

**Differential Calculus**

**MTH 251 Spring 2019 CRN 40108**

Class Times: M-F 9:00-9:50 a.m. (5 credits) Class Location: WOH-113

Office: WOH-101

Instructor: Sheri W. Rogers Phone: 541.917.4756

Office Hours: W/F 10:00-10:50 a.m.; T 1:00-1:50 p.m. Email: [sheri.rogers@linnbenton.edu](mailto:sheri.rogers@linnbenton.edu)

or by appointment

**Course Materials:**

|  |
| --- |
| * Regular access to a computer and the internet. * MyLab Math Access – Class Code: * *A scientific calculator or graphing calculator that does not have a symbolic manipulator. The TI-36X-Pro or TI-84 are recommended.* |

**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 20%

Class Work 18%

Tests (2 @ 15% each) 30%

Proficiency Test 7%

Final Exam 25%

Scale: 90%-100% A

80%- 89% B

70%- 79% C

60%- 69% D

0 – 59% F

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.”

**Online Homework:** There are **homework** exercises assigned for each section we cover in class. This is your opportunity to practice and learn the material.  **MyLab Math** Homework should be completed by the due dates on the website. On occasion, homework problems may be discussed at the start of class but not in general.

Selected problems from the textbook are assigned as a **Homework Write-Up**. You are expected to carefully write up the solution to each problem and turn it in on the assigned date. 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, an incorrect but well-explained solution can still earn up to half of the points. Similarly, a correct solution without explanation can lose up to half of the points. The due dates for Homework Write-Ups are listed on the calendar. Write Ups are due at the start of class on the indicated day.

Additionally, there will be some **class work.** This means short assignments, given and completed in class. Typically you will work in small groups, putting what you just learned into immediate practice. Class work cannot be made up. If you are not in class you will receive a score of 0 for it. If you are absent, check for possible handouts and assignments so that you can keep up with the material.

All assignments that are completed outside of class are due at the ***beginning of class*** on the due date. Such assignments will not be accepted more than one class meeting past the due date. For example, if an assignment was due on Tuesday, I will not accept it after the ***beginning of class*** on Wednesday. **Late work will receive a 20 percentage point penalty.** It is important that you seek out help with assignments ***before*** the class when they are due. I will drop the lowest score from the class work category at the end of the quarter.

**Tests:** All tests (including the final) will be given in our classroom. All tests will have a time limit and are closed book/notes. Tests must be taken on the scheduled day. If you miss a test you will get a score of zero. There are no make-up tests. I will replace your lowest test score with your Final Exam score up to a maximum of 70%. 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. The date and time of the final will not change: **Monday, June 10, 2019, 10:00-11:50 a.m.**

**Proficiency test:** A proficiency test must be passed at 90% or better in order to count toward your grade in Math 251. It will be given in class during Week 6 or 7, and must be passed before finals week. It will be 10 questions designed solely to test your differentiation skills without a calculator. You will have multiple opportunities to retake it if needed. If the proficiency test is not passed with 90% or better, a score of 0 will be averaged into your grade for it. The proficiency test is not a requirement for passing the course.

**Attendance:** If you know you will not be in class on a certain day let me know in **advance, not after you are absent***.* If you miss class, **it is your responsibility to check the class notes** and ask for possible handouts that will be turned in. *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 **come see me** and ask! I have scheduled office hours but you’re welcome to come in at other times too. Visit my **instructor website** for helpful links, class notes and other information.

**Notes online**: My class notes are immediately available via the link to “One Note” on my website.

**Form a study group:** Your classmates are important resources for understanding and completing the homework. Often a fellow student can explain things in terms that an instructor cannot. 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 and keep them throughout the calculus sequence.

**Use the Learning Center:** The Learning Center, WH226, is an excellent place to study and to get help with your homework. Check out what the Learning Center has to offer:

* There is free wireless available in the Learning Center.
* The relaxed atmosphere and table arrangement in the Learning Center provide a great location for study groups to meet and work.
* Instructional assistants are available at the Math Domain Desk to answer your calculus, algebra, trigonometry, and calculator questions.
* The Learning Center offers some free individual and small group tutoring in addition to the help desk.

Please remember to log on and log off the computer with each visit to the Learning Center.

**Expectations:** I expect that my students will be involved in class. This includes being present, asking questions and participating in discussions. You should come to class prepared (this means you should bring your paper, pencils, calculator, etc. as well as have your homework with you). I expect you to be respectful of everyone in the class, in word as well as behavior. Along these lines, I ask that you turn off and put away your cell phone and other electronic devices during class so as to avoid causing a distraction.

**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](http://www.linnbenton.edu/cfar) 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](http://linnbenton.edu/42145BA0-3DCC-11E3-AA36782BCB47BBE7). 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](http://linnbenton-advocate.symplicity.com/public_report).

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