

Updated 07/18/2023



WACO, TEXAS

**COURSE SYLLABUS
AND
INSTRUCTOR PLAN**

Math for Business and Social Sciences

Math 1324 Section 043

MARK CRENWELGE, M.A.

NOTE: This is a 16-week course.

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

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:	WF 115
Office/Teacher Conference Hours:	Posted in Brightspace
Other Instruction Information:	Email is the best way to communicate with me.

Required Text & Materials:

No Hard Copy Text Required
(Inclusive Access Course)

TI-83 or 84 graphing calculator

Optional Text

Finite Mathematics & Calculus with
Applications 11th Ed.
Lial, Greenwell & Ritchey
Publisher: Pearson
ISBN 13: 978-0-13-590460-2

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

Methods of Teaching and Learning:

In class lecture and problem solving will occur. MyMathLab is the online component that will house the course information. Homework will be done online in this environment. Lecture notes, reference materials and videos are available there as well.

Course Objectives and/or Competencies:

- Apply elementary functions, including linear, quadratic, polynomial, rational, logarithmic, and exponential functions to solving real-world problems.
- Solve mathematics of finance problems, including the computation of interest, annuities, and amortization of loans
- Apply basic matrix operations, including linear programming methods, to solve application problems
- Demonstrate fundamental probability techniques and application of those techniques, including expected value, to solve problems.
- Apply matrix skills and probability analyses to model applications to solve real-world problems.

- **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 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.

If a student has not attended any classes before the census date faculty are required to drop students as stated above. In this course that would mean the student has not attended any of the face-to-face meetings.

Before the 60% point of the semester, a student who is absent for 25% or more of a face-to-face or blended course or who misses 25% or more of assigned work for an online course will be from the course with a grade of W. A student may also request to be withdrawn with a grade of W before the 60% point of the semester. After the 60% point of the semester, the student may request to be withdrawn if the student is passing, or be assigned the final grade earned at the end of the semester after grades have been updated to reflect missing work.

Course Outline or Schedule:

Any changes to this schedule will be announced 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	3.1 Graphing Linear Inequalities	Test 1 Ch. 2
Wk 4	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	7.1 Sets 7.2 Applications of Venn Diagrams	Test 2 Ch. 3,4

Wk 7	7.3 Introduction to Probability 7.4 Basic Concepts of Probability 8.1 The Multiplication Principle; Permutations 8.2 Combinations 8.3 Probability Applications of Counting Principles	
Wk 8	8.4 Binomial Probability 8.5 Probability Distributions; Expected Value	Test 3 Ch. 7,8
Wk 9	9.1 Frequency Distributions; Measures of Central Tendency 9.2 Measures of Variation	
Wk 10	9.3 The Normal Distribution 10.1 Properties of Functions 10.2 Quadratic Functions; Translation and Reflection	
Wk 11	10.3 Polynomial and Rational Functions 10.4 Exponential Functions	
Wk 12	10.5 Logarithmic Functions 10.6 Applications: Mathematics of Finance	
Wk 13	11.1 Limits 11.2 Continuity	
Wk 14	11.3 Rates of Change 11.4 Definition of the Derivative	
Wk 15	Review for Final	Test 4 Ch. 9,10,11
Wk 16	Final – Thursday December 7, 2023 (11:10-1:10)	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	40%
Tests (projected 4@ 10% -- if other, the weights will total 40%)	40%
Final Exam	20%

Assignments will include Online Homework problems on MyMathLab, Quizzes (if any) given in class or online, Classwork (if any) taken for a grade, 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.

Generally, there will be a test after each two chapters; some of them may possibly be all or part take-home tests. 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 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 for **Thursday, December 7, 2023 at 11:10 am**. 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 course may be used to evaluate the effectiveness of student learning.

Late Work 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 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 future absence on a test date, they may ask to arrange to take the test early.

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. Students are expected to come to class prepared and with supplies necessary to participate actively in each class meeting.

[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.