

Course Syllabus for Math 1210-004

Instructor: Stefano Filipazzi

Class Time: Mondays, Tuesdays, Wednesdays and Fridays, 11.50 a.m. - 12.40 p.m.

Class Place: JWB 335

Office hours: Tuesdays, 10.45 a.m. - 11.45 a.m., JWB 209, and Thursdays (Problem Session), 11.40 a.m. - 12.40 p.m., JFB 102

Office location: JWB 209

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Text: *Calculus, with Differential Equations*, by Varberg, Purcell and Rigdon, 9th edition published by Pearson

ISBN-10 0132306336, ISBN-13 978-0132306331

For purchase information (also for future classes), see

<http://www.math.utah.edu/schedule/bookInfo/CalcBookInfo.pdf>

Course Information: Math 1210, Calculus I, Section 004. It is a 4-credit semester course.

Prerequisite: “C” or better in (MATH 1050 AND 1060) OR MATH 1080 OR (MATH 1060 AND Accuplacer CLM score of 80+) OR AP Calc AB score of 3+ OR Accuplacer CLM score of 90+ OR ACT Math score of 28+ OR SAT Math score of 630+.

Course Description: Functions and their graphs, differentiation of polynomial, rational and trigonometric functions. Velocity and acceleration. Geometric applications of the derivative, minimization and maximization problems, the indefinite integral, and an introduction to differential equations. The definite integral and the Fundamental Theorem of Calculus.

Expected Learning Outcomes: Upon successful completion of this course, a student should be able to:

- Take limits of algebraic and trigonometric expressions of the form $0/0$ (that simplify), non-zero number over 0, including limits that go to (positive or negative) infinity, limits that don't exist and limits that are finite.
- Use the limit definitions of derivative and definite integral for polynomial, rational and some trigonometric functions; understand definition of continuity.
- Differentiate all polynomial, rational, radical, and trigonometric functions and compositions of those functions; perform implicit differentiation and compute higher order derivatives.
- Use differentiation to find stationary, singular and inflection points, as well as domain and limit information to determine vertical and horizontal asymptotes, and then use all of that information to sketch the graph of a curve, $y = f(x)$.
- Apply differentiation to optimization and related rates problems.
- Compute indefinite and definite integrals, using the power rule and basic u-substitution and the Fundamental Theorems of Calculus.
- Apply the definite integral to compute area between two curves, volumes of solids of revolutions, arc length, surface area for surfaces of revolution and center of mass.

Tutoring: T. Benny Rushing Mathematics Student Center (adjacent to JWB and LCB), Room 155, M-Th 8 a.m. - 8 p.m., F 8 a.m. - 6 p.m. (closed Saturdays, Sundays and holidays). It opens TBA. They are also offering group tutoring sessions. Visit <http://www.math.utah.edu/ugrad/tutoring.html> for more information. Alternatively, refer to University Tutoring Services, 330 SSB (they offer inexpensive tutoring). There is also a list of tutors at the Math Department office in JWB 233.

Lecture Videos: The math department has a full set of lecture videos which you are welcome to use to supplement our course material. Visit the webpage <http://www.math.utah.edu/lectures/> to access them,

Computer Lab: T. Benny Rushing Mathematics Student Center, Room 155C, M - Th 8 a.m. - 8 p.m., F 8 a.m.- 6 p.m. (closed Saturdays, Sundays and holidays). It opens Monday, August 24th. Visit <http://www.math.utah.edu/ugrad/lab.html> for more information.

Grading: The grades will be calculated as follows

Homework	10%
Midterm	25%
Midterm	25%
Midterm	10%
Final	30%

Note that there will be 3 midterms. Your lowest midterm score will count for 10% of your grade and your top two midterm scores will each count for 25% of your final grade. Your grades will be posted on Canvas. You can get there easily from the main University of Utah website www.utah.edu, or going directly to the link <https://go.utah.edu/cas/login>. To log in, you use the same student ID and password that you use for Campus Information System. I do my best to update the grades on a regular basis and keep everything accurate. However, I would advise you to check your grades often to make sure there were no data entry mistakes. I am always happy to correct any mistakes I have made. You just need to let me know about them.

Grading Scale: The grade scale will be the usual:

A	A-	B+	B	B-	C+
[100, 93]	(93, 90]	(90, 87]	(87, 83]	(83, 80]	(80, 77]
C	C-	D+	D	D-	E
(77, 73]	(73, 70]	(70, 67]	(67, 63]	(63, 60]	(60, 0]

Homework: Homework will be assigned weekly and will be collected at the beginning of the Friday class of each week. All of the homework assigned the previous week is due at that time. I will accept ten late homework sections, up to two weeks late, throughout the semester for full credit. I will not accept homework more than two weeks late. I accept these late homework sections to allow for illness, oversleeping, etc.. This policy is meant to be flexible enough to cover all reasons and so do not ask for special favors in regards to the homework policy, unless the circumstances are extraordinarily severe.

Homework will be graded both for completeness and correctness. As for completeness, every homework problem will be worth one point. In particular, note that no credit will be given for writing just an answer (even if it is correct), without any proof of work. As for correctness, from each homework assignment I will randomly pick two exercises, which will be graded in detail. The remaining

assigned exercises will not be graded for correctness, so it is your responsibility to show proof of your work for credit and make sure you understand the problems and their solutions. The exercises graded for completeness will contribute to 7% of your grade, while the ones graded for correctness will contribute to 3% of the grade (for an overall 10% coming from the homework). Homework will mostly be exercises taken from the book.

If you have doubts about the homework, please come talk to me about it after class or during office hours. Notice that doing your homework is essential to succeed in a math class. Also, notice that there is no way to get an A in this course if you choose not to do any of the homework. On the other hand, turning in all of the homework can help your grade substantially. Last but not least, the way you present your work is important: if you do not staple your homework, or if your work is not legible, the grader will have the freedom to take off as many points as he/she considers appropriate.

Midterms: There will be three midterms. Midterms will take the entirety of one class period, and will focus on material presented in class since the last midterm. Further information about each midterm will be discussed in class the week before it.

Final Exam: The final exam for this class is comprehensive and it will occur on Tuesday, December 13, 2016, from 10.30 a.m. to 12.30 p.m., room JWB 335 (where we usually have class). Unless the presence of extremely serious circumstances, you will have to take the exam on that day and at that time. Therefore, please, plan your end of semester accordingly.

Calculators: You may find it helpful to have a graphing calculator for your own personal use. However, if I allow calculators on exams, I will only allow scientific calculators (no graphing or programmable calculators will be allowed ever). Most of the time, you will not have the use of a calculator on assessments. This will be discussed more in class with each test.

ADA Statement: The University of Utah seeks to provide equal access to its programs, services and activities for people with disabilities. If you will need accommodations in the class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Olpin Union Building, 581-5020 (V/TDD). CDS will work with you and the instructor to make arrangements for accommodations. All information in this course can be made available in some alternative format with prior notification to the Center for Disability Services.

Student Responsibilities: All students are expected to maintain professional behavior in the classroom setting, according to the Student Code, spelled out in the Student Handbook. You have specific rights in the classroom as detailed in Article III of the Code. The Code also specifies proscribed conduct (Article XI) that involves cheating on tests, collusion, fraud, theft, etc. Students should read the Code carefully and know you are responsible for the content. According to Faculty Rules and Regulations, it is the faculty responsibility to enforce responsible classroom behaviors, beginning with verbal warnings and progressing to dismissal from class and a failing grade. Students have the right to appeal such action to the Student Behavior Committee.

<http://regulations.utah.edu/academics/6-400.php>

Important Dates:

- Classes begin: Monday, August 22
- Last day to add without a permission code: Friday, August 26
- Last day to add, drop (delete), elect CR/NC, or audit classes: Friday, September 2
- Labor Day holiday: Monday, September 5
- Review for First Midterm: Friday, September 9
- First Midterm: Monday, September 12
- Review for Second Midterm: Tuesday, October 4
- Second Midterm: Wednesday, October 5
- Fall break: Sunday-Sunday, October 9-16
- Last day to withdraw from classes: Friday, October 21
- Review for Third Midterm: Wednesday, November 16
- Third Midterm: Friday, November 18
- Thanksgiving break: Thursday-Friday, November 24-25
- Last day to reverse CR/NC option: Friday, December 2
- Classes end: Thursday, December 8
- Reading day: Friday, December 9

- Final Exam: Tuesday, December 13

Miscellany:

- Please silence your technology during the class.
- No laptops, phones, tablets et cetera allowed during class. If you desperately need to send an e-mail, send a text, or make a phone call, feel free to step out of the classroom for as long as you need to. You are allowed to bring a scientific calculator, but not a programmable or graphing one. You can still use this to do your homework if you want, but since they won't be allowed on midterms and on the final, it might not be a good idea to do so.
- Because this section meets during what many consider to be lunch time, students may want to eat some food during class. *Please don't*. This is needlessly distracting to you, your classmates, and myself.
- In the absence of extenuating circumstances, or of circumstances listed in the University's policies, there will be no "make-ups" or "retakes" of any course material. Should it happen that you cannot be present the day one of the tests takes place, please let me know of your absence before the test takes place (or as soon as possible), and provide suitable justification. In this case, I will do my best to work out a fair solution to the problem before the exam occurs (or as soon as possible). Talking to me after the problem will be sufficient reason for me to allow you to get a zero on that test. I reserve the right to make alternate exams more difficult than the scheduled exam.
- If you believe that I made a grading mistake, come talk to me prior to one week after I had handed the assignment or exam back. No revisions or adjustments will be made after this time.
- I reserve the right to make a change in course policy. This syllabus is not a binding document. If a change is needed, I will announce the change to the class and send a class-wide e-mail.
- Working on homework problems in a group is a great way to learn mathematics! Sharing and copying answers verbatim is cheating, however. If you prefer to work in a group, great! Talk about the problems as much as you like, but please write up your own solutions.
- If you cheat on any homework, project, quiz or exam, I will automatically give you a zero for that grade. Depending on the severity of the cheating, I may decide to fail you from the class. In all cases of cheating, I will also

report the incident to the Dean of Students. Additionally, if an international student cheats, I will also report the incident to the International Students Office.

- If you find yourself struggling with a concept, please come ask me and we can discuss it during office hours.