

Updated 07/18/2023



WACO, TEXAS

**COURSE SYLLABUS
AND
INSTRUCTOR PLAN**

Calculus for Business and Social Science

MATH 1325 SECTION 030

Alma G. Wlazlinski

NOTE: This is a 16-week course.

NOTE: This is a Face-to-Face course.

NOTE: This is NOT an IA (Inclusive Access) Course

COURSE NAME
COURSE NUMBER & SECTION NUMBER

Course Description:

Limits and continuity, derivatives, graphing and optimization, exponential and logarithmic functions, antiderivatives, integration, applications to management, economics, and business.

(The content level of MATH 1325 is expected to be below the content level of MATH 2413 Calculus I).

Presents the study of limits and their applications in differential and integral calculus, emphasizing both conceptual and applied mathematics.

Topics may include optimization of functions, curve sketching, definite and indefinite integrals, differential equations, partial derivatives, and Lagrange multipliers.

Prerequisites and/or Corequisites:

MATH 1314 or MATH 1324 with a minimum grade of C, or pass college algebra placement test or consent of division chair.

Course Notes and Instructor Recommendations:

This course is a face-to-face classroom class. Lectures and check for understanding activities will be utilized to insure understanding of the material. Lectures and instructor notes will be provided on Brightspace site to assist in the learning process as well as to accommodate life's interference with attendance. All homework assignments and exams will be done on MyMathLab that is included on Brightspace.

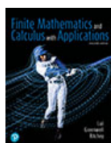
Instructor Information:

Instructor Name:	Alma G. Wlazlinski
MCC Email:	awlazlinski@mclennan.edu
Office Phone Number:	(254) 299-8871
Office Location:	Math Bldg Room 220
Office/Teacher Conference Hours:	Listed on Brightspace Homepage for this course
Other Instruction Information:	any additional tutoring times per request and availability and must be arranged via email request.

Required Text & Materials:

- This is NOT an IA (Inclusive Access) course, so there is a need to purchase a MyMathLab access code form Campus Bookstore or direct from publisher upon accessing MyMathLab link on Brightspace. This is needed as soon as course is active to be current in this course.

Original Materials:



Finite Math and Calculus with Applications 11th Edition

Author(s): Lial, Margaret | Greenwell, Raymond | Ritchey, Nathan

Textbook ISBN-13: 9780137376872

Series: **MyLab Math**

- Book purchase is optional. Textbook in the form of an ebook is available on MyMathLab site.
- ****A TI 84 Graphing Calculator is vital to follow the instructions given in class. If you have a smartphone then you can use APP key to purchase a TI 84 emulator for this course (under \$6). If you are an Apple user, be sure that it is adaptable for that phone.



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- Paper and pencil or any writing instrument will be needed to take notes or questions regarding the lecture.

MCC Bookstore Website: <http://www.mclennan.edu/bookstore/>

Methods of Teaching and Learning:

Lessons: Lectures using One-Note will be utilized to inform on Theorems followed by examples that demonstrate the theorem. Application problems will be demonstrated to insure applicable use of the Theorems. Video Lecture will be available as a support component to learning. Will discuss any questions regarding lesson in class, office hours and via zoom office hours or appointment.

Homework: Course supplies access to MyMathLab with all assignment listings to support understanding of the process and application of the material. Questions assigned needing further assistance, can be emailed directly to me using the “Ask my instructor” under tab on left bottom of question, [Need more help] and a response should happen within a 10 hours of time sent.

COURSE NAME
COURSE NUMBER & SECTION NUMBER

Exams: Exams will assess your learning of this material and will follow the chapters or units listed on the calendar. They will address the objectives of focus for each of the units.

Office Hours: Should be utilized by students to receive one-on-one tutoring as posted on Brightspace Homepage for this course.

Course Objectives and/or Competencies:

Upon completion of this course, the student will be able to

Chapter 12 Objectives

- recall the limit definition of derivative (Chapter 11 Review) and use it to differentiate simple functions using Instantaneous rate of change formula.
- analyze the function then differentiate using appropriate rule(s) (i.e. polynomial, product, quotient, chain, exponential, logarithmic)
- construct a tangent line (after derivative is taken on given function) at a specific x-value

Chapter 13 Objectives

- use derivatives to write equations of tangent lines, calculate rates of change, optimize functions, evaluate marginal functions, and to analyze functions and their graphs for increase/decrease, relative and absolute extrema, concavity, and inflection.

Chapter 14 Objectives

- solve a variety of business and economics applications involving optimization, extrema, and concavity, with and without a graphing calculator.
- utilize implicit differentiation for functions when y cannot be readily solved

Chapter 15 Objectives

- implement rules for constructing the antiderivatives, definite integrals, and improper integrals.
- construct antiderivatives to solve elementary differential equations.
- execute the Fundamental Theorem of Calculus on definite integral
- apply definite integrals to calculate areas under and between curves, and average value of functions, using a graphing calculator when appropriate.

Chapter 16 Objectives

- find derivative of a multi-variable function
- apply rules of integration by parts to reduce complicated integral to a simpler integral
- apply definite integral rules to calculate volumes of solids of revolution
- implement rules for improper integral to calculate area under the curve

Chapter 17 Objectives

- calculate first- and second-order partial derivatives of functions in several variables.
- test functions in two variables for relative maxima/minima and saddle points.

COURSE NAME
COURSE NUMBER & SECTION NUMBER

- apply Lagrange multipliers to optimize two-variable functions with constraints

Course Attendance/Participation Guidelines:

If a student is not in attendance in accordance with the policies/guidelines of the class as outlined in the course syllabus as of the course census date, faculty are required to drop students from their class roster prior to certifying the respective class roster. A student's financial aid will be re-evaluated accordingly and the student will only receive funding for those courses attended as of the course census date.

- Attendance taken every class day
- Absences of more than 7 days, without exceptions for school related activities, will result in a drop
- Reinstatement will be with Director, Dr. S. Hill's approval

Course Outline or Schedule:

The below schedule outline maybe subject to change. Should that be necessary the use of email notice and Announcement page of our Brightspace course will alert the changes.

Dates	Lecture/Work	Tests/Objectives
Week 1	Sec 12.1 Techniques for Finding Derivatives Sec 12.2 Derivatives of Products and Quotients	
Week 2	Sec 12.3 The Chain Rule Sec 12.4 Derivatives of Exponential Functions	
Week 3	Sec 12.5 Derivatives of Logarithmic Functions Sec 13.1 Increasing and Decreasing Functions	Ch. 12 Exam Obj 1-3
Week 4	Sec 13.2 Relative Extrema Sec 13.3 Higher Derivatives, Concavity, & Second Derivative Test	
Week 5	Sec 13.4 Curve Sketching Sec 14.1 Absolute Extrema	Ch. 13 Exam Obj 1-4
Week 6	Sec 14.2 Applications of Extrema Sec 14.3 Further Business Applications: Economic Lot Size; Economic Order Quantity; Elasticity of Demand	
Week 7	Sec 14.4 Implicit Differentiation Sec 14.5 Related Rates	Ch. 14 Exam Obj 1-4

COURSE NAME
COURSE NUMBER & SECTION NUMBER

Week 8	Sec 15.1 Antiderivatives Sec 15.2 Substitution	
Week 9	Sec 15.4 The Fundamental Theorem of Calculus Sec 15.5 The Area Between Two Curves	Ch 15 Exam Obj 1, 5- 7
Week 10	Sec 16.1 Integration by Parts Sec 16.2 Volume and Average Value	
Week 11	Sec 16.4 Improper Integrals Sec 16.5 Solutions of Elementary and Separable Differential Equations	Ch 16 Exam Obj 1, 5-7
Week 12	Sec 17.1 Functions of Several Variables Sec 17.2 Partial Derivatives	
Week 13	Sec 17.3 Maxima and Minima Sec 17.4 Lagrange Multipliers	
Week 14	Sec 17.6 Double Integrals	Ch 17 Exam Obj 1,2,4-7
Week 15	Review for Final	
Week 16	FINAL	Final Exam All obj

This course will use a variety of internal and external assessments. A faculty developed comprehensive final exam will assess the core objectives of critical thinking and empirical/quantitative analysis. These core objectives will also be assessed using parts of a standardized test (CAAP). A faculty designed rubric will be used to assess communication skills as well. Review of such items such as GPA, retention levels, and success in following course may be used to evaluate the effectiveness of student learning.

Course Grading Information:

- **Homework:** There are assignments for each section of the syllabus that offer practice and development of understanding to master the objectives for each chapter in this course. These are found in Pearson's **MyMathLab** access found on Brightspace. It is beneficial to keep practice problems in order by section for reference of questions to study stated on tab, **Review for Exams**. This component is **worth 20%** of course grade.
- **Exams:** These Chapter assessments are measures of mastery of the objectives listed and addresses by lectures and homework assignments. There will be six (6) exams with

COURSE NAME
COURSE NUMBER & SECTION NUMBER

reviews of specific homework problems to review, on tab labeled **Review for Exams**.

This component is **worth 50%** of course grade.

- **Final Exam:** A comprehensive final exam will measure retention of objectives outlined in this course and the connectivity of course study as outlined in catalog, syllabus, and overview on Brightspace. This component is **worth 30%** of course grade.

Late Work and Make Up Work Policies:

The due dates of weekly assignments listed on syllabus and calendar is to assist the time management of completion of this course with the best average. The only penalty for late work is the Exam when you need to complete all homework assignments with a minimum of 75. My commitment is to best balance course material to optimize success by all my students with as little disruption in the linear structure outlined.

Student Behavioral Expectations or Conduct Policy:

- Being adults, it is vital to arrive on time to allow preparation for learning and social greetings of your colleagues. To be late is to disrupt the class learning cycle and the instructor's need to recover past material to insure every student feels included.
- Civility for all students is another component necessary for fellowship and respect for all seeking an education. Rudeness is not an acceptable trait and will be gently addressed to insure everyone of a good sense of community in the classroom.
- Questions are encouraging indicators of learning. I welcome any and will address as many as I can during the lecture on the lesson being presented.

[Click Here for the MCC Attendance/Absences Policy](https://www.mclennan.edu/highlander-guide/policies.html)

(<https://www.mclennan.edu/highlander-guide/policies.html>)

Click on the link above for the college policies on attendance and absences. Your instructor may have additional guidelines specific to this course.

Updated 07/18/2023



ACADEMIC RESOURCES/POLICIES

Accommodations/ADA Statement:

Any student who is a qualified individual with a disability may request reasonable accommodations to assist with providing equal access to educational opportunities. Students should contact the Accommodations Coordinator as soon as possible to provide documentation and make necessary arrangements. Once that process is completed, appropriate verification will be provided to the student and instructor. Please note that instructors are not required to provide classroom accommodations to students until appropriate verification has been provided by the Accommodations Coordinator. For additional information, please visit www.mclennan.edu/disability.

Students with questions or who require assistance with disabilities involving physical, classroom, or testing accommodations should contact:

disabilities@mclennan.edu 2542998122 Room
319, Student Services Center

Title IX:

We care about your safety, and value an environment where students and instructors can successfully teach and learn together. If you or someone you know experiences unwelcomed behavior, we are here to help. Individuals who would like to report an incident of sexual misconduct are encouraged to immediately contact the acting Title IX Coordinator at titleix@mclennan.edu or by calling, Dr. Claudette Jackson, (Accommodations/Title IX) at (254) 299-8465. MCC employees are mandatory reporters and must report incidents immediately to the Title IX Coordinator. Individuals may also contact the MCC Police Department at (254) 299-8911 or the MCC Student Counseling Center at (254) 299-8210. The MCC Student Counseling Center is a

confidential resource for students. Any student or employee may report sexual harassment anonymously by visiting <http://www.lighthouse-services.com/mclennan/>. Go to McLennan's Title IX webpage at www.mclennan.edu/titleix/. It contains more information about definitions, reporting, confidentiality, resources, and what to do if you or someone you know is a victim of sexual misconduct, gender-based violence or the crimes of rape, acquaintance rape, sexual assault, sexual harassment, stalking, dating violence, or domestic violence.

Student Support/Resources:

MCC provides a variety of services to support student success in the classroom and in your academic pursuits to include counseling, tutors, technology help desk, advising, financial aid, etc. A listing of these and the many other services available to our students is available at <http://www.mclennan.edu/campus-resource-guide/>

Academic Support and Tutoring is here to help students with all their course-related needs. Specializing in one-on-one tutoring, developing study skills, and effectively writing essays. Academic Support and Tutoring can be found in the Library and main floor of the Learning Commons. This service is available to students in person or through Zoom. You can contact the Academic Support and Tutoring team via Zoom or email (ast@mclennan.edu) by going to our website (<https://www.mclennan.edu/academic-support-and-tutoring/>).

College personnel recognize that food, housing, and transportation are essential for student success. If you are having trouble securing these resources or want to explore strategies for balancing life and school, we encourage you to contact either MCC CREW – Campus Resources Education Web by calling (254) 299-8561 or by emailing crew@mclennan.edu or a Success Coach by calling (254) 299-8226 or emailing SuccessCoach@mclennan.edu. Both are located in the Completion Center located on the second floor of the Student Services Center (SSC) which is open Monday-Friday from 8 a.m.-5 p.m.

Paulanne's Pantry (MCC's food pantry) provides free food by appointment to students, faculty and staff. To schedule an appointment, go to https://mclennan.co1.qualtrics.com/jfe/form/SV_07byXd7eB8iTqJg. Both the Completion Center and Paulanne's Pantry are located on the second floor of the Student Services Center (SSC).

MCC Foundation Emergency Grant Fund:

Unanticipated expenses, such as car repairs, medical bills, housing, or job loss can affect us all. Should an unexpected expense arise, the MCC Foundation has an emergency grant fund that may be able to assist you. Please go to

<https://www.mclennan.edu/foundation/scholarships-and-resources/emergencygrant.html>

to find out more about the emergency grant. The application can be found at

https://www.mclennan.edu/foundation/docs/Emergency_Grant_Application.pdf.

MCC Academic Integrity Statement:

Go to www.mclennan.edu/academic-integrity for information about academic integrity, dishonesty, and cheating. The unauthorized use of artificial intelligence (AI) for classwork can be a violation of the College's General Conduct Policy. Whether AI is authorized in a course and the parameters in which AI can be used in a course will be outlined by each instructor.

Minimum System Requirements to Utilize MCC's D2L|Brightspace:

Go to <https://www.mclennan.edu/center-for-teachingandlearning/FacultyandStaffCommons/requirements.html> for information on the minimum system requirements needed to reliably access your courses in MCC's D2L|Brightspace learning management system.

Minimum Technical Skills:

Students should have basic computer skills, knowledge of word processing software, and a basic understanding of how to use search engines and common web browsers.

Backup Plan for Technology:

In the event MCC's technology systems are down, you will be notified via your MCC student email address. Please note that all assignments and activities will be due on the date specified in the Instructor Plan, unless otherwise noted by the instructor.

Email Policy:

McLennan Community College would like to remind you of the policy (<http://www.mclennan.edu/employees/policy-manual/docs/E-XXXI-B.pdf>) regarding college email. All students, faculty, and staff are encouraged to use their McLennan email addresses when conducting college business.

A student's McLennan email address is the preferred email address that college employees should use for official college information or business. Students are

expected to read and, if needed, respond in a timely manner to college emails. For more information about your student email account, go to www.mclennan.edu/studentemail.

Instructional Uses of Email:

Faculty members can determine classroom use of email or electronic communications. Faculty should expect and encourage students to check the college email on a regular basis. Faculty should inform students in the course syllabus if another communication method is to be used and of any special or unusual expectations for electronic communications.

If a faculty member prefers not to communicate by email with their students, it should be reflected in the course syllabus and information should be provided for the preferred form of communication.

Email on Mobile Devices:

The College recommends that you set up your mobile device to receive McLennan emails. If you need assistance with set-up, you may email Helpdesk@mclennan.edu for help.

You can find help on the McLennan website about connecting your McLennan email account to your mobile device:

- [Email Setup for iPhones and iPads](#)
- [Email Setup for Androids](#)

Forwarding Emails:

You may forward emails that come to your McLennan address to alternate email addresses; however, the College will not be held responsible for emails forwarded to an alternate address that may be lost or placed in junk or spam filters.

For more helpful information about technology at MCC, go to [MCC's Tech Support Cheat Sheet](#) or email helpdesk@mclennan.edu.

Disclaimer:

The resources and policies listed above are merely for informational purposes and are subject to change without notice or obligation. The College reserves the right to change policies and other requirements in compliance with State and Federal laws. The provisions of this document do not constitute a contract.