Spring 2020
Instructor:
Office:

Math 253: Calculus and Analytic Geometry III
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Time by Arrangement (TBA): In addition to regular teaching hours, you will be assigned one TBA hour each week. Typically, these assignments will be completed online.

|  | Monday | Tuesday | Wednesday | Thursday | Friday |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{8 : 1 0 - 9 : 0 0}$ | Math 253 | Math 253 | Math 253 | Math 253 | Math 253 |
|  | Rm. 7-111 | Rm. 7-111 | Rm. 7-111 | Rm. 7-111 | Rm. 7-111 |
| $\mathbf{9 : 1 0 - 1 0 : 0 0 ~}$ | Math 222 | Math 222 | Math 222 | Math 222 | Math 222 |
|  | Rm. 7-104 | Rm. 7-104 | Rm. 7-104 | Rm. 7-104 | Rm. 7-104 |
| $\mathbf{1 0 : 1 0 - \mathbf { 1 1 : 0 0 ~ }}$ | Office Hours | Office Hours | Office Hours | Office Hours | Office Hours |
|  | $7-325$ | $7-325$ | $7-325$ | $7-325$ | $7-325$ |
| $\mathbf{1 1 : 0 0 - \mathbf { 1 1 : 3 0 }}$ | By Arrangement* | By Arrangement* | By Arrangement* | By Arrangement* | By Arrangement* |
| $\mathbf{1 1 : 3 0 - 1 2 : 0 0 ~}$ | Lunch | Lunch | Lunch | Lunch | Lunch |
| $\mathbf{1 2 : 1 0 - \mathbf { 1 : 0 0 ~ }}$ | Math 251 | Math 251 | Math 251 | Math 251 | Math 251 |
|  | Rm. 7-111 | Rm. 7-111 | Rm. 7-111 | Rm. 7-111 | Rm. 7-111 |

* Please feel free to drop by without an appointment. However, if I do not know you are coming, I might not be available.

Important Dates: Last day to drop: Feb. 2nd $\quad$ Last day to withdraw: Apr. 23rd
Final Exam: Friday, May 22nd 8:10-10:40 am

Textbook: Edition 5,6 or 7 of Calculus - Single and Multivariable by Hughes-Hallett.
Curriculum: We will cover Calculus of Multivariable Functions, and Vector Calculus through Divergence Theorem \& Stokes' Theorem, plus additional material.

## Student Learning Outcomes:

- Students will be able to explain and apply the techniques of multivariable calculus to solve problems graphically, numerically and analytically.
- Students will be able to translate problems from the physical, life and social sciences into workable mathematical form, suitable for graphical, numerical, analytical or verbal solutions.
- Students will be able to calculate derivatives and integrals, using vectors and other tools fundamental to multivariable calculus.
- Students will be able to solve multivariable problems graphically and analytically, by examining level sets, partial derivatives, finding extrema, etc.

Calculator: A graphing calculator such as the TI-83, 84 or 86 may be used for this course. However, any calculator with a CAS (e.g. that has the ability to find formulas for derivative and anti-derivative functions (such as the TI-89 or TI-92) may not be used during tests or quizzes. Use of such a calculator during a test constitutes cheating (see "A Note on Cheating," below).

Software: Part of this class involves learning how to use two free programs: DPGraph and wxmaxima.

Grading:

## Grading Scale:

| Tests: | $70 \%$ |
| :--- | :--- |
| Final: | $20 \%$ |
| Hwk \& TBA: | $10 \%$ |


| A $\quad 94 \%$ and above | C+ | $[77 \%, 80 \%)$ |
| :--- | :--- | :--- |
| A- $[90 \%, 94 \%)$ | C | $[73 \%, 77 \%)$ |
| B+ $[87 \%, 90 \%)$ | C- | $[70 \%, 73 \%)$ |
| B $\quad[83 \%, 87 \%)$ | D | $[60 \%, 70 \%)$ |
| B- $[80 \%, 83 \%)$ | F | $<60 \%$ |

Attendance: If you miss more than five class meetings, you may be dropped from the class. If you miss ANY of the first five class meetings, you may be dropped to make space for people on the wait list.

Most Homework \& TBA assignments will be submitted electronically using Webwork. I will configure your WebWork account after classes begin and will email you your login and password.

## Tests and the Final Exam

- You must show complete work using techniques of Calculus for credit - an answer without appropriate work will not receive any credit. Ask me if you are unsure if you are showing appropriate work.
- Your answers must be in exact form unless a decimal approximation is asked for on the exam. For example, is an exact answer, whereas 0.7853981634 is a decimal approximation.
- I will not reschedule the final. Check the date of the final exam before you make any travel plans!
- Use the restroom before an exam, because you may not leave without turning in your test.
- Test Forgiveness Act (or Why you really, really want a homework \& TBA score of 95\% or more!): If your homework \& TBA score is $\mathbf{9 5 \%}$ or higher at the end of the semester, I will replace your lowest test score with your full score on the final exam.
- In case you miss a test:

1. In the case of a missed test due to a documented and compelling emergency (e.g. medical emergency, car accident with police report) I will arrange a makeup test for you. To be eligible, you must contact me about arranging a makeup test with me within 24 hours of the missed test. Your makeup test must be taken in a timely manner. (note: there are no makeups for the final exam!)
2. In all other cases, you can replace one missed test with either $80 \%$ of your score on the final exam (for example, a score of $90 \%$ on the final would translate to a score of $72 \%$ for your missed test), or with your full final exam score if you qualify for the Test Forgiveness Act (see above). Any subsequent missed tests will receive a score of $0 \%$ and are not eligible for any grade replacement.

Free Tutoring! I encourage you to make use of the resources available to you. In addition to asking questions in class and attending my office hours, I would encourage you to form study groups and to make use of the Learning Center (building 5, ground floor). I would also encourage you to join the MESA program (Rm. 7309), which will give you access to student tutors, some of whom have already taken this course.

Disabled student services: In coordination with the Disability Resource Center office, reasonable accommodation will be provided for eligible students with disabilities. For more assistance, please contact the DRC Bldg 5, Room 5132 or call 650-738-4228

Conduct: It is important to me that my classroom is an environment that is collegial and encourages learning. Students who are disruptive, rude, or make learning difficult for others will be dropped from the class.

Cell phones, laptops, etc. must be turned off during class, and Headphones and headsets may not be worn.
A note on CHEATING: Working together in any way or sharing materials during an exam is cheating. I have no tolerance for cheating and if I believe that a student has been cheating, they will receive an F in the class and the school administration will be notified - It is always my recommendation that the student be removed from the college.

Cheating includes, but is not limited to the following:

- Passing of any objects (e.g. calculators, erasers, pens or pencils, pieces of scratch paper) is considered cheating. Likewise, any form of communication with any person other than the instructor during a test is considered cheating.
- Cell phones are not to be used in any way during an exam... even as a calculator.
- "Sharing" a calculator is definitely considered cheating.
- Using a non-approved calculator (see other side for more details).
- Using notes or resources other than those specifically allowed during a test or quiz.
- Things not covered explicitly in the syllabus: Invariably, a syllabus cannot contain a comprehensive list of do's and don'ts. You are expected to use good sense. If you have any question about what is or is not acceptable in this class, please ask me.

