thought-through assignment than it is to present work that is not your own. (The penalty for violating the Honor Code in this class is a 0.) Completely aside from it being an Honor Code issue, it also helps me have a realistic view of how the class as a whole is doing and to make any necessary adjustments.

As part of the Honor Code, you are required to write

I have abided by the Wheaton College Honor Code in this work

followed by your signature, on all written assignments. If at any time you do not feel you can truthfully submit the pledge, please speak to me (or the Chair of the Math Program, or your advisor - whoever you feel most comfortable with) immediately.

For a discussion of how the Honor Code specifically applies to the various assignments and exams in this class, please see the last several pages of these policies.

Goals and Expectations:
The main goal for this class is the obvious one – that you master the topics we develop. Secondary goals are that you continue to improve at communicating complex ideas and at reading technical text.

Math is a subject you can only learn by working at it – observing me (and others) may give you a start, but it is certainly not enough. The course is therefore structured to give you repeated opportunities to work with the material, at increasing levels of depth and complexity.

The lecture format for classes was developed at a time when books were scarce – class consisted of the teacher dictating from the textbook and students copying it down. Students then absorbed and mastered the material on their own. There is no longer any shortage of information – you can easily have your first exposure to the material occur outside of the classroom, so our best use of class time is to begin the absorption of the ideas. Of course, mastery usually occurs through your efforts outside of the classroom.

Your initial exposure to the material should come through your reading of the text before each class. Class time will be devoted not to my presenting the information to you for the first time, but to me helping you to work your way to a deeper understanding of the material. Because more and more studies indicate that students benefit immensely from an opportunity to both practice what they've learned and to discuss the concepts with fellow students, class itself will therefore often combine lecture with opportunities for in-class work in small groups on introductory problems so that you may *do and discuss* what I've just illustrated. These efforts should help crystallize your understanding of the material, *or* to help you identify where some confusion is arising. This initial exposure is followed by more drill exercises for each section to be completed daily on-line; you will get immediate feedback on these, so you will know right away whether you are understanding the basics. To strengthen and deepen your grasp of the material, you will also have weekly problem sets consisting of a combination of more drill problems and conceptual questions. To encourage further mastery of the material, there will be two group mini-projects (which will essentially be

group problem sets consisting of more substantial problems), two midterm exams and a final exam, all of which encourage you to look at the big picture and fit the material into its place within the course.

This structure not only aims to maximize your mastery of Multivariable Calculus, but also to help accomplish the secondary goals as well – improving reading of technical material through requiring you to read the text, and learning to more clearly communicate complicated ideas–verbally, through working with partners on in-class work; and in writing, through weekly problem sets.

The expectation for all classes taught at Wheaton is that you spend a minimum of 2 to 3 hours working outside of class for every hour in class. No matter what your experience has been in other classes, *plan to spend at least 6-9 hours per week working on this course outside of class!* Of course, some weeks you may spend more than 9 hours on this class, while others you may spend less.

Classroom Etiquette:

I would like to provide a classroom atmosphere with minimal distractions for both you and me, in which all students feel comfortable asking a question or contributing to a discussion.

This not only means that I ask that you not talk or whisper while someone else is speaking, but that you refrain from:

- texting

- using a computer except during designated times. If you need a computer to for notes, please bring the accommodations letter to me as quickly as possible.

Ask questions when you do not understand something. I know it can be uncomfortable, but most of the time, if you have a question, so does at least one other person in the class.

When we are covering material that you've seen before or which comes easily to you, please be considerate of those for whom it is new or difficult.

Daily Assignments:
This class moves quickly, and in order to stay caught up, for each class you will need to have both read the new material for that day and have practiced the material from the previous day's class a bit. To this end, you will have daily on-line assignments consisting of a small number of exercises, due at 8am every Monday, Wednesday, and Friday. These assignments will both cover your reading for that day, and will remind you of recent vocabulary and basic ideas; doing them online allows you to receive instant feedback.

These assignments are done through a system called *WeBWorK*. You will find links to WeBWorK on my public webpage, OnCourse, and the syllabus.

> Late daily assignments will not be accepted
> (except in extreme circumstances).
> I will drop the lowest two daily scores at the end of the term.*

* Students who do every daily assignment will receive a few bonus points.

Weekly Problem Sets:

In addition to the short daily assignments, you will have more extensive and more conceptual weekly homework assignments. These problem sets will consist of both online exercises through WeBWorK and more traditional handwritten exercises.

Problem Sets will be generally be due every Thursday at 4pm. While they are only due once a week, they represent a week's worth of learning, and you should therefore work on them throughout the week.

In case you are wondering: the combination of daily WeBWorK assignments and weekly problem sets done both through WeBWorK and in the traditional handwritten way do **not** combine to be more exercises than I have assigned in the past, before WeBWorK. I have split my usual assignments between them. WebWork is helpful for giving you instant feedback; written exercises are helpful for giving you weekly practice at organizing your thoughts in a forum where the presentation of your work counts as much as the final result does (which is more reflective of the real world). Dividing the weekly exercises between WeBWorK and Problem Sets should have the additional benefit of allowing me to return the handwritten Problem Sets more quickly than I have been able to in the past.

For more details on the assignments, see the links *A Description of Multivariable Homework Assignments* and *General Guidelines for Problem Set Presentation* on the public course web page.

The assignments will be posted online; you will find them through links toward the bottom of the public course web page.

> ‖ Late weekly problem sets will have points deducted! ‖

If turned in between Thursday at 4pm and Thursday at 5pm, I will deduct 2%. I will deduct 15% for problem sets turned in between 5pm Thursday and before 10:30am Friday. Turning in a problem sets between 10:30am and 4pm the Friday after it is due will result in a penalty of 30%. Problem sets turned in anytime between Friday at 4pm and 10:30am the Monday after it is due will be penalized by 50%. I will not accept any problem sets after 10:30am of the Monday immediately following the original due date, except in extreme circumstances.

(Whenever you *do* find yourself in unusual circumstances, please do let me know. I can often be flexible, but in those situations where I can not, I can make a note of your situation on my grade sheet, to remind me at the end of the semester.)

Projects:

Three (group) mini-projects will be due this term. These will be done in groups of 2-3 people, and will consist of longer or more complicated exercises that put together several ideas we've covered. These will be due on Fridays at 4pm – the specific dates are listed on the syllabus.

One (individual) project will be due this term – reading a book aimed at a general audience on math or on a mathematician and writing a review of it. This project will be due Friday 4/29/16 at 4:00 pm.

> ‖ Late projects and mini-projects will have points deducted ‖

If turned in anytime between 4:00pm Friday afternoon and 9:00am Monday morning, I will deduct

up to 20%, depending on the situation. I will then deduct an additional 15% each succeeding 24 hour period, and will not accept any projects more than one week late.

Exams:
During the semester, I will give two midterm exams to make sure that you are putting together the concepts and skills we have covered. The primary emphasis of these exams will be for you to show me how well you've mastered the underlying mathematical ideas; they will cover very little basic computational material.

You will have three hours for each midterm exam (although the midterm exams will be shorter in length than the final exam). These midterms will be given on Thursday evenings. The dates are fairly firmly scheduled, and are listed on the course syllabus.

The term will culminate in a cumulative final. It will continue to emphasize concepts, and will assume a higher level of mastery than the midterms. Please remember that finals can not be rescheduled, and make your travel plans accordingly.

Notify me several days in advance if you can not make the scheduled time for either of the midterm exams, so that we can work out a mutually agreeable alternative time.

If you notify me only a day or two before a midterm, or miss any exam (midterm or final) without notifying me in advance, then I reserve the right not give you a make-up exam, if you do not have a suitably compelling reason.

I will not give any student more than one make-up exam during the semester.

Attendance:
Clearly, missing class is not a wise idea. Your attendance or lack thereof is your choice and your responsibility. If you **do** miss class, you are responsible for the material that was covered; it is not my responsibility to teach it to you.

Accommodations: The Associate Dean of Access Services and Academic Support, Sally Riconscente, is available to discuss appropriate accommodations that may be recommended for students with disabilities, learning differences, or access needs. Please register with her at the Filene Center for Academic Advising and Career Services, or call x3851 to schedule an appointment. Requests for accommodations should be made during the first two weeks of the semester so that timely and appropriate arrangements can be made.

Evaluation
I expect to use the weights below, although I reserve the right to change my mind if the semester does not go as expected.

Daily Assignments	13%	Weekly Problem Sets	17%
3 Mini-Projects	9%	Individual Project	11%
Two Midterm Exams	30%	Comprehensive Final Exam	20%

* Note on Final Exam: If you earn over 95% on the final, you will not receive below a B in the class, no matter what your overall total would otherwise indicate (except in extreme circumstances). Conversely, if you earn below 60% on the final you will not receive above a C, no matter what your overall total would otherwise indicate, except in extreme circumstances. Similarly, if you earn below 40% on the final, you will not receive above a D.

Discussing Grades with me: If you question the accuracy of any score or believe I did not see or understand something that you wrote, *of course* I would be happy to look at it again – but **bring it to me within a week** of receiving it. I also welcome discussing the scoring of work with me within a week of receiving it back, if your questions are about the nature and nuance of the material and why I considered an explanation to be incomplete or unconvincing.

However, if it seems to me that you are merely asking for more points, rather than pointing out a mistake I made or wanting to understand the material better, and if this becomes intrusive or harassing, I reserve the right to lower your score on that assignment, test, or overall total.

Honor Code
You are expected to abide by the Honor Code in all your work at Wheaton. Below, I detail how the Honor Code relates to the various assignments and exams in this course.

- As part of the honor code, you are required to write

    I have abided by the Wheaton College Honor Code in this work

  followed by your signature, on all written assignments. If, upon consideration, you do not feel you can truthfully write and sign the pledge, please come speak to me immediately.

- **If you see a violation of the Honor Code occurring that relates to this course, you are bound by the Honor Code to report it.** If you do not feel comfortable reporting it to me, the chair of the department or Dean Kuszaj are other resources.

- **For all assignments:** To help you figure out the concepts of a problem, you may discuss the work and use references, *but* you may not use anybody or anything which either gives you the answer or leads you directly to the solution.

- **When you do use references** (friend, classmate, tutor, online resource, book, etc), you *must* cite them. For instance, if you work with friends on a problem set, or if you get help from a tutor, write something like *I worked with Joe Friend on this assignment* or *I received help from Jane Tutor on Problems 3 and 7.*

- **Daily WeBWorK:** You may discuss the underlying ideas with your classmates, but you must not only enter the responses yourself but understand the results. Do not simply try every possibility until you reach the correct one.

- **Weekly Problem Sets:** You may discuss the underlying ideas, but you must do the problems on your own. You must understand every problem that is submitted under your name.

- **Group Mini-Projects:** Just as, on weekly problem sets, groups of students may discuss ideas together but each student must write up their own work in their own words reflecting their own understanding, the same rules apply to group mini-projects: two or more groups may consult with each other, but in the end, each group must write up their own work in the group's own words, reflecting their own understanding. Furthermore, each group member is responsible for making sure they understand what their group is turning in, and have helped their fellow group members understand the material as well.

- **Individual Projects:** The work you do, and the work you turn in to me, must all be your own work. If you are reading a book, it must be a book you have *not* read before.

- **Exams:** You may not use any notes, books, or colleagues as reference during the exams, except for whatever references I explicitly state are allowed. Do not assume that I have implicitly allowed some reference. During the exam, you may not look at anybody's exam *or* "cheat sheet" (if I allow one) *or textbook* (if I allow open-book) until after all exams have been returned. You may not use a calculator or computer unless I specify that you may, and if I do so specify you must again conform to whatever conditions I specify.