Linn-Benton
Community College

MTH 241 Calculus for Biological, Management, and Social Sciences

Term: Fall 2020   **CRN:** 27749

Instructor: Dionysus Birnbaum   Class times: TBD
Office: WOH-129 (remote)   Class location: Virtual/Remote (see moodle for links)
Office Hours: TBD   Email: birnbad@linnbenton.edu

Course Description

An introduction to differential and integral calculus as applied to economics with some applications to social sciences, and life sciences. The course presents a conceptual development of calculus applied to polynomial, exponential, and logarithmic functions and extrema theory. Prerequisite: Math 111 College Algebra or equivalent.

When you complete this class, you will be able to

- Identify average and instantaneous rates of change in business and biology applications.
- Connect graphical, numerical, and symbolic interpretations of the difference quotient and the derivative.
- Apply differential calculus techniques to describe the behavior of business/biological functions.
- Apply techniques of integral calculus to determine net changes in business and biological applications such as marginal analysis, velocity, and growth.

What do you need for this class?

- Regular access to a computer and the internet.
- A calculator that does not have a symbolic manipulator (I recommend the TI-36XPro)
- We will be using an open source textbook and software MyOpenMath (free!)

How will your grade be calculated?

Your grade will be determined by completing the different types of assignments detailed on the following page.

Homework and Class Prep Assignments

Completing the class prep assignments and homework on time is critical to your success in this class. The class prep assignments are designed to expose you to the new concepts we will be working on and prepare you for class. In addition to the class prep assignments you will also have homework assignments to be completed after each class. Homework is your opportunity to practice and deepen your understanding of the concepts we covered in class. Homework and class prep assignments will be completed online in My Open Math. My Open Math is free, open source online homework and includes access to the textbook we will be using for this class.

Information to Access the Online Class

website: www.myopenmath.com
Course ID: 90537
Enrollment Key: 2020fallmth241

Late Homework and Class Prep Assignments

You have 5 late passes up to 48 hours each. You must decide to use the late pass _before_ the due date. Additional late passes my be available in extreme circumstances at the discretion of the instructor.

In Class Assignments

There will be various, unannounced in class assignments or projects most class days. All in class assignments are due by the next class session. There will be no make-ups for missed in class assignments. Your lowest three scores in this category will be dropped.

Tests

In this class, we will have two tests, and a cumulative final exam. If you must miss a test, you are required **to contact your instructor in advance** of the testing time. Alternate arrangements may be made in the case of extreme circumstances beyond the students control and will be at the discretion of the instructor. You may also be required to present written proof of your circumstances. If you miss an exam you will receive a zero for that exam, there are no retests or make-up exams.

Cumulative Final Exam

The final exam percentage score replaces any lower midterm exam score up to 80%, if it benefits your grade.

Overall Grade

Your overall course grade will be calculated using a weighted average based on the following weights and will be rounded up to the nearest whole percent.

Category	Percent
Homework	15%
Class Prep Assignments	10%
In Class Activities	15%
Two Tests	30%
Final Exam	30%

Letter grades will be assigned based on the scale:

A	90%-100%
B	80%-89%
C	70%-79%
D	60%-69%
F	59% or below

"Y" or "WP" grades will NOT be given.

What can you do to be successful in this class?

Attend Class: There is a strong link between good attendance and success in math courses. Attending class is more than just showing up, it is also means that you participate in the class discussions and activities.

Complete your Homework on time: Homework is your opportunity to practice. Your homework for the section we talk about in class should be completed before the following class. Completing your homework on time will help prepare you for the next topic
.

Get 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 our class in MyOpenMath for helpful links, class notes, handouts and other information.

Check out the online notes: My daily class notes will be available through a link to One Note. You will find the link in MyOpenMath.

Form a study group: Your classmates are important resources for understanding and completing the homework. Often a fellow student can explain things in a different way than your instructor. 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.

Use the Learning Center: The Learning Center and Math Help, is on the second floor of Willamette Hall above the library in WH226 on the Albany campus. This 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 provides a great location for study groups to meet and work.
- Instructional assistants are available to answer your math and calculator questions.

- The Learning Center offers free individual and small group tutoring in addition to the help desk. You can get up to three one-on-one tutoring sessions per week. Sign up early because they fill up.

Class Policies

Attendance

Your regular attendance and thoughtful participation in class are essential for your success in learning calculus. If you are unable to attend class, please let your instructor know ahead of time either in person or by email. Students are responsible for any material, updates, or other information covered during class. In addition, students should expect to log into MyOpenMath several times each week to check for announcements, study course materials, and complete online homework.

Cell Phone Use

Cell phones should be out of sight and put away in the classroom. If you need to use your phone, quietly leave the classroom.

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. Furthermore, please 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)

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.

Course Calendar

The following is a tentative course calendar.

	Mon.	Tues.	Wed.	Thurs.	Fri.
Sep./Oct.	28 -Syllabus -Class Norms -Intro to Calc.	29	30 -1.1: Functions -1.3: Linear Functions	1	2 -1.3, cont.: Linear Functions
Oct.	5 -1.4: Exponents	6	7 -1.5: Quadratics -1.6: Polynomial	8	9 1.7: Exponential 1.8: Logarithmic
Oct.	12 -Review	13	14 -Test 1 (Chapter 1)	15	16 -2.1: Instantaneous Rates
Oct.	19 -2.3: The derivative	20	21 -2.3, cont: The Derivative	22	23 -2.4: Rates in Real Life
Oct.	26 -2.5: 2nd Derivative	27	28 -2.6: Second Derivative	29	30 -2.7: Optimization
Nov.	2 -2.7, Cont: Optimization	3	4 -Review	5	6 -Test 2: (2.1, 2.3, 2.4, 2.5,2.6, 2.7[maybe])

Nov.	9 -2.8: Curve Sketching	10	11 -2.8, cont: Curve Sketching	12	13 -2.9: Applied Optimization
Nov.	16 -2.9, cont.: Applied Optimization	17	18 -3.1 The Definite Integral	19	20 -3.1, cont.: The Definite Integral
Nov.	23 -3.2 Fundamental Theorem	24	25 -3.2, cont.: Fundamental Theorem	26	27 -3.3: Antiderivatives
Nov./Dec.	30 -3.3, cont.: Antiderivatives	1	2 -3.7: Applications to Business	3	4 -Review
Dec.	7 Finals Week	8	9 Finals Week	10	11 Finals Week