Course syllabus for Math 1220-005

Course Number/Title: MATH 1220-005 - Calculus 2

Instructor: Franco Rota

Class time and place: MTWF, 11:50 - 12:40 in WEB L110

Office hours: We’ll decide when to schedule these during the first week of class. You can always contact me by email.

Office location: JWB 219

E-mail address: rota@math.utah.edu

Class Web Page: [http://www.math.utah.edu/~rota/](http://www.math.utah.edu/~rota/) (click on our class under Teaching). Mostly, we will be using Canvas.

Textbook: *Calculus, with Differential Equations*, by Varberg, Purcell and Rigdon, 9th edition

Credit hours: 4 credit hours.

Prerequisite: Prerequisites: ”C” or better in MATH 1210 OR MATH 1250 OR MATH 1270 OR MATH 1311 OR MATH 1310
OR AP Calculus AB score of at least 4
OR AP Calculus BC score of at least 3.

Course description: Geometric applications of the integral, logarithmic, and exponential functions, techniques of integration, conic sections, improper integrals, numerical approximation techniques, infinite series and power series expansions.

Expected learning outcomes: Upon successful completion of this course, a student should be able to:

- Compute derivatives and integrals for exponential, logarithmic, hyperbolic functions, and inverse trigonometric functions.
• Integrate integrable functions using integration by parts, u-substitution, trigonometric substitutions, rationalizing substitutions, partial fraction decomposition, and trigonometric identities. This includes knowing which techniques to apply to a given integral.

• Use L'Hôpital's Rule to calculate indeterminate-type limits and also know what limits are the non-indeterminate forms and how to compute those limits.

• Compute improper integrals.

• Understand the difference between an infinite sequence and infinite series and determine if a sequence converges or diverges.

• Determine whether or not an infinite series of numbers converges or diverges using a variety of tests.

• Understand what it means for a Power Series to converge or diverge and be able to find the Taylor Series for a given function.

• Differentiate and integrate functions in polar coordinates.

**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 holydays). They are also offering group tutoring sessions. If you’re interested, visit http://www.math.utah.edu/ugrad/tutoring.html. 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 JWB233.

**Grading:** The grades will be calculated as follows:

Homework 10%
Quizzes 10%
Midterm 1 20%
Midterm 2 20%
Midterm 3 15%
Final 25%

The midterm that counts for 15% is not necessarily the third: I will consider the worst of your midterms and give it a 15% weight. The other two will count as 20%. Your grades will be posted on Canvas. 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’m always happy to correct any mistakes I’ve made. You just need to let me know about them.

**Grading scale:** The grade scale will be the usual:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A</td>
<td>[100, 93]</td>
</tr>
<tr>
<td>A-</td>
<td>(93, 90]</td>
</tr>
<tr>
<td>B+</td>
<td>(90, 87]</td>
</tr>
<tr>
<td>B</td>
<td>(87, 83]</td>
</tr>
<tr>
<td>B-</td>
<td>(83, 80]</td>
</tr>
<tr>
<td>C+</td>
<td>(80, 77]</td>
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<tr>
<td>C</td>
<td>(77, 73]</td>
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<tr>
<td>C-</td>
<td>(73, 70]</td>
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<tr>
<td>D+</td>
<td>(70, 67]</td>
</tr>
<tr>
<td>D</td>
<td>(67, 63]</td>
</tr>
<tr>
<td>D-</td>
<td>(63, 60]</td>
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<tr>
<td>E</td>
<td>(60, 0]</td>
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</tbody>
</table>

**Homework:** Homework will be assigned weekly and will be collected at the beginning of class each Tuesday. Most of the homework will be graded by completeness, I’ll pick some problems every week to be graded by correctness, you won’t know which ones. If you have doubts about the homework we can talk about it after classes or during office hours.

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.

**Midterms:** There will be 3 midterms. As explained before, I will take the worst grade and make it count 15%, the others will count 20%. Midterms will take the entirety of one class period, and will focus on material presented in class since the last midterm (or since the beginning of the semester).

**Exams:** The final exam for this class is **comprehensive** and it will occur on Wednesday, December 13, 2017, from 10:30 am to 12:30 pm in the regularly scheduled classroom.

**Quizzes:** There will be weekly quizzes on Canvas, available every week from Friday after class until Tuesday before class. You will have a limited amount of time to take them (usually half an hour or so) and they will contain one or two questions on the material covered that week. You will have the option to leave a comment to explain your work if you miss the correct answer. This will allow me to give partial credit on the quiz.

**Cheating:** A first incidence of cheating will result in a score of 0 for the work. A second incidence of cheating may result in a score of 0 for the class. Particularly severe first
incidences may count as second incidences and result in a grade of 0 for the class. I will report all such incidences to the appropriate authorities.

Miscellany:

- No laptops or phones allowed during class. Tablets are ok, if you use them to take notes. 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, however calculators won’t be allowed for midterms.

- In the absence of extenuating circumstances, there will be no “make-ups” or “retakes” of any course material.

- 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.

- 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.

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 & Access, 162 Olpin Union Building, 801-581-5020. CDA will work with you and the instructor to make arrangements for accommodations. All written information in this course can be made available in alternative format with prior notification to the Center for Disability & Access.

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.

**Important Dates:**

- Drop Deadline ........................................... Friday, September 1
- First Midterm ............................................. Friday, September 15
- Second Midterm ........................................... Friday, October 13
- Withdraw Deadline ................................. Friday, October 20
- Third Midterm ............................................. Friday, November 17
- Final exam ................................................. Wednesday, December 13