Linn-Benton Community College

Multivariable Vector Calculus IV: Shannon Harbert (harbers@linnbenton.edu)
MTH 254   Fall 2021 (Hybrid)   CRNs : 20192 & 25395

Course Information
Shannon's Office   Zoom Meeting ID: 266-855-221
Zoom Meeting Times: If your CRN is 20192: M, T, W, F from 10-10:50am.

If your CRN is 25395: M, T, W, F from 11-11:50am.

Our Class Discord

Homework and Book:
We will be using Pearson MyLab Math (MLM). The e-book automatically comes with your registration. You will be required to have the correct software downloaded to be able to access the interactive software. You will register via Moodle. We are using Calculus, Early Transcendentals Third Edition. If you really want a hard copy, I recommend getting one of the earlier versions for a fraction of the price. You do have to have the access code to access your online homework and quizzes.

NOTICE: You DO have a book. It is an e-book and is located in MLM.

Office hours by appointment. In our same zoom classroom space.
When contacting your instructor you can expect a response within one business day.

Here is what the **Learning Center** has to offer:
- **Tutoring** - Students are eligible for up to 3 free tutoring appointments a week! Meet one-on-one over Zoom with a trained academic tutor.
- **Academic Coaching** - Learn time management, test prep, note-taking, study strategies, and assignment planning to realize your academic goals. Available by appointment. Look for study skills workshops for success!
- **Writing Support** - The Writing Center offers one-on-one support for any student, for any writing project, in any class, and at any stage in the writing process. Available by drop-in Zoom room, appointment, and through the Online Writing Lab.
- **Math Support** - Students can learn math in the safety of their own homes with the help of our Virtual Math Desk. Drop-in math help is available seven days a week!
- **Science Support** - Get help with chemistry, astronomy, geology, and physics at the Remote Science Help Desk. Various science tutors are available by drop-in Zoom room.

Do your students want to keep support resources nearby while working through a difficult concept?

Do they want a place to connect with other students?

Then our

LEARNING CENTER DISCORD SERVER

is for you!

Math Support Services: *"drop in math help"*

- *Remote and In-Person* Math Support services for all levels of math are available, 6 days a week, through a single Zoom link: https://linnbenton.zoom.us/j/94627678411.

  - Open *remotely* during ALL service hours.
  - Hours: 9am - 8pm Monday through Friday, 11am - 4pm Saturday, and CLOSED Sunday.
  - Math Support will have **in-person support** Monday - Friday   9am - 12pm & 2pm - 5pm, and Sat from 11am - 4pm.

Course Materials:
- Regular access to a computer and the internet.
- MyLab Math Access – <u>**LOG IN THROUGH MOODLE!!!**</u>

  (can be purchased from the bookstore or online with a credit card). THERE IS ALSO A 2-week free trial, if need be.
- Our e-book is through Pearson.
- # *A WEBCAM!!*

  (as stated in the bookstore)

Course Description:
The fourth course in the calculus sequence for students majoring in mathematics, science and engineering. Topics include vectors in 2 and 3- space, graphs, contour maps and equations of multivariable functions and partial derivatives, directional derivatives, optimization of surfaces, cylindrical and spherical coordinates, multiple integrals and their applications.

We will be meeting four times a week in zoom (except for during our midterm). I will be recording our lectures as well as supplementing with videos from previous terms and those done by other professors. We will be meeting for our midterm and final exam in Albany on our main campus in WOH 120.

LBCC Mask Mandate for when we meet for testing:
Wear a mask or face covering indoors at all times. Your mask or face covering must be properly worn (fully covering nose and mouth and tight-fitting). Mesh masks, face shields, or face covering that incorporates a valve designed to facilitate easy exhalation are not acceptable. If you have a medical condition or a disability that prevents you from wearing a mask or cloth face covering, you must obtain an accommodation from CFAR (Center for Accessibility Resources) to be exempt from this requirement. *State guidelines do not limit* class size. Physical distancing accomodations can be made upon request and cleaning supplies are also available for personal use.

Prerequisite: MTH 252 or equivalent with a grade of C or better.
*This class will be **very** difficult if you are not competent at differentiation and integration.*

Outcomes: *Upon successful completion of this course, students will be able to:*
- Demonstrate an understanding of vectors, vector operations, and apply vectors to solve application problems in 2D and 3D.
- Graph and write equations for functions in 3D.
- Apply limits and derivatives to multivariate functions.
- Apply integration techniques to multivariate functions.

<u>**Course Grades:**</u>   Your grade in this class is based on the following:

Online Homework (MLM)	15 %
Written Homework (WU)	15 %
In Class Work (ICA)	5 %
Quizzes (MML)	5 %
1 Midterm	30 %
Final Exam	30 %

Final Grade: 90%-100%=A, 80%-89%=B, 70%-79%=C, 60%-69%=D, <60%=F
All grades will be posted in the gradebook in the Moodle Website for student viewing.
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."

<u>Online Homework (MLM)</u>: Due on Sundays.

Online homework will be completed and submitted electronically using *MyLabMath*. You must register for this through MOODLE!! Although you will enter your *MLM* answers online, you should still work the problems by hand in a notebook you create for your 254 homework. This will give you practice for writing out solutions for the exam, give you a place to start when asking for help, and give you a clear record of work to use 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 of the problem. The homework will have a soft (when I believe it should be done by) and a hard (your last chance for points) deadline to receive full credit. Any homework completed after the "soft" deadline will be worth 70% (only penalized from those problems not yet attempted) up until the "hard" deadline (the day the material is being tested). If you attempt to re-do a problem (that you previously had full credit on) after the first due date, it will give you a reduced score of 70%, MLM is not smart enough to remember that you already had full credit. If you EVER have any questions or issues with MLM just "ask my instructor" and I will investigate! ALSO, if you do not even OPEN an assignment and its due date comes and goes, it will not affect your grade (it *will* when I manage all incompletes) which can give you a false sense of how you are doing. Just keep that in mind!

<u>**Soft deadlines**</u> will be on Sundays. There are two <u>**hard deadlines.**</u> <u>One is the day of our midterm and the other is the day before finals.</u>

<u>Written Homework (WUs: 9 of them)</u>: Due on Tuesdays.

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 254 class would be able to easily follow and understand your solution.***
Written Homework 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.
Since I give you OVER a week to complete: ==No late write-ups accepted.==
           I will be keeping a special eye out for any breaches of academic integrity.
          You should start these assignments early as the problems are often challenging.

In Class Work (ICAs: 12 of them): Done in zoom. Due that day. See calendar.

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. I highly recommend you meet with class mates in zoom or discord. The ICAs are due the day that they appear in our calendar (unless otherwise noted) by midnight. Although, No late ICAs accepted, I will drop your lowest!

Please be prepared to upload your completed work as a pdf file. Please be sure items are numbered and pages are in order. One single combined document for each assignment. Find an easy to use PDF converter if needed (Cam Scanner works nicely).

Quizzes (8 of them): Due on Fridays.

There will be weekly quizzes. They will be in Pearson (MyLab Math). They will open on Fridays at 8am and close on Fridays at midnight. You will have 60 minutes from the time you open the quiz. You may use your notes as well as classmates. Just do not use tutors or online "tutors". No late Quizzes are accepted.

Tests: November 5th for our Midterm and December 6th for our Final Exam.

We will be taking our midterm and final exam in person in WOH 120.
Hybrid Final Exam Schedule: Finals for classes with multiple delivery modes will be scheduled according to the instructor's choice and follow the above guidelines.

Academic Honesty and Testing

The LBCC Mathematics department and LBCC College Administration expect that students will not engage in cheating or plagiarism. The college has a policy for academic integrity that all students must abide by to remain enrolled at LBCC.
You can read the policy here:
ADMINISTRATIVE RULE NO: 7030-02 Generally speaking cheating means violating the policies of a course or of the college in order to gain an unfair advantage over fellow students. Cheating and plagiarism hurts your fellow students. Cheating also hurts you, by misrepresenting your knowledge and making you less prepared for courses that rely on the application of your knowledge from this course. For our math exams, looking at anyone else's work/solutions (fellow student, website, or anything else) is considered cheating. Using resources that are not explicitly allowed on the exam (anything not stated in the instructions should not be used including other people) is also cheating. If you have any questions at all about what is allowed on the exam or the exam itself contact your instructor. This exam is intended to be an evaluation of your own knowledge of the course material. It is expected that the work you submit represents your own knowledge in your own words. Note that your instructor may also ask for you to verbally explain your solutions that you have submitted. It is also your responsibility to take reasonable precautions to prevent cheating. You should not share your work with others or do anything that would give them an unfair advantage. Aiding cheating is also academically dishonest and against the colleges academic integrity policy. Your instructor believes that nearly all students have integrity and are honest in the work that they submit. However, cheating can not be allowed since it hurts everyone in the course. Because of this, any incident of academic dishonesty (cheating) will be reported to the dean of students with a recommendation for disciplinary action.

<u>Attendance</u>:

Your regular attendance (you are considered present if you come to zoom on time and with your camera on) and thoughtful participation in class are essential for your success in learning, and therefore required. If you miss any of the classes during the first week, you will be dropped for nonattendance. If there is a week that you will be unable to log in and participate, please let me know. Students are responsible for any material, updates, or other information available in Course Notes and the class calendar.

If there is a reason for not turning on your video, you must email me for permission. Reasoning? It makes it very difficult to connect and build a community when all I see are silent black squares. I have had many, many students tell me how hard it is when they are in a breakout room basically alone!   You will be sent to the waiting room if you do not have your video on and have not received permission to stay dark.

It's ok if you are eating! It's ok if you are holding a cat! In your pajamas? That's ok! Drinking tea with a blanket around your shoulders? Hey, I do that too! I can't wait to see your lovely faces.

<u>Expectations</u>:

- 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.
- Since this is a 4-credit class you will spend **at least 12-16 hours per week working on this class** (including watching videos and attending zoom).
- You should log into Zoom meetings prepared (this means you should have your notebook, table/laptop, work, etc. ready).
- When we meet for zoom I expect you are caught up with the previous day's material. I have organized our course similar to how it would be if we were in person. This calendar is just to help you stay organized. You may absolutely work ahead!! This ALSO does not mean that I expect you to work on 254 EVERY day, although that is a good idea.
- I expect you will be respectful of everyone in the class, in word as well as behavior. and Discord board posts should be respectful and supportive of the success of everyone in the class. We will all need extra patience and kindness this term. If you are disrespectful in discord, you will be removed.

<u>How to be successful in this class:</u>

· Even though this term classes are delivered remotely, make a school schedule and stick to it!

· Be prepared for class by reading the assigned materials promptly when asked. Class lectures will be richer for you when you have background information about the subject.

· Review the syllabus and learn policies and procedures for this class. Understand your rights and responsibilities as a student and as a class member.

· When confused, challenged, frustrated or having an "aha" moment, contact the instructor during their 'virtual' office hours or via email.

· Don't hesitate to ask questions, whether during 'virtual' office hours or through email.

· Be engaged! You will get out of this class what you put into it. This will be a challenge with the online format adopted this term. Your instructors are here to help you succeed, stay connected with them!

<h1 style="text-align:center">------What can you do to be successful in this class?-----</h1>

Attend Class:
There is a strong link between good attendance and success in math courses. Attending an online class means logging in and making some progress on the course most days, it also means that you participate in the class discussions and activities. Your peers rely on your feedback and input. *Attendance, effort and attitude will be noted by the instructor and may be used to help determine "borderline" grades.*

Complete your work on time:
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.

Get HELP!
If you have questions, PLEASE ask me! I will have office hours by apt. You can also reach me by email. Give me a few days for turn around time.

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. Try meeting in discord!

Class Policies

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.