# Fall 2021 MTH 251

# Differential Calculus - Virtual

***CRN 42460***

**Instructor Name:** Claire Burke

**Email:** burkec@linnbenton.edu

**Virtual Office:** Zoom Link in Moodle

**Class Times:** Mondays, Wednesdays 8:30am-10:20am and Fridays 8:30am-9:20am

**Class Location:** Zoom/Moodle (Link to class zoom is in Moodle)

**Q&A Drop in Hours:** TBA

## What do you need for this class?

- Regular and reliable access to the internet and LBCC's Moodle (LBCC Library Technology Resources can help).
- Ability to scan documents and create pdfs (free apps like CamScanner work fine).
- At least 10 hours a week outside of class times to practice and learn the material.
- Achieve access code for the online homework and eBook access.
- Webcam for class, collaborating and office hours

## 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.

## What will you learn in this course?

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

## How will the class work?

Mathematics is a combination of knowledge and skill, and like any skill (or sport) can only truly be learned by *doing*. This course will have several types of activities for you to do that are designed to

help you meet the learning goals of the class. You will need to log into Moodle several times each week to complete activities before class, during class, and after class.

### Before Class

*Preview Assignments (Lesson Preparation)*

Each topic we learn about will have a preview assignment to complete in Moodle prior to the lesson covering that topic. These preview assignments will help you prepare for the discussions and activities that happen during the lesson. Taking time to complete a 10 minute preview activity will make your learning more efficient and save you time. Some preview assignments will be graded solely on participation.

### During Class

*Lessons and Lesson Activities*
This class will meet virtually over zoom 3 times per week. Class sessions will be recorded and posted in Moodle. Each textbook section covered in this class will have a lesson that occurs over 1-2 class meetings. Lessons will be interactive and you will be frequently asked to work problems, answer questions and participate in group discussions. You may also complete in class activities in groups that will be collected and graded.

The experiences gained from working on activities and class discussions will be a major component in determining your success in this course.  Participation is therefore required. It is expected that you will attend each virtual class to participate in the class activities and discussions. If there is a day you are unable to attend the virtual class please contact your instructor.

### After Class

*Achieve Practice Problems (Online Homework)*
Online homework is your opportunity to practice and quiz yourself on the material with immediate feedback and multiple chances. Online homework will be completed and submitted electronically (link in Moodle).

*Write Ups and Reflections (Written Homework)*
Write-ups will help you solve more complex problems and practice communicating your solutions. The corresponding weekly forums will ask you to learn from your mistakes and make connections. Weekly write-ups will be uploaded as a pdf in Moodle. Start these assignments early as the problems are often challenging.

***Important:** For your homework, work the problems by hand in a notebook you create for your 251 homework. This will give you practice writing out solutions, a place to start when asking for help, and give you a clear record of work to study for exams. When you come to office hours or other tutors for help, you should bring a copy of the problem and your notes for your attempt at the problem.

## How will your Learning be Measured?

There is one midterm, a derivative proficiency exam, and a comprehensive final exam for this course. The purpose of the exams are to measure your understanding of the course material and if you have met the learning goals for the class.

The tentative scheduled dates/times for the exams at the Benton Center in Corvallis are:

**Scheduled Midterm Exam:** Wed 4/20 8:30am - 10:20am in BC234

**Scheduled Derivative Proficiency Exam:** Fri 5/13 8:30am-9:20am in BC234

**Scheduled Final Exam:** Mon 6/6 8:00am-9:50am in BC234

**All exams are expected to be proctored in person.** If alternate arrangements are required it is the students responsibility to email the instructor during the first week of classes to make alternative arrangements for exams.

## How will your grade be calculated?

Your grade will be calculated using a weighted average based on the following percentages:

5%.....Preview Assignments

5%.....Lesson Activities and Participation

20%...Online Homework

10%...Write-ups and Reflections

15%...Derivative Proficiency Exam

20%...Midterm

25%...Final Exam

Your letter grade will be assigned based on the grading scale:

A: 90-100%

B: 80-89%

C: 70-79%

D: 60-69%

F: 0-59%

Grades will be rounded **UP** to the nearest whole percentage. (example: 89.01% would be rounded to 90%) Students can view their grades in Moodle.

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 have a passing grade in the course prior to the special circumstance.

### Your Grade will Reflect your Personal Knowledge

All the activities and assignments in the course have been chosen to help you learn, practice, and ultimately master the content.[1] While I encourage working with classmates, a tutor, etc., your goal is to make sure you fully understand the material discussed. Any work you turn in must be your personal understanding of calculus (not your classmates or the internets). You are personally responsible for any solution you turn in online or written and should be able to walk me through

[1] Bloom's Taxonomy Levels of Learning: 1) Remembering, 2) Understanding, 3) Applying, 4) Analyzing, 5) Evaluating, 6) Creating. Level 3 is a minimum requirement, levels 5 and 6 likely earn an A.

your process and understanding verbally if asked. *At the end of the term, I can adjust your grade to better reflect your personal understanding of the course material, if necessary.*

## Class Resources

This class has resources to support your success!

### Student Drop In Office Hours

If you have questions, please ask me! I have scheduled office hours but you're welcome to drop in at other times too. You can also reach me through Discord or by email.

### Study Group

Your classmates are an important resource for understanding and completing the work for the course. Often a fellow student can explain things in a different way than your instructor. Studies have shown there is a correlation between success in learning math and students who engage in study groups. It is strongly recommended that you study together with other students in small groups. To facilitate discussion about the class content this course has a class Discord server linked in Moodle.

### Learning Center

The Math Desk will be operating this term to support students working in person as well as remotely via Zoom, with drop-in help available during their standard hours:

The link to connect to the remote Math Desk is https://linnbenton.zoom.us/j/579890953

The URL for the Learning Center Remote Resources site is: https://www.linnbenton.edu/current-students/study/learning-center/.

## Class Policies and Expectations

### Late Work

The work in this course has been planned to help you learn. When work is completed late or last minute you miss out on fully engaging in the learning opportunity. Completing the work on time also helps prepare you for the next topic.

Completing your work on time makes your learning more efficient and will mean that you spend less time overall learning the same material.

In general, you will be better off if your work is completed by the deadline. But, life happens. You have two, no questions asked, 48 hour extensions if you email your instructor with the subject line "late pass". Otherwise, if you miss an online homework assignment deadline, you can still earn up to 80% credit for up to one week until the exam covering that material, whichever is sooner. Write-ups should be turned in by the deadline so you can participate in the weekly forums.

Other late assignments may be accepted at the discretion of the instructor. Communicate with your instructor if there are obstacles preventing you from completing the course assignments on time.

### Attendance

There is a strong link between good attendance and success in math courses. Attending a virtual/remote class means attending the zoom classes and participating in the class discussions and activities. Your peers rely on your feedback and input.

If you do not attend all the class meetings in the first week or make an alternate arrangement with your instructor you will be dropped from the course. If there is a week that you will be unable to log in and participate let your instructor know.

Students are responsible for any material, updates, or other information announcements made during the virtual class or in Moodle or sent to their student email.

### Cameras On - Attending Live Class and Office Hours

Cameras should be turned on as much as possible during class meetings and office hours. If you have a verifiable reason that your camera can not be on contact your instructor in advance of class to make an alternate arrangement. Students with cameras off that have not made arrangements with the instructor in advance will be removed from the virtual class.

### Academic Honesty

Academic integrity is the principle of engaging in scholarly activity with honesty and fairness, and participating ethically in the pursuit of learning. Academic integrity is expected of all learners at LBCC. Behavior that violates academic integrity policies at LBCC includes cheating, plagiarism, unauthorized assistance or supporting others in engaging in academic dishonesty, knowingly furnishing false information, or changing or misusing college documents, among others. LBCC students are responsible for understanding and abiding by the College's academic integrity policy.

If I become aware of academic misconduct, I will meet with the student(s) in question to discuss the matter and may assign a consequence of an "F" or "NP" for part of the assignment, the entire assignment, or the course overall. I will also report the matter to the Manager for Student Conduct and Retention, and the College may take further disciplinary action. When in doubt if something constitutes academic misconduct, please contact me and ask for clarification. The instructor reserves the right to request students verbally explain their work or understanding on any assignment if academic dishonesty is a concern.

### Special Circumstances or Accommodations

You should meet with your instructor during the first week of class if:

- You have a documented disability and need accommodations.
- Your instructor needs to know medical information about you.
- You need special arrangements in the event of an emergency.

If you have documented your disability, remember that you must make your request for accommodations through the Center for Accessibility Resources (CFAR) Online Services webpage every term in order to receive accommodations. 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.

### Basic Needs

Any student who has difficulty affording groceries or accessing sufficient food to eat every day, or who lacks a safe and stable place to live, and believes this may affect their performance in the course, is urged to contact the Roadrunner Resource Center for support at 541-917- 4877, or schedule an appointment on the web at www.linnbenton.edu/rrc . Our office can help students get connected to resources to help. It might be helpful to notify the instructor, if you are comfortable in doing so. This will enable them to provide any resources that they may possess.

### LBCC Comprehensive Statement of Nondiscrimination

LBCC prohibits unlawful discrimination based on race, color, religion, ethnicity, use of native language, national origin, sex, sexual orientation, marital status, disability, veteran status, age, or any other status protected under applicable federal, state, or local laws.

### Statement of Inclusion

The LBCC community is enriched by diversity. Each individual has worth and makes contributions to create that diversity at the college. Everyone has the right to think, learn, and work together in an environment of respect, tolerance, and goodwill.  (related to Board Policy #1015)

## Course Calendar

You can find the tentative course calendar at this link: Tentative Course Calendar