Syllabus for Math 50A ~ Differential Calculus

Course Information

Semester & Year:	Summer 2020
Course ID & Section #:	Math 50A – V1172 – Differential Calculus
Instructor's name:	Amber Buntin
Day/Time/Location or *Online:	Online/Course Canvas Shell
Number of units:	4 units

Instructor Contact Information

Office location or *Online:	Online
Office hours:	**by appointment Canvas message or email me!**
Phone number:	707-476-4207
Email address:	Amber-Buntin@redwoods.edu

Required Materials

Textbook title:	Calculus, Volume 1 – OpenStax
URL:	https://openstax.org/details/calculus-volume-1
Author:	Gilbert Strang & Edwin Herman
ISBN:	**Print ISBN: 193816802X, Digital ISBN: 1947172131**

Other Requirements

Reliable access to the internet and a computer/laptop is essential to your success in this course since all course material will be delivered and all assignments will be submitted online. Graphing calculator required; TI 83/84 graphing calculator (or comparable app) recommended. See required course materials.

Catalog Description

A study of limits, continuity, and derivatives of algebraic, transcendental, and trigonometric functions. Applications of the derivative include optimization, related rates, examples from the natural and social sciences, and graphing of functions. The course introduces the integral and the connection between the integral and derivative. Note: A graphing calculator is required. CSU and UC Transferable.

Course Student Learning Outcomes

1. Evaluate the limit of a function at a real number and determine if a function is continuous at a real number. Use the limit to find the derivative of a function, and interpret the derivative as a rate of change
2. Use the derivative to find the equation of a tangent line to a function.
3. Use the differentiation formulas to compute derivatives and use differentiation to solve applications such as related rate problems and optimization problems.
4. Graph functions using methods of calculus.
5. Evaluate a definite integral as a limit.

Evaluation & Grading Policy

Please see weighted grade policy in syllabus below.

Prerequisites/Co-requisites/Recommended Preparation

Student must pass MATH-30 – College Algebra **AND** MATH-25 – Trigonometry with a C or better.

Student Feedback Policy

- The instructor will maintain frequent contact with the class and will respond to questions within 48 hours, unless announced absence to due illness, etc.
- The instructor will be part of the weekly discussion forum, providing feedback and discussion prompts.
- Lecture videos, notes, and practice problems will be provided for learning course material. These materials will be created by me as well as off of respectable you tube channels.
- Students will receive feedback on online homework instantly.
- Homework, discussion forums, and quizzes are typically graded within one week of the due date.
- Exams will typically be graded within 2 weeks of the due date.

Proctored Exams

The final exam for the course will be proctored and the class exams *may* be proctored.

Changing Preferred Name in Canvas

Students can have an alternate first name and pronouns to appear in Canvas. Fill out the Student Information Update form and turn in to Admissions & Records. Your Preferred Name will only be listed in Canvas. It does not change your legal name in our records.

Special Accommodations Statement

College of the Redwoods complies with the Americans with Disabilities Act in making reasonable accommodations for qualified students with disabilities. Please present your written accommodation request at least one week before the first test so that necessary arrangements can be made. No last-minute arrangements or post-test adjustments will be made. If you have a disability or believe you might benefit from disability-related services and accommodations, please see me or contact Disability Services and Programs for Students. Students may make requests for alternative media by contacting DSPS based on their campus location:

- Eureka: 707-476-4280, student services building, 1st floor
- Del Norte: 707-465-2324, main building near library
- Klamath-Trinity: 530-625-4821 Ext 103

Student Accessibility Statement

These standards are required by federal regulation. Students will have access to this course that complies with the Americans with Disabilities Act of 1990 (ADA), Section 508 of the Rehabilitation Act of 1973, and College of the Redwoods policies. Course materials will include a text equivalent for all non-text elements; videos will include closed captioning, images will include alt-tags, hyperlinks will use descriptive/meaningful phrases instead of URLs and audio files will include transcripts. All text will be formatted for use with screen readers and all course materials will be understandable without the use of color.

Students who discover access issues with this class should contact the instructor right away.

Online Math 50A – Differential Calculus

Online Course – (Course number 051172)

Instructor Contact Info

Amber Buntin, Professor of Mathematics

Email: *amber-buntin@redwoods.edu* **Canvas message** is the preferred way to contact me!

Phone: 707-476-4207

Office hours (SC 216K): Tues/Thurs 10-11am by appointment (Canvas message me!)

Virtual Math Lab: Access the Math Lab by registering for EITHER the credit bearing course, **Math 52 (0.5 unit)** or the **FREE non-credit Math Lab, Math 252** (0 units) to access tutoring services through the canvas page for these courses. Link to check open hours during any given semester: https://www.redwoods.edu/math/Lab

Course Delivery

This course is delivered and taught 100% online; there are no required classroom meetings. Students are required to watch video lectures, participate in online discussions and submit coursework through Canvas. There will be weekly zoom sessions (Tues/Thurs for a 1-hour block of time between 10am-noon) that students are encouraged to attend for homework help and/or extra examples of recent material. These meeting will be recorded and posted for folks who cannot meet synchronously. **Please see course schedule posted in our canvas shell.**

It is essential to our class that both the students and teacher behave in the virtual world (Canvas) in a manner that will provide a comfortable learning atmosphere. You are expected to be courteous to each other and to the instructor. You should not hesitate to ask questions nor feel embarrassed to ask for help in the canvas course or in live zoom sessions.

Virtual Presence and Participation

Virtual presence and participation are essential to the learning process as material builds daily in the canvas shell. Communication among you, your classmates and myself will occur almost daily in discussion forums and virtual zoom meetings. An important aspect of this course is the incorporation of active learning including taking notes from video lectures, completing worksheets, activities, and quizzes and working with others. We will incorporate all of these in our online classroom. It is important that you communicate, participate, ask questions (lots of em), dialog with classmates in discussions etc!

Confirm Presence in Online Classroom

Log in to the website and post to the "Introduce yourself!" discussion forum no later than 11:59pm on Wednesday June 3rd, 2020 to confirm your presence in the online classroom. Doing so will confirm your enrollment in the course and avoid being dropped as a "no show." **You can and will be dropped from the class if you do not log in and post to the "Introduce yourself!" discussions forum inside the online classroom by Wednesday June 3rd, 2020 by 11:59pm**. No exceptions will be made. A student from the waiting list may then be added in your place.

Grades

Homework/Activities	20%	93-100%	A
Discussions	5%	90-92%	A-
Check-ins	5%	88-89%	B+
Quizzes	10%	83-87%	B
Exams	35%	80-82%	B-
Final Exam	25%	78-79%	C+
		70-77%	C
		0-69%	D-F

*** Final grade is at the professional discretion of the instructor ***

Required Materials

Textbook:

Calculus Volume 1, OpenStax

Print ISBN: 193816802X

Digital ISBN: 1947172131

FREE e-book (access online): www.openstax.org/details/calculus-volume-1

Textbook as a downloadable PDF file: Calculus Volume1 - OpenStax.pdf

Student getting started guide (READ): Student Getting Started Guide.pdf

Printed textbook on Amazon: Link to Paperback Version

Other Materials:

- Web Camera and/or smartphone/tablet capable of taking photos
- Lined paper and graph paper
- Pencil, erasers, and straight edge
- Binder or composition/spiral notebook (used as a reference book for notes),
- DESMOS Graphing APP: https://www.desmos.com/
- Graphing calculator is required (TI-83+ or TI-84 recommended) and available to **check out for FREE for the summer** semester through the Library (click here for more details) or you can download a comparable app to your device/computer.

Student Commitment

Your commitment will require at least as much time as you dedicate to a traditional class. College of the Redwoods instructors are required to provide at least 54 hours of "work" during the semester for each unit of credit. Since this is a 4-unit course, you should expect to spend at least 216 hours on this course this semester. **This works out to at least 27 hours of effort on average each week.** Additionally, while I try to keep the workload evenly distributed during the semester, there may be some weeks which require more time than others depending on which assignments or activities are assigned that particular week.

Types of effort required for success:

- carefully read online lectures and textbook chapters
- participate in online activities and watch online videos
- complete online and written homework
- participate in online discussions, and
- complete weekly quizzes.

Conscientiousness, attention to details, and skills in reading and writing are critical for success.

Computer Skills:

Online courses require adequate computer skills. You must be able to:

- navigate the course Learning Management System (Canvas)
- receive and respond to your CR email
- download and upload files to the Canvas
- convert written work to a .pdf file
- use an online homework system MyOpenMath (MOM)

It is your responsibility to meet the technological demands of the course.

Technology Requirements

You should have high-speed internet (such as broadband) service from cable, DSL, or satellite providers as there are videos that require this speed. You need to have reliable access to the internet for the duration of the course. Anticipate problems with your computer and internet access (including power outages) by not waiting until the last minute to submit assignments. It is your responsibility to meet the class deadlines.

Portable Devices vs. Computers:

Although you can use up-to-date portable devices (such as Android or iOS phones & tablets) for some things, you should plan on doing the majority of your work (especially exams and assignments) from a reasonably up-to-date notebook or desktop computer (Mac or PC). ***Do NOT plan to participate in this class solely from a portable device.*** If you do decide to use your portable device for ***some*** of your class work, use the free Canvas app (called "Canvas by Instructure") available in iTunes (for iOS) and the Google Play Store (for Android). You may also connect to Canvas using a web browser on a portable device, but it can be a bit finicky. Your experience with Canvas will be a lot better using the app.

Homework and Activities

Activities, online homework and written homework, and discussion will be assigned throughout the semester. Homework will be assigned and due 3-4 days per week in order to get through all of the necessary material. You are encouraged to work collaboratively on your homework but be sure to NOT COPY other students' work. We will have a zoom study room where you can meet up virtually with others from class. At the end of the semester, your **3** lowest homework scores will be dropped from your grade.

Online Homework:

Online homework will be assigned and completed in a FREE online homework site called MyOpenMath (MOM). **The online assignments will provide for the following incentives:**

- Integrated in Canvas for instant feedback/grading.
- Ability to submit answers multiple times to improve score.
- Infinite set of practice problems/solutions for studying after due date.
- I will set up individual/small group tutorials **if needed** to make sure students have ample support for MyOpenMath.

****Late work policy:** 10 Late Passes will be allowed for **online assignments only.** Late passes can be used up to two weeks after the assignment due date and extend due date by 7 days.

Written Homework:

Written homework will be due with nearly every MOM assignment.
Grading Rubric for HW: Written assignments will be graded mainly on neatness, proper notation, and completeness and deductions will occur if I notice multiple incorrect answers or errors or incomplete assignments. **Please see "Written Homework Guidelines" section for further details about expectations.**

- For ***most*** online MOM assignments, I will select a few problems for you to **write up solutions for** and scan and post by the due date as a PDF file.
- Written work will typically include material covered in recent homework/notes/activities.
- In addition to written solutions to online HW, problems may be assigned from the textbook. Check answers to ODD numbered problems in the back of the textbook and to help with even-numbered problems.
- **No late written work will be accepted as there is no time to fall behind.**

Exam corrections:

- Assigned after each exam is returned (if time allows)
- Graded as an activity and **do not improve actual exam score**.

Activities:

- We will have activities periodically. Activities will mainly consist of worksheets and DESMOS. For some activities you will be working in pairs or groups!
- Please create a DESMOS account: https://www.desmos.com/calculator

Canvas

Our course canvas page will be updated regularly and will contain a variety of items such as: course announcements, class documents, review resources and much more. Be sure to turn on your notifications if you'd like to be notified about things like new announcements, changes. If you find you are getting too many (or too few) announcements, remember this is an individual setting that you must modify in Canvas. I can help to adjust your settings…just ask!

You will be expected to check canvas regularly and be aware of announcements made.

Log into Canvas at https://redwoods.instructure.com
Password is your 8 digit birth date
For tech help, email its@redwoods.edu or call 707-476-4160
Canvas Help for students: https://www.redwoods.edu/online/Help-Student
Canvas online orientation workshop: https://www.redwoods.edu/online/Home/Student-Resources/Canvas-Resources

Quizzes

There will quizzes nearly every week delivered in our canvas shell. Quizzes will either be online or written (scan and submit work). You **MAY NOT** work with other students in class or get help at the math lab, the LIGHT center or from a tutor or anyone for that matter. All work shown on quizzes should be your own and should follow the HW guidelines. If I even suspect students work together on a quiz, all parties will receive a score of zero and may be reported to the dean of students for further consequence.

Exams and the Final

There is a proctored Final Exam for this course. Other exams ***may*** be proctored. There will be 3 in-class exams (35% of grade) throughout the semester and a **required** comprehensive final examination (25% of grade). I will notify the class **at least one week** in advance as to the date of each exam. Before each exam, you will receive a study guide and/or practice problems.

All exams need to be submitted by the due date/time as announced in our class schedule and Canvas calendar. **No late exams will be accepted. It is your responsibility to ensure (and confirm) all exams problems have been completed and that the scan that is submitted includes ALL pages.**

Be sure to make all travel plans accordingly as there will be no make-ups for missed exams except in extreme or emergency cases (must provide documentation). **Exams will be graded within 2 weeks of all members of class completing the exam.**

*****Final Date: Final Exam due Thursday July 23rd, by 11:59pm*****

Testing Accommodations

If you are already approved for accommodations through Disabled Services & Programs for Students (DSPS) then **during the first or second week of class** you will need to submit your paperwork to me and let me know of any accommodations you are allotted.

Faculty Withdrawal of Students

It is the policy of the College of the Redwoods Department of Mathematics to exercise a "Faculty Withdrawal" for any student who has missed more than 15% of the class meeting time (~8 days) due to the severely diminished likelihood of a successful course outcome. Missing 1 or more classes in the first two weeks of school may result in withdrawal as well. It is important to note that, if it is your intention to withdraw from the course, you are responsible to ensure the proper paperwork has been filed – that is, you should not assume the teacher will file the "Withdrawal" automatically.

Tutoring Options – Improve Course Success!

The Virtual Math Tutoring Lab:

The math lab is held virtually this summer.

Sign up in WebAdvisor for one of the courses below

- **MATH 252** Open Mathematics Lab. This is a FREE, no credit option to get drop into the virtual math tutoring lab. **If you do not need units** or you want math help but cannot fulfill hour requirements for mathlab, then this is the option for you!
- **MATH 52** Math Lab for Transfer Level Math. Register in webadvisor for this for-credit drop-in tutoring course. Available for .5 unit (22.5 hours ~ 3 hrs a week req) this summer.

Other Tutoring Options:

- **NetTutor** is available in our canvas shell on the menu on the left once you enter our course.
- **FREE ASC tutoring** by appointment. Call **707-476-4106 or 707-476-4154.**
- **LIGHT Center Tutoring.** Please contact the LIGHT center if you are interested in their tutoring services. There is a GUID course you must enroll in to receive services. **Phone:** 707-476-4290 **Webpage**: https://www.redwoods.edu/dsps/Light-Center
- **OPTIMATH** practice assignments give immediate feedback and written out solutions: http://msenux2.redwoods.edu/cgi-bin/online/s18/OTportal.cgi
- The **CR Math Jam** webpage is a great way to prepare for exams and contains lessons as well as OPTIMATH assignments: http://msenux2.redwoods.edu/mathjam/?s=public
- **Private tutoring** is always an option but is of course more costly. If you are interested in hiring a private tutor, let me know and I will ask around to see if I can find anyone!

Final Words

A few words about my expectations for you and myself in this course: My responsibilities include providing course content, assigning carefully chosen homework problems that are relevant to our course and carefully preparing quiz and exam questions that accurately measure your progress in the course. Additionally, I am responsible to be available to you for consultation in office hours (by appointment…just email me ☺). Likewise, I believe that you are ultimately responsible for your college education and I expect you to participate regularly, ask questions when needed and do your best to devote time to learning the course material. This involves keeping up with homework assignments, seeking additional help, either from me or from the many resources available to you, before it is too late.

Guidelines for Written Homework

Please follow these guidelines when completing homework assignments.
It makes my grading experience much more pleasant ☺

1. Complete all written assignments on a **separate sheet of paper.** You **may use both sides** of the paper. Do NOT complete assignments on the pages of your textbook.
2. **Staple** all homework in the upper left hand corner.
3. **Label** your homework with your name, course number, and section number in the upper right-hand corner (see example below).
4. **Copy down original problem and directions** (summarize word problems)!
5. Write your problems in order **DOWN** the page. Please **skip a line** between problems.
6. **Circle**, **box,** or **highlight** your answers to each exercise so I can find your answer quickly.
7. Please use **pencil** when writing your homework, and please write legibly and neatly. Presentation is a component of your homework score. NO PENS!
8. Be sure to **show your work** when solving a problem. A problem with just the answer and no work shown will receive NO CREDIT.
9. **Cut or tear off** any frilly edges on paper torn from a notebook.
10. When creating a graph, you **MUST USE GRAPH PAPER AND A RULER** or you will get a ZERO on the assignment.
11. If you are ever given two assignments due on the same day make sure complete them, and **staple them SEPARATELY**.

Staple in upper left corner.

Ima Student
Math 50A
Section 1.2

HW 1.2: 4, 11, 20, 41

4. Solve $-26x + 84 = 48$

$$-26x + 84 = 48$$
$$-26x = -36$$
$$\boxed{x = \frac{36}{26}}$$

11. Solve $19x + 35 = 10$

$$19x + 35 = 10$$
$$19x = -25$$
$$\boxed{x = -\frac{25}{19}}$$

20. Solve $-8 - 8(x - 3) = 5(x + 9) + 7$

$$-8 - 8(x - 3) = 5(x + 9) + 7$$
$$-8 - 8x + 24 = 5x + 45 + 7$$
$$-8x + 16 = 5x + 52$$
$$-13x = 36$$
$$\boxed{x = -\frac{36}{13}}$$

41. Solve $Ax + By = C$ for y

$$Ax + By = C$$
$$By = C - Ax$$
$$\boxed{y = \frac{C - Ax}{B}}$$

********** **Syllabus Subject to Change** **********

Announcements will be made in Canvas.

Students are expected to check email, Canvas, and/or with fellow classmates concerning missed work!