Math 1320-004
Engineering Calculus 2
Fall 2017

Instructor: George Domat
Contact Info: domat@math.utah.edu
Office: JWB 306
Lectures: M,T,W 10:45-11:35 AM AEB 310, F 10:45-11:35 AM LCB 215
Office Hours: TBD
Class Website: We will be using the Canvas website at https://utah.instructure.com/
Teaching Assistant: Dawei Wang
Teaching Assistant E-mail: wangdw@math.utah.edu
Teaching Assistant Office Hours: TBD
Lab: 1320-005: H 9:40-10:30 AM LCB 323; 1320-006: H 10:45-11:35 AM JTB 320

Important Dates: All exams in the usual classroom:
- Midterm 1: Friday, September 15
- Midterm 2: Friday, October 27
- Midterm 3: Friday, November 17
- Final Exam: Thursday, December 14 10:30-12:30 AM

Course Description: This course is the second part of the Engineering Calculus series and will cover intermediate knowledge of Calculus used for engineering applications. The course is structured into four lecture hours per week, and one lab hour per week.

Calculus is a set of tools to analyze the behavior of functions, useful in modeling physical processes important in engineering applications. At the end of the course, students will understand the following: how to compute areas and volumes using integrals, arc length, curvature, average values of functions, basic differential equation models and methods, direction fields, Eulers Method, separable differential equations, sequences, series, power series, Taylor and Maclaurin series, convergence tests, three dimensional coordinates and functions, vector functions, space curves, derivatives and integrals of vector functions, multivariable functions, limits and continuity in higher dimensions, partial derivatives, tangent planes, Lagrange Multipliers, and applications.

The work you will complete in Math 1320 consists of weekly homework, three midterm exams, a comprehensive final exam, and lab participation. The homework will be turned in every Wednesday. Midterm exams and the final will be given the dates listed above.

Evaluations:

- **Weekly Homework:** (15%) These will be assigned every Wednesday and due the following Wednesday. These are meant to get you to engage with the material outside of class. Most of the assigned problems will be graded for completion although there will be a few problems each week that will be graded more closely. Only hard copies will be accepted at the start of class every Wednesday, no digital copies, and no late homework will be accepted. The lowest two scores will be dropped.
- **Midterms:** (39 %, 13 % each) Three 50-minute midterm exams will be given on the dates listed above.
- **Final:** (26%) A two-hour comprehensive final exam will be given at the date and time above.
• **Lab:** (20%) Every Thursday a TA-directed lab section will be held. Worksheets are given during these lab sections, designed to reinforce and extend material covered in lectures to help develop problem solving skills. Students will work in groups with guidance from the TA to solve real world application problems.

**Students with Disabilities:** 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.

**Mathematics Tutoring Center:** The Benny T. Rushing Math Center (located in the basement of LCB) offers free drop-in tutoring for students at the U. This is another great resource! The hours of operation are Monday-Thursday 8-8 and Friday 8-6. They can also give you information about private tutors. For more information consult their website: [http://www.math.utah.edu/ugrad/mathcenter.html](http://www.math.utah.edu/ugrad/mathcenter.html).

**Make Ups:** You should make every effort to participate in all midterm exams. If you have to miss a midterm for a demonstrable legitimate reason, then talk to me, preferably at least a week before the midterm.

**Inclusivity:** Professional courtesy and sensitivity are especially important with respect to individuals dealing with differences of race, culture, religion, politics, sexual orientation, gender, gender variance, and nationalities. Class rosters are provided to the instructor with the student’s legal name as well as preferred name. I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the semester so that I may make appropriate changes to my records.

**Note:** This syllabus is not a binding document and may be modified provided students are given reasonable notice of the changes.

**Useful Tips and Links:**

- Course canvas page found at [https://utah.instructure.com/](https://utah.instructure.com/)
- The math department has available online lecture videos for several math classes. While our class does not have videos, the non-engineering calculus sequence has videos. Math 1220 and Math 2210 cover a good portion of the same material that we will. You can find these at [http://www.math.utah.edu/lectures/](http://www.math.utah.edu/lectures/)
- The textbook comes with an accompanying website with extra notes and homework hints: [http://www.stewartcalculus.com/media/9_home.php](http://www.stewartcalculus.com/media/9_home.php)
- Talk to each other! Math is rarely done in a vacuum. While all the work that you turn must be your own, I strongly encourage you to work together on the homework, problem sets, and labs. You will find that in talking with each other about the material you will learn it better.
- Talk to us! Myself and the TA are here to teach you and help you learn the material. Do not be afraid to come to our office hours if you are confused about something or have any issues with the class. If you can not make it to my office hours feel free to send me an email and I will try my best to find a time to meet with you outside of class.
- Read the book before (and after) lectures. Even if you only spend 10 minutes familiarizing yourself with the terminology or skimming the material you will find that the lectures will be much clearer.