

## MATH 173: CALCULUS II

INSTRUCTOR: DANNY LARA

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Office Hours: M-F 1:00pm -2:00pm (Virtual)  
Office: Samuelson 218A

Class Room: Virtual

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### COURSE DESCRIPTION

Calculus is the study of change. In Calculus I, this was explored in the derivative. Now we're going to inverse the process. We will look into anti derivatives and their associated interpretation.

We will begin with a motivating example to establish the meaning of finding the area under a curve. We will state the definition of the Riemann Integral using Riemann sums, explore the Fundamental Theorems of calculus, and apply their interpretations in real world problems.

Once we establish the Second Fundamental Theorem of calculus, we will spend some time learning techniques of . These techniques include substitution, integration by parts, trigonometric substitution, and partial fractions. Once these techniques are established, we will explore applications of integrals.

Applications of integrals include finding areas between curves and the volumes of objects obtained by rotation curves about the axis in the Cartesian plane. We will also derive a way to find the exact length of a curve. We will explore concepts in physics (like density and work) to get some physical interpretations of these concepts.

We will explore improper integrals and their applications and end the semester by introducing differential equations.

### TEXTBOOK AND MATERIALS

The textbook will heavily follow *Calculus: Early Transcendentals 4th Edition by Rogawski* and *Active Calculus 2.1*. Active calculus is a free open textbook. If you cannot purchase the course textbook, this is an excellent substitution.

### GRADED COURSE WORK

**Homework 30%.** Homework will be hosted on **WebWork**. Webwork is an open source online homework system for math and science courses. Homework will be assigned

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Date: Fall 2020.

weekly and due the following week by Wednesday. Problems will have unlimited attempts and you are encouraged to collaborate with others. Homework grade will be based on completed problems.

**Quizzes 40%.** There will be weekly quizzes for each Module (see canvas). Each quiz will have 3 attempts and only the highest grade will count. It is strongly recommend that you work on these on your own so that you can check for understanding. Quizzes will be assigned weekly but you have until the end of the quarter to complete them.

**Discussions 10%.** Each week there will be required discussion to motivate the ideas for the week. Each discussion will outline the objective and its grading criteria. It is strongly recommended that you view the discussions by midweek since they require some peer to peer responses.

**Project 20%.** Your final assessment will be a project. You will have a pool of projects to choose from and can collaborate with up to 4 classmates. Each project will have its set of questions and grading rubric.

**Grading Policy.** Below is the standard CWU grading chart.

Letter Grade	Percentage
A	$\geq 93\%$
A -	$\geq 90\%$
B+	$\geq 87\%$
B	$\geq 83\%$
B -	$\geq 80\%$
C +	$\geq 77\%$
C	$\geq 73\%$
C	$\geq 70\%$
D+	$\geq 67\%$
D	$\geq 63\%$
D-	$\geq 60\%$
F	$< 60\%$

**Accommodations.** I am understanding of the need to set up academic adjustments due to disabilities. Bring a copy of your *Confirmation of Eligibility for Academic Adjustments* to set up proper accommodations. If you need testing accommodations, let me know ahead of time (at least 48 hours prior to the exam date). Students with disabilities should contact Disability Services to discuss a range of options to removing barriers, including accommodations. Disability Services is located in Hogue 126. Call (509) 963-2214 or email ds@cwu.edu for more information.

**Student Expectations.** As a student, you have certain expectations of me. These include knowing the material, answering emails, be present during office hours and so on. In return I expect all students to turn in work on time and take time to learn the material. Due to the Global Pandemic, this may become difficult at times. Send me an email about your situation for deadline extensions.

In compliance with RCW 28B.137.010, Central Washington University makes every effort to deal reasonably and fairly with students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. Students must present written notice to their instructor within the first two weeks of class listing the specific dates on which accommodations are required. Contact the Dean of Student Success at (509) 963-1515 for further information or questions.

**Professionalism.** CWU expects every member of the university community to contribute to an inclusive and respectful culture for all in its classrooms, work environments, and at campus events. As a student in this course, you are expected to treat your professors, fellow students, and other people affiliated with your work at CWU with respect, regardless of their sex, race and color, religion and creed, national origin, sexual orientation, gender identify and gender expression, disability and use of assistive devices or a service animal, and veteran or military status.

**Academic Honesty.** Consult university policies (CWUP 5-90-040(22), CWUR 2-90-040(22), and WAC 106-125-020) for student conduct, cheating, plagiarism, and other academic expectations. CWU's policies and recommendations for academic misconduct will be followed, leading to disciplinary action up to and including failing the course.

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Late assignments will be accepted for no penalty if a valid excuse is communicated to the instructor before the deadline. After the deadline, assignments will be accepted for a 50% deduction to the score up to 2 days after the deadline. After this any assignments handed in will be given 0.

**Academic Integrity and Honesty.** Students are required to comply with the university policy on academic integrity found in the Code of Student Conduct found at <http://policies.ncsu.edu/policy/pol-11-35-01>. Don't cheat. Don't be that guy. Yes, you. You know exactly what I'm talking about. See <http://policies.ncsu.edu/policy/pol-11-35-01> for a detailed explanation of academic honesty.

**Accommodations for Disabilities.** Reasonable accommodations will be made for students with verifiable disabilities. In order to take advantage of available accommodations, students must register with the Disability Services Office at Suite 2221, Student Health Center, Campus Box 7509, 919-515-7653. For more information on NC State's policy on working with students with disabilities, please see the Academic Accommodations for Students with Disabilities Regulation (REG02.20.01) (<https://policies.ncsu.edu/regulation/reg-02-20-01/>). Non-Discrimination Policy NC State University provides equality of opportunity in education and employment for all students and employees. Accordingly, NC State affirms its commitment to maintain a work environment for all employees and an academic environment for all students that is free from all forms of discrimination.

Discrimination based on race, color, religion, creed, sex, national origin, age, disability, veteran status, or sexual orientation is a violation of state and federal law and/or NC State University policy and will not be tolerated. Harassment of any person (either in the form of quid pro quo or creation of a hostile environment) based on race, color, religion, creed, sex, national origin, age, disability, veteran status, or sexual orientation also is a violation of state and federal law and/or NC State University policy and will not be tolerated. Retaliation against any person who complains about discrimination is also prohibited. NC State's policies and regulations covering discrimination, harassment, and retaliation may be accessed at [or](#) . Any person who feels that he or she has been the subject of prohibited discrimination, harassment, or retaliation should contact the Office for Equal Opportunity (OEO) at 919-515-3148.