

MATH 13: Bridge to Engineering Calculus II

Spring 2021

Instructor Information

Name: Ann Dunham

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Class Information

Dates: Spring 2021; January 19 – January 22

Days: Tuesday, Wednesday, Thursday, and Friday

Time: 6:30 – 8:30PM, Mountain Time

Location: Canvas and Zoom

Textbook (Required)

Calculus: Concepts and Contexts, 4th Edition, by James Stewart (ISBN- 978-0-495-55742-5)

Course Description

This course will cover material required for entry to MATH 1320, Engineering Calculus II, that is not covered in MATH 1210. This four-evening course constitutes an accelerated and intensive coverage of function transformations; inverse functions; exponential, inverse trigonometric, and logarithmic functions and their respective derivatives; parametric curves; approximation methods; L'Hôpital's rule; integration by parts, trigonometric integrals.

Required Course Materials

You will need a computer or smartphone with reliable internet and a working microphone and webcam to access the course Canvas page, submit assignments, take quizzes and exams, and participate in lectures. Access to a scanning device (smartphones can be used as scanning devices) is also required for submitting assignments, including exams.

Course Components

You will complete in-class group work, daily homework, daily quizzes, and a final exam. Details about the content of each assignment type are as follows:

- ▷ **Attendance:** You must attend all four class sessions to pass the course.
- ▷ **In-Class Work:** You will complete group worksheets designed to provide necessary preparation for the end-of-class quizzes.
- ▷ **Quizzes (30% of final grade):** At the end of class on Tuesday, Wednesday, and Thursday, a quiz will be given with a similar form and format as the in-class group work.

- ▷ **Homework (20% of final grade):** One to three problems from each of two to four textbook sections will be assigned on Tuesday-Wednesday. They will be due at the start of class the day after they are assigned.
- ▷ **Final exam (50% of final grade):** A one-hour comprehensive exam will be given at the end of class on Friday. The exam will consist of questions similar to the questions given on the preceding days' quizzes.

Grading Policies

Final grades will be assigned according to the following scale:

| | | | |
|----|----------|----|---------|
| A | 93 – 100 | C | 73 – 76 |
| A- | 90 – 92 | C- | 70 – 72 |
| B+ | 87 – 89 | D+ | 67 – 70 |
| B | 83 – 86 | D | 63 – 66 |
| B- | 80 – 82 | D- | 60 – 63 |
| C+ | 77 – 79 | E | 0 – 59 |

Collaboration and Outside Resources: You are highly encouraged to work with others on homework and lab assignments. Mathematics is a social activity! However, all final work must be your own; that is, despite a group deriving a solution, your work and/or explanations are expected to be unique. Quizzes and exams must be entirely your own work. *Plagiarism is unacceptable* and will result in a zero grade for all persons involved, as well as serious academic repercussions. Quizzes and exams are closed-note and closed-book, and you may not collaborate with other students or use any other external resources, including web resources. Any collaboration on exams is cheating. Calculators are not needed for quizzes and exams.

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 & Access \(CDA\)](#), 162 Olpin Union Building, 801-581-5020 (V/TDD). The 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. If you need accommodations, it is your responsibility to give me the relevant paperwork and take initiative in telling me what you need.

Class meeting schedule

Day 1 (Tuesday): Textbook sections 1.5, 1.6, 3.7, and 5.6

1st hour: Lecture: exponential functions (1.5), logarithms and inverse functions (1.6), logarithms and their derivatives (3.7), integration by parts (5.6)

2nd hour: Group work, followed by Quiz 1

Homework assignment 1: Due Wednesday before class

1.5: 4, 32

1.6: 52

3.7: 4, 34

5.6: 22, 36

Day 2 (Wednesday): Textbook sections 1.3, 1.7, 3.6, and 5.7

1st hour: Lecture: review of day 1, function transformations (1.3), parametric curves (1.7), inverse trigonometric functions (3.6), partial fractions and trigonometric integrals (5.7)

2nd hour: Group work, followed by Quiz 2

Homework assignment 2: Due Thursday before class

1.3: 26, 58

1.7: 4, 22

3.6: 2, 20

5.7: 6, 28

Day 3 (Thursday): Textbook sections 3.9 and 4.5

1st hour: Lecture: review of day 2, linear approximations (3.9), and L'Hôpital's rule (4.5)

2nd hour: Group work, followed by Quiz 3

Homework assignment 3: Due Friday before class

3.9: 16, 28

4.5: 8, 28

Day 4 (Friday): Review and final exam

1st hour: Group work reviewing material from days 1–3

2nd hour: Final exam