Linn-Benton Community College

Multivariable Vector Calculus IV: Shannon Harbert (harbers@linnbenton.edu)

MTH 254 Fall 2020 (Online) CRNs : 20192 & 25395

Course Information

Shannon's Office Zoom Meeting ID: 266-855-221 Password: mathrocks

Zoom Meeting Times: If your CRN is 20192: Tuesdays and Thursdays from 10-10:50am.

If your CRN is 25395: Tuesdays and Thursdays from 11-11:50am.

Our Class Discord: https://discord.gg/65Y5Kqn

You will be using Pearson MyLab Math!! You need an access code! The e-book automatically comes with your access code. 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 testing.

Office hours by appointment.

Math Help Desk Zoom

Open from 9am - 7pm Monday through Friday, 11am - 4pm Saturday, and, *new this term*, 11am - 4pm on Sunday.

Tutortrac

Course Materials:

- Regular access to a computer and the internet.
- MyLab Math Access – **LOG IN THROUGH MOODLE!!!**
  (can be purchased from the bookstore or online with a credit card). THERE IS ALSO A 2-week free trial, if need be.
- *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 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.

I will be making videos of our lecture material as well as supplementing with videos done by other professors. When we "meet" twice a week this will be a time to work with classmates over the ICAs of the week, to talk about concepts, as well as ask questions.

Prerequisite: MTH 252 or equivalent with a grade of C or better.
This class will be 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.

Course Grades: Your grade in this class is based on the following:

Online Homework (MML)	20 %
Written Homework (WU)	20 %
In Class Work (ICA)	15 %
Quizzes (MML)	10%
1 Midterm	15 %
Final Exam	15 %
Attendance	5 %

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 MML (and on 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."

Online Homework (MML): Online homework will be completed and submitted electronically using *MyMathLab*. You must register for this through MOODLE!! Although you will enter your *MyMathLab* 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) 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. 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%, MML is not smart enough to remember that you already had full credit. If you EVER have any questions or issues with MML, 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!

Written Homework (WUs: 9 of them):
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. The due dates for Written Homework will be listed on the calendar. 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: ~10 of them):

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), you can also use Moodle, see my Moodle tutorials in Moodle on our page.

Quizzes (on MML):

There will be approximately weekly quizzes. This is to help those who have missed a quiz due to unforeseeable circumstances. Although, **No late Quizzes are accepted,** I will drop your lowest!

Tests: (more info. on this coming as I figure out proctoring…)

- The MyLab Math Test (Midterm and Final) must be completed in one sitting. There will be a window for you to log in and complete the test. Your supporting, written work for each problem will be submitted to me as a pdf as soon as you complete the test.
- 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.
- I believe we have been given proctoring access through Moodle. I will put more information here when I have it!!

Attendance:

Your attendance is mandatory twice a week in our zoom room. See course description for how I plan on using these times. If you are unable to attend, we will have to find an alternative meeting for you. I will excuse 2 absences in total.

Expectations:

- I expect that my students will be involved in and working on this class many times a week. This includes asking questions and participating in group discussions, watching videos, etc.
- Spend **at least 9-12 hours per week working on this class.**
- You should log into Zoom office hour appointments prepared (this means you should have your notebook, table/laptop, work, etc. ready).
- I expect you will be respectful of everyone in the class, in word as well as behavior. Discussion 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.

I just want to remind you of how proactive you are going to have to be as concerns your education and also how much I want to be there for you. Please do not forget that there are tutors available for online one-on-one tutoring. You can do this through tutortrac, and you are allowed 3 full hours a week (for free)! Also, the learning center is still open for virtual drop in help and they can help with this class. I have set up a discord site for your class and so has the learning center. Please let me know if you have any questions about the help available to you (or anything else)! Good luck and may the odds be ever in your favor.

How to be successful in this class:

- 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!

------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 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!

Use the Learning Center:
The Math Desk WILL be operating Summer Term to support students working remotely via Zoom, with drop-in help available during their standard hours:

- Mon - Thu: 8 am - 5 pm

The URL for the Learning Center Remote Resources site is https://www.linnbenton.edu/current-students/study/learning-center/hours-and-locations/index.php. This will have all relevant Zoom meeting links, hours, and updated information.

Class Policies

Attendance

Your regular attendance and thoughtful participation in class are essential for your success in learning. Your regular online attendance is mandatory. If you do not some how contact me during the first week (TBD), you will be dropped for nonattendance. If there is a week that you will be unable to log in and participate, please let your instructor know. Students are responsible for any material, updates, or other information available in Course Notes and the class calendar.

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. Using sites like chegg.com (or similar) for solutions to your work is cheating, even on assignments where collaboration and getting help is encouraged. The goal of assigned work is for you to personally build a neural network of understanding, which copying and "seeing" the answer will not provide, since building neural networks require thinking hard and making mistakes.

If there is an incident of academic dishonesty (including but not limited to cheating, plagiarism, forgery, or aiding or abetting cheating or plagiarism), 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.