MTH 253—Series Calculus and Linear Algebra
Winter 2019
CRN 31381 M,T,W,F 10-10:50 AM
WOH 113

Instructor: Shannon Harbert   **Office:**   WOH 132
Email: harbers@linnbenton.edu **Office Hours:** M, W: 11-12, R: 1-2

Course Materials: **My Math Lab Instructor ID: harbert84764**
(Calculus: Early Transcendentals, 2nd   edition by Briggs, Cochran, and Gillett)
Matrix and Power Series Methods, 5th edition by Lee and Scarborough (there is a free eBook)

Course Grade: Grades in this class are determined as follows:
Quizzes   15%
Homework (online and book)   15%
Write-ups   10%
Midterm   30%
Final   30%

Grades will be assigned as outlined in the scale below:
A   90-100%
B   80-89%
C   70-79%
D   60-69%
F   0-59%

This course is the third course in the calculus sequence for students majoring in the fields of mathematics, science or engineering. Topics we will cover will include sequences and series of real and complex functions, matrix algebra, linear dependence and independence, eigenvalues and eigenvectors.

Prerequisites:
        A grade of "C" or better in MTH 252 – Integral Calculus
        It will be very difficult to pass this course without a strong understanding of Integration, Riemann Sums, and solving systems of equations

Homework: Online homework will be completed and submitted electronically using *MyMathLab* for the Series and Sequences portion of the class (first part of the class). You must register for this at *www.pearsonmylabandmastering.com* using the Course ID# harbert84764. Although you will enter your *MyMathLab* answers online, you should still work the problems by hand in a notebook you create for your 253 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. I assign homework out of the book for the Linear Algebra portion of the class. Homework is a large portion of your grade. For the MML hmwk you will lose 10% of your homework points (only on those problems that are late) per day after the due date.

Linear Algebra ASSIGNMENTS (tentatively) (these will be "spot" graded)

Section	Assignment
	Linear Algebra: See Calendar

Section	Assignment
Lesson 1	1 – 13 by 3's, 14, 16, 17, 26 – 36 all, 39
Lesson 18	1, 2, 4, 6, 7, 9, 10, 13, 14, 15, 16, 18, 19, 24
Lesson 2	1(verify), 3, 4, 9, 10, 11, 12
Lesson 3	1, 4, 7, 10, 11, 13, 14, 16, 17, 18, 20, 22, 23, 25
Lesson 4	1, 2, 4, 5, 6, 8, 9, 10, 12, 13, 15, 16, 18, 21
Lesson 5	1 - 6 all, 10
Lesson 6	1(a, b, d, e, f), 2(a, b, e, g, h, k), 6, 7
Lesson 7	1, 2, 3, 7, 8, 9, 12, 15, 18

Online version: THIS BOOK IS A DIFFERENT EDITION

Section	Assignment
Lesson 1	1, 4, 7, 10, 13, 14, 16, 17, 24-34, 37
Lesson 18	1, 2, 4, 6, 7, 9, 10, 13, 14, 15, 16, 18, 19, 24
Lesson 2	1(verify), 3, 4, 9, 10, 11, 12
Lesson 3	1, 4, 7, 10, 11, 13, 14, 16, 17, 18, 20, 22, 23, 25
Lesson 4	1, 2, 4, 5, 6, 8, 9, 10, 12, 13, 15, 16, 18, 21
Lesson 5	1 - 6 all, 8
Lesson 6	1(a, b, d, e, f), 2(a, b, e, g, h, k), 6, 7
Lesson 7	1, 2, 3, 7, 8, 9, 12, 13, 16

Quizzes: There will be quizzes covering material that will correlate with problems worked in the homework. **You can not make up a missed quiz**. I will drop the lowest quiz.

Write-ups: 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 253 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 will be listed on the calendar. Write Ups are due at the start of class on the indicated day. **No late write-ups accepted**. I may randomly grade these, or parts of them.

Tests: All tests will have a time limit. Tests must be taken on the scheduled day and if you miss a test you will get a score of zero. The tentative test dates are listed on the calendar. All exams are closed book. On the exams, a note sheet will be provided. I will give more information pertaining to each test during the review days. Absolutely no phones allowed in view during any tests.

LBCC's Nondiscrimination Policy: 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.

Center for Accessibility Resources statement:
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 for steps on how to apply for services or call 541-917-4789.

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 notes 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 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, 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.

Suggestions:
Use available resources. If you have questions, **PLEASE** come see me or e-mail me. Aside from that, you can go to the Learning Center/Learning Annex for math help.

And then! You are also eligible for 3 hours a week of **FREE TUTORING** services from the Tutoring Center. You must sign up in advance, in the Learning Center, for tutoring. For more information about that, check out this website:
<center>http://www.linnbenton.edu/go/tutoring</center>

So when all is said and done, you should know how to:
1. Determine whether a sequence or series converges or diverges.

2. Calculate exactly (if possible) or approximate the sum of a convergent series.

3. Understand and utilize power series to perform mathematical calculations.

4. Apply vector and matrix operations to systems of equations and transformation matrices.

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IN THE END IT IS UP TO YOU
Mathematics is not a spectator sport!
To learn mathematics you must get fully involved.
Take notes during the lectures.
Think hard about difficult points.
Don't let confusion stand.
Get help as soon as difficulties arise. Don't wait.
The Mathematics Learning Center is a valuable resource; use it. So is your instructor.
Attend office hours regularly or make an appointment to get help.
Keep a notebook with your neatly written reworked lecture notes and solved homework problems.
This will help you organize your study, prepare for tests, and provide a good personalized reference for the future.

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