Course Syllabus – Calculus II  
Mathematics 1220, Section 04 Spring 2019

Instructor: Erjuan Fu  
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Class Time and Place: MoTuWeFr, 12:55 PM - 1:45 PM, JTB 140

Office Hours: MoFr, 1:50-2:50 or by appointment

Text: Calculus with Differential Equations, by Varberg, Purcell, and Rigdon (9th edition)  
For information on purchasing the textbook, go to http://www.math.utah.edu/schedule/bookInfo/

Course Information: Math 1220 Calculus II is a 4 credit course.

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, differential equations (continued).

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

1. Compute derivatives and integrals for exponential, logarithmic, hyperbolic functions, and inverse trigonometric functions.

2. 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.

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

4. Compute improper integrals.

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

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

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

8. Differentiate and integrate functions in polar coordinates.

Grading: The grades will be calculated as follows:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Homework</td>
<td>15%</td>
</tr>
<tr>
<td>Quizzes</td>
<td>15%</td>
</tr>
<tr>
<td>Midterm exams</td>
<td>45%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>25%</td>
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</tbody>
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Note: There will be three midterms. Each one will count for 15% of your final grade.

Homework: I will collect homework on Mondays of each week, even if there is a scheduled midterm. I will post your homework assignments on Canvas and it is your responsibility to check Canvas for the homework set corresponding to each weekly assignment.

- You will get half credit if you DO every problem. I will NOT be grading for correctness for this half of the grade, so it is your responsibility to make sure you understand the problems and their solutions. This is basically motivation for you to do the homework because that is the only way to survive a math class. (Please 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.)
• The other half of the points for each homework set will be given for correct and neat solutions, with all work shown. The grader will grade a four problems on each homework set to check for correctness. Each one of these problems will be graded out of 5 points. We will not tell you ahead of time which problems will be graded for correctness.

• The homework is to be turned in according to the following instructions:
  – **The homework set MUST be stapled together** A homework set turned in without being stapled together will not be graded. Please do not come to class hoping that I or someone else will have a stapler. Be prepared when you arrive.
  – Homework will be collected at the beginning of class; this is, during the first five minutes of the lecture. You cannot turn in homework after I have collected it. **Late homework will not be graded.**

• Your lowest three homework scores will be dropped.
  – I will drop these three homework scores to allow for illness, oversleeping, hectic schedules, etc. Do not ask for special favors with regard to the homework policy. Also, it is not necessary nor recommended that you tell me why you did not turn in homework.

You are responsible for knowing these policies.

**Quizzes:** There will be quizzes at any time and covering the material seen during the previous lectures. **No make-up quizzes will be given**, you will get a score of zero for the quizzes that you miss, but I will drop the three lowest quizzes.

**Midterm exams:** You will have three midterm exams, which will take place in the usual classroom and be 50 minutes long. The exam dates are the following:

  • First midterm exam Feb. 1, 2019
  • Second midterm exam Mar. 1, 2019
  • Third midterm exam Apr. 5, 2019

**Final exam:** The **final exam** will be comprehensive and will occur during the regularly scheduled final exam time, given by the University.

**Tuesday, April 30, 2019**
**1:00 pm – 3:00 pm**
**JTB 140**

**Online Grades:** I will put your grades online on Canvas. 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:** Although I’m not philosophically opposed to curving grades, I find it’s rarely necessary. The grade scale will be the usual: A (93-100), A- (90-92), B+ (87-89), B (83-86), B- (80-82), C+ (77-79), C (73-76), C- (70-72), D+ (67-69), D (63-66), D- (60-62), E (0-59). If I do need to curve the grades, I will simply shift everything down by a few points (whatever is necessary).

**Additional resources:**

• **Tutoring Center & Computer Lab** There is free tutoring in the T. Benny Rushing Mathematics Student Center (room 155, the lower level between JWB and LCB), as well as a computer lab. For more information see [http://www.math.utah.edu/ugrad/tutoring.html](http://www.math.utah.edu/ugrad/tutoring.html)

• **Private Tutoring** University Tutoring Services, 330 SSB. There is also a list of tutors at the math department office JWB 233.

• **Departmental Videos** The math department has a full set of lecture videos which you are welcome to use to supplement our course material. These can be found at [http://www.math.utah.edu/lectures/](http://www.math.utah.edu/lectures/)
Calculators: Calculators will not be allowed on exams. They may be used on homework, but you should still write out the details of your computation. It is in your best interest not to become too dependent on your calculator since they will not be allowed on exams.

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. Students 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, plagiarism, and/or collusion, as well as fraud, theft, etc. Students should read the Code carefully and know they are responsible for the content. According to Faculty Rules and Regulations, it is the faculty responsibility to enforce responsible classroom behaviors, and I will do so, beginning with verbal warnings and progressing to dismissal from and 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

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 and Access (CDA), 162 Olpin Union Building, 581-5020 (V/TDD). CDA will work with you and me to make arrangements for accommodations. All information in this course can be made available in alternative format with prior notification to CDA.

Addressing Sexual Misconduct: Title IX makes it clear that violence and harassment based on sex and gender (which includes sexual orientation and gender identity/expression) is a civil rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, color, religion, age, status as a person with a disability, veterans status or genetic information. If you or someone you know has been harassed or assaulted, you are encouraged to report it to the Title IX Coordinator in the Office of Equal Opportunity and Affirmative Action, 135 Park Building, 801-581-8365, or the Office of the Dean of Students, 270 Union Building, 801-581-7066. For support and confidential consultation, contact the Center for Student Wellness, 426 SSB, 801-581-7776. To report to the police, contact the Department of Public Safety, 801-585-2677(COPS).

Student Names and Personal Pronouns: Class rosters are provided to the instructor with the students legal name as well as Preferred first name (if previously entered by you in the Student Profile section of your CIS account). While CIS refers to this as merely a preference, I will honor you by referring to you with the name and pronoun that feels best for you in class, on papers, exams, group projects, etc. Please advise me of any name or pronoun changes (and update CIS) so I can help create a learning environment in which you, your name, and your pronoun will be respected. If you need assistance getting your preferred name on your UIDcard, please visit the LGBT Resource Center Room 409 in the Olpin Union Building, or email bpeacock@sa.utah.edu to schedule a time to drop by. The LGBT Resource Center hours are M-F 8am-5pm, and 8am-6pm on Tuesdays.

Wellness Statement: Personal concerns such as stress, anxiety, relationship difficulties, depression, cross-cultural differences, etc., can interfere with a student's ability to succeed and thrive at the University of Utah. For helpful resources contact the Center for Student Wellness at www.wellness.utah.edu or 801-581-7776.

Webpage: All information concerning this class will be posted on the Canvas webpage of the class. Any important information will be given in class and on the Canvas webpage. You are responsible for checking the webpage on a regular basis (you can have the communication from Canvas forwarded to your email address).

Additional policies:

- I do NOT allow the use of laptop computers or cell phones in my classroom, in order to minimize student distractions. At this point, it’s almost impossible to take notes for a math class on a laptop in real time. Thus, it is unnecessary in class. If you are using a tablet or ipad or some similar device to take notes and the screen lies parallel to your desk, that is totally fine.

- There will be no retakes of exams, for any reason.

- You may take an alternate exam if you talk to me about it first and explain the emergent, extenuating circumstances that make it necessary. It is 100% your responsibility to communicate with me as soon as is possible, 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.
• I will kindly demand respectful behavior in my classroom. Examples of disrespect include, but are not limited to, reading a newspaper or magazine in class, social chatting with your friend in class, use of your cell phone or cuddling with your girl/boyfriend in class. If you choose to be disrespectful with distracting behavior during our class, please keep in mind that you put me in a position of choosing between protecting/taking a stand for you OR for the other students or myself whom you are disrupting. I can guarantee I will choose to stand for the students who are there to learn without disruptions and I will thus take action to terminate your distracting behavior, and that action may not be desirable for you.

• If you have questions about any exam/quiz/homework grade, or you want to appeal the grading of the exam/quiz/homework, you must bring it to me within one week of the exam/quiz/homework. I'm happy to look over your appeal and/or questions and give my feedback in order to benefit your learning. But, it must be done in this timeframe of a week from when I hand back the exam/quiz/homework.

**Course Roadmap Week-by-Week:** Below is an outline and rough schedule of the sections and topic covered in this course.

**Week 1** Introduction, Chapters 6.1, 6.2

**Week 2** Chapters 6.3, 6.4, 6.5 **Note, Friday Jan. 18th is the last day to drop**

**Week 3** Chapters 6.6, 6.7, 6.8

**Week 4** Chapters 6.9, review, Exam 1 (Feb. 1)

**Week 5** Chapters 7.1, 7.2, 7.3

**Week 6** Chapter 7.4, 7.5, 7.6

**Week 7** Chapters 8.1, 8.2, 8.3

**Week 8** Chapters 8.4, review, Exam 2 (Mar. 1) **Note, Friday Mar. 1st is the last day to withdraw**

**Week 9** Chapters 9.1, 9.2, 9.3

**Week 10** Spring Break (Mar. 10- Mar. 17)

**Week 11** Chapters 9.4, 9.5

**Week 12** Chapters 9.5, 9.6

**Week 13** Chapters 9.7, review, Exam 3 (Apr. 5)

**Week 14** Chapters 9.8, 9.9

**Week 15** Chapters 10.5-10.6

**Week 16** Chapter 10.7, review, Final Exam Thursday Apr. 30th from 1:00 pm – 3:00 pm.

**Disclaimer:** This syllabus may change during the semester. If I do any modification to this syllabus, I will let you know in class and post the new syllabus on the Canvas webpage.