

**McLennan**  
C O M M U N I T Y  
**COLLEGE**

WACO, TEXAS

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**COURSE SYLLABUS**  
**AND**  
**INSTRUCTOR PLAN**

**Math for Business and Social Sciences**

**Math 1324.40**

**Mark Crenwelge, M.A.**

**NOTE: This is a 16-week course.**

**COVID 19 Notice:**

McLennan Community College is committed to providing you with every resource you need to reach your academic goals including your safety. We will continue to monitor the evolving situation with COVID 19 and adjust our safety guidelines to make sure we offer a safe environment for you and our faculty. Please make sure to consult your faculty and the MCC website at <https://www.mclennan.edu/crisis-management/coronavirus-updates/index.html> on any changes to these guidelines.

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**Course Description:**

The application of common algebraic functions, including polynomial, exponential, logarithmic, and rational, to problems in business, economics, and the social sciences are addressed. The applications include mathematics of finance, including simple and compound interest and annuities; systems of linear equations; matrices; linear programming; and probability, including expected value.

**Prerequisites and/or Corequisites:**

MATH 0311 or consent of division chair. Semester Hours 3 (3 lec)

**Instructor Information:**

Instructor Name:	Mark Crenwelge, M.A.
MCC E-mail:	mcrenwelge@mclennan.edu
Office Phone Number:	254-299-8874
Office Location:	MWF 221
Office/Teacher Conference Hours:	By Appointment (ZOOM) See Brightspace for information About Office Hours
Other Instruction Information:	Email is the best way to communicate with me.

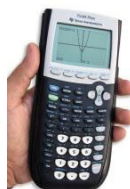
**Required Text & Materials:**

MyMathLab Access Code  
ISBN 9780321199911

TI-83, 83Plus, 84, or 84Plus



No hard copy text required



Optional Text: Finite Mathematics &  
Calculus with Applications,  
10<sup>th</sup> ed. Lial, Greenwell & Ritchey

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

**Methods of Teaching and Learning:**

MyMathLab is the online component that will house the course information. MyMathLab will be accessible through a link in the Brightspace class. All assignments and possibly tests will be done online in this environment. Lecture notes, reference materials, and instructional videos may be available there as well.

**Course Objectives and/or Competencies:**

- Use a variety of algebraic and matrix methods to solve systems of linear equations.
- Formulate matrix models and use them to solve linear programming and input-output open model economics problems.
- Recall and use a variety of symbols and terms, including Venn diagrams, to solve set theory problems.
- Distinguish between probability and odds and calculate both for stated problems.
- Distinguish between and use the counting principles of permutations, combinations, and the multiplication principle, and apply them to probabilities.
- Construct a probability distribution and use it to calculate expected value for a given experiment.
- Summarize one-variable data using statistical measures of central tendency and variance.
- Analyze normal data distributions.
- Solve a variety of finance problems involving interest, effective rates, and annuities.
- Classify nonlinear functions as quadratic, polynomial, rational, exponential, or logarithmic; and identify their graphs and key characteristics.
- Demonstrate the use of the limit definition of derivative to determine the derivative of polynomial, square root, or rational functions.
- Communications: Students participate in assignments involving topics related to finite math or other mathematics with an emphasis on business and social science application problems. They then share their results with their instructor and/or colleagues in class via written, oral, and visual methods.
- Critical Thinking: Critical thinking is the essence of all mathematical studies. Through inductive and deductive reasoning, students explore

problems using the logical process of inquiry, analysis, evaluation, and synthesis.

- Empirical and Quantitative Skills: Students work on various mathematical problem solving skills throughout the course. The course focuses on the manipulation and analysis of numerical data or observable facts as presented in application problems and /or problem skill sets in which students demonstrate their ability to reach informed conclusions using mathematical processes.

### **Course Outline or Schedule:**

Changes to this schedule will be announced in class, and/or emailed.

Dates	Lecture/Work	Tests/Objectives
Wk 1	2.1 Solution of Linear Systems by the Echelon Method 2.2 Solution of Linear Systems by the Gauss-Jordan Method	
Wk 2	2.3 Addition and Subtraction of Matrices 2.4 Multiplication of Matrices 2.5 Matrix Inverses 2.6 Input-Output Model	
Wk 3	Review (Ch. 2)	Test 1 Ch. 2
Wk 4	3.1 Graphing Linear Inequalities 3.2 Solving Linear Programming Problems Graphically 3.3 Applications of Linear Programming	
Wk 5	4.1 Slack Variables and the Pivot 4.2 Maximization Problems	
Wk 6	Review (Ch. 3 & 4)	Test 2 Ch. 3,4
Wk 7	7.1 Sets 7.2 Applications of Venn Diagrams 7.3 Introduction to Probability 7.4 Basic Concepts of Probability	
Wk 8	8.1 The Multiplication Principle; Permutations 8.2 Combinations 8.3 Probability Applications of Counting Principles	
Wk 9	8.4 Binomial Probability 8.5 Probability Distributions; Expected Value Review (Ch. 7 & 8)	
Wk 10	9.1 Frequency Distributions; Measures of Central Tendency	Test 3 Ch. 7,8
Wk 11	9.2 Measures of Variation 9.3 The Normal Distribution	
Wk 12	10.1 Properties of Functions 10.2 Quadratic Functions; Translation and Reflection	

	10.3 Polynomial and Rational Functions 10.4 Exponential Functions	
Wk 13	10.5 Logarithmic Functions 10.6 Applications: Mathematics of Finance 11.1 Limits 11.2 Continuity	
Wk 14	11.3 Rates of Change 11.4 Definition of the Derivative Review (Ch. 9, 10 & 11)	
Wk 15	Final Review	Test 4 Ch. 9,10,11
Wk 16	Finals Week	FINAL EXAM

### **Course Grading Information:**

Your course grade will be based on Assignments (including homework, classwork, any projects and quizzes), Chapter Tests, and a Cumulative Final Exam.

The relative weights of each of these factors is as follows:

Assignments (Homework online using MyMathLab)	<b>40%</b>
Tests	<b>40%</b>
Final Exam	<b>20%</b>

Assignments will include Online Homework problems on MyMathLab, any Quizzes given, and any Projects or Group assignments that are given. These will counts for 40% of the final grade.

Success in this class depends on keeping up with the assignments. Learning is directly correlated to the amount of practice completed on the topics we cover. Homework problems will be assigned and worked online using MyMathLab. The deadline for each set of homework will be the scheduled time of the test over the sections covered by the homework. After the due date the problems can still be completed but there will be a 10% penalty for late work. **If any student has failed to fully register for MyMathLab by the Census Date that student will be dropped from the course.**

If you must miss one test for one of the reasons given in MCC's General Catalog, and you have provided a documented excuse for doing so, the Final exam will also count as your make-up test for that chapter. If it is necessary for you to miss more than one test, you should discuss the situation with me. Unexcused absences from tests will not be made up. **I reserve the**

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**right to make changes in extreme circumstances.** The Test average will count as 40% of the final grade.

The final exam will be cumulative. It is scheduled to be completed on **Thursday May 5, 2022.** Please plan accordingly. Your grade on the final may also count in place of your one lowest test grade, if that is to your advantage. The Final exam will count as 20% of the final grade.

The letter grade received in this course will be based on the customary 90-80-70-60 scale.

This course will use a variety of internal and external assessments. A faculty developed comprehensive final exam may assess the core objectives of critical thinking and empirical/quantitative analysis. These core objectives may 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 the course may be used to evaluate the effectiveness of student learning.

**Late Work, Attendance, and Make Up Work Policies:**

Due dates for assignments will be clearly communicated and extensions not given (with the exception of the 10% penalty on Homework assignments). It is my policy to replace a student's lowest test grade with their final exam grade, if it is higher, at the end of the semester. For this reason, **I do not give makeup tests.** A missed test will be recorded as a 0 and then replaced with the final exam at the end of the semester. If a student is aware of a conflict on a test date, they may ask to arrange to take the test early. **I reserve the right to make changes in extreme circumstances.**

**If you are absent from 25% (8 classes) of the scheduled class meetings by the deadline for student initiated drops, you will be dropped from the class.** If this limit is reached after that date, you will be kept on the roll, and the grade that you earn for the semester is the grade you will receive.

**Make attendance a priority.** If absence is unavoidable, **YOU** are still responsible for completing assignments. Attendance (participation) is very important in this class and many students find that missing a class puts them at a distinct disadvantage, especially when many of the classes are online. If you miss a week and get behind, it is easy to get discouraged and

give up. When you are actively participating, completing assignments in a timely manner, and attending class, you have the opportunity to ask questions and get help immediately.

**Student Behavioral Expectations or Conduct Policy:**

Students are expected to maintain classroom decorum that includes respect for other students and the instructor, prompt and regular attendance, and an attitude that seeks to take full advantage of the education opportunity. In this class it is expected that students will participate in class, keep up with assignments and deadlines, and be respectful of others in the class.

**[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.

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## 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](http://www.mclennan.edu/disability).

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

[disabilities@mclennan.edu](mailto:disabilities@mclennan.edu)

254-299-8122

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 Title IX Coordinator at [titleix@mclennan.edu](mailto:titleix@mclennan.edu) or by calling Dr. Drew Canham (Chief of Staff for Diversity, Equity & Inclusion/Title IX) at (254) 299-8645. Individuals also may contact the MCC Police Department at 299-8911 or the MCC Student Counseling Center at MCC 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/](http://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/>

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 a Success Coach by calling (254) 299-8226 or emailing [SuccessCoach@mclennan.edu](mailto:SuccessCoach@mclennan.edu). Students may visit the Completion Center Monday-Friday from 8 a.m.-5 p.m. to schedule a meeting with a Success Coach and receive additional resources and support to help reach academic and personal goals. Paulanne's Pantry (MCC's food pantry) provides free food by appointment to students, faculty and staff based on household size. Text (254) 870-7573 to schedule a pantry appointment. The Completion Center and 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](https://www.mclennan.edu/foundation/docs/Emergency_Grant_Application.pdf).

**MCC Academic Integrity Statement:**

Go to [www.mclennan.edu/academic-integrity](http://www.mclennan.edu/academic-integrity) for information about academic integrity, dishonesty, and cheating.

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

Go to <https://www.mclennan.edu/center-for-teaching-and-learning/Faculty-and-Staff-Commons/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.

**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](mailto:Helpdesk@mclennan.edu) for help.

**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.

**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.