Differential Calculus
MTH 251 Spring 2021 CRN: 40108

Zoom Class Times:	Tuesdays and Thursdays 10:00 - 11:50 am	Class Location: Google Classroom/Moodle/Zoom Office:	WOH-101
Instructor:	Sheri W. Rogers	Phone:	541.917.4756
Zoom Office Hours:	View appointment calendar to select a time; or email for an appt.	Email:	sheri.rogers@linnbenton.edu

Required Course Materials:

- Regular access to a computer and the internet. **Google Classroom ucwmd67**
- Web-Camera for Testing and Class Participation
- Free Access to **Achieve online homework with e-book** **Course ID: djtz5q**
- *A scientific calculator or graphing calculator that does not have a symbolic manipulator. The Pro or TI-84 are recommended.*
- Ability to scan documents or create pdf documents for uploading work. Free apps for phones work fine. (Cam Scanner, for example.)

Course Description: The first course in the calculus sequence for students majoring in mathematics, science and engineering. Limits and derivatives are approached using graphical, numeric, and symbolic methods. Linear approximations, related rates, curve sketching and optimization are among the applications of differentiation covered in this course. **Prerequisite:** MTH 112 Trigonometry or equivalent with a grade of "C" or better.

Student Learning Outcomes: Upon completion of the course, the student will be able to:

1. Calculate, interpret and communicate the concepts of limits and derivatives.
2. Recognize when and how to apply calculus tools to solve problems in business, the sciences, and engineering.
3. Connect the graphical behavior, numerical patterns and symbolic representation of functions and their derivatives.

Grading Policy: Your grade in this class is weighted based on the following:

Online Homework - Achieve	15%
Online Pre-Class Work - Achieve	15%
Weekly Class Work/Quizzes	10%
Tests (2 @ 15% each)	30%
Projects	10%
Final Exam	20%

Scale:	90%-100%	A
	80%- 89%	B
	70%- 79%	C
	60%- 69%	D

0 – 59% F *All grades will be posted in the gradebook on Google Classroom.*

A grade of Incomplete may be assigned at the discretion of the instructor under special circumstances. The student must have completed the majority of the course, been in regular attendance and passing the course prior to the "special circumstance."

We will be using **Google Classroom** in conjunction with **Macmillan's Achieve Website** for this course. Each week you will have several items on Google Classroom to complete in addition to your Achieve pre-class and homework. You will need to **log into Google Classroom several times each week** to participate in the course activities and download Class Work. The **Moodle** site for this course will be used for monitored testing and posting course links.

Online Homework: There are **homework** exercises assigned for each section we cover. This is your opportunity to practice and learn the material. **Achieve** Homework should be completed by the due dates on the Macmillan website. Assignments not opened prior to the relevant test will have a zero score. Problems in open assignments completed after the due date receive a 3% penalty each day past the due date. **Pre-Class Work** is also completed on Achieve.

Projects and Write-Ups:

- Selected problems are assigned as a **Homework Write-Up**. The write up will include: the problem statement, all steps--including the calculus and algebra necessary to solve it, appropriate explanation of the process and the answer clearly identified. It should be written so that anyone in a MTH 251 class would be able to easily follow and understand your solution. Homework Write-Ups will be graded on correctness, presentation, readability and the communication of your solution. Up to one half of the grade is based on the *communication and explanation of the solution.* In other words, a correct solution without explanation can lose up to half of the points.

- Projects will include applications of the material for the course. Specific guidelines for each project will be given and explained when the appropriate material has been covered in the course. Expect 2-3 projects this term.

Weekly class work: These are short assignments or activities, given and completed the same week the material is covered. Typically you will work in small groups, putting what you just learned into immediate practice. The group work will be submitted on Google Classroom. Each person should submit a copy. If you are unable to attend the Zoom Class Meetings, you will still be able to download and complete these with your own group at the agreed upon meeting time. Submit your completed work in a pdf file on Google Classroom.

All written/group assignments that are completed outside of class are due at 11:59 p.m. on Friday of the week it was assigned. Late assignments will not be accepted after Sunday following the due date. **Late work will receive a 20 percentage point penalty.** It is important that you seek out help with assignments ***before*** the date they are due.

Please be prepared to upload your completed written work as a pdf file. Please be sure items are numbered and pages are in order. One single combined document for each assignment, please.

Tests:

- Tests (2) will have a 2-hour time limit and must be submitted at the end of class on the scheduled day. No retakes for these tests. ***Students will immediately submit their scratch work as a pdf file on Google Classroom in order to receive credit.***
- The *tentative* test dates are listed on the course calendar. If you have been missing class prior to a test, it is your responsibility to confirm the date of the test as it may change.
  Testing will be through Moodle:
- Moodle Directions: Respondus Lockdown Browser and Monitor
- Video: Introduction to Respondus

Attendance: I will monitor your participation and attendance through your participation during Zoom Classes, your Achieve log-in record, your timely completion of online homework and written assignments. *Attendance, effort and attitude will be noted by the instructor and may be used to help determine "borderline" grades.*

HELP! If you have questions, PLEASE ask!

- I have scheduled Zoom office hours when you can drop in:
  - View available times on this link.
- Email me for a scheduled Zoom appointment rogerss@linnbenton.edu
- Visit my instructor website, Google Classroom and Moodle for helpful links to class notes, videos, Zoom links
- The **Math Desk** WILL be operating Spring Term to support students working remotely via Zoom and Discord, with drop-in help available during these hours:
  - Monday - Friday: 9 am - 7 pm; Sat. 11 am - 4 pm; Sun 11 am - 3 pm
  - **Zoom: Math Support Zoom Room**
  - **Learning Center Discord - Math**
  - **Email: mathdesk@linnbenton.edu**
- The URL for the **Learning Center Remote Resources** site is https://www.linnbenton.edu/student-services/library-tutoring-testing/learning-center/index.php This will have all relevant Zoom meeting links, hours, and updated information.
- **Form a study group:** Your classmates are important resources for understanding and completing the homework. You gain a deeper understanding of mathematical concepts when you express them in your own words and explain them to someone else. It is *strongly recommended* that you study together with other students in small groups. The most successful calculus students form study groups early.

Expectations:

- I expect that my students will be involved in and working on this class several times a week. This includes asking questions and participating in group discussions, watching videos, etc.
- Spend **at least 10-15 hours per week working on this class.**
- You should log into Zoom meetings prepared (this means you should have your notebook, tablet/laptop, class work, webcam on, etc.).
- I expect you will be respectful of everyone in the class, in word as well as behavior. Discussions should be respectful and supportive of the success of everyone in the class.

Academic Honesty: I assume that you are ethical and honest. However, if there is an incident of academic

dishonesty (cheating), you will receive a score of zero for that test/assignment and the incident will be reported to the college administration for possible further disciplinary action. If there is a second offense, you will receive a grade of F for the course and the incident will be reported to the college administration with a recommendation for disciplinary action.

Special Circumstances: LBCC is committed to inclusiveness and equal access to higher education. If you have approved accommodations through the Center for Accessibility Resources (CFAR) and would like to use your accommodations in the class, please talk to your instructor as soon as possible to discuss your needs.
If you believe you may need accommodations but are not yet registered with CFAR, please visit the CFAR Website for steps on how to apply for services or call 541-917-4789.

Nondiscrimination Statement:
LBCC prohibits unlawful discrimination based on race, color, religion, ethnicity, use of native language, national origin, sex, sexual orientation, gender, gender identity, marital status, disability, veteran status, age, or any other status protected under applicable federal, state, or local laws. For further information see Board Policy P1015 in our Board Policies and Administrative Rules. Title II, IX, & Section 504: Scott Rolen, CC-108, 541-917-4425; Lynne Cox, T-107B, 541-917-4806. To report: linnbenton-advocate.symplicity.com/public report.

The instructor reserves the right to make changes to the syllabus as necessary.

Specific Week 1 Requirements to stay enrolled in this class:

Visit Google Classroom for this Course ucwmd67

Lesson 1

1. Download and read the course syllabus.
2. Complete the Syllabus Search Activity. Submit your assignment on Google Classroom by 11:59 p.m. Wednesday, March 31, 2021.
3. Use Free access code to log into Achieve and enter your **LBCC email** for yourself.
4. Complete the Orientation and Training Assignments on Achieve.
5. **Attend or watch Zoom Class meeting 1 at 10:00 a.m. on Tuesday, March 30th, 2021.**
6. Complete the Group Class Work: Secant and Tangent Lines.
7. Complete Achieve homework for Sections 2.1 and most of 2.2

Lesson 2

1. Download Class Work: Basic Limit Techniques
2. Download Reference Page: Limit Laws
3. **Attend or watch Zoom Class meeting 2 at 10:00 a.m. on Thursday, April 1, 2021.**
4. Complete the Class Work (Zoom groups)
5. Complete Achieve homework for Sections 2.2 and most of 2.3

Syllabus Search Activity is due Wednesday, March 31st by 11:59 p.m.

Each student must schedule a small group meeting with me on this sign up sheet. We will meet on my office zoom link sometime during week 1 of the term.

Weekly Class Work is due Friday, April 2nd, by 11:59 p.m. Please upload these as **pdf files** on Google Classroom.

Secant and Tangent Lines
Basic Limits Techniques