



WACO, TEXAS

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**COURSE SYLLABUS  
AND  
INSTRUCTOR PLAN**

**Mathematics for Business and Economic Analysis I**

**MATH 1324 Section 87**

**MARK CRENWELGE, M.A.**

**NOTE: This is a 6-week course.**

**NOTE: This is an Online course.**

**NOTE: This is a Summer course.**

## Mathematics for Business and Economic Analysis I

M1324.87

### **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)

### **Course Notes and Instructor Recommendations:**

Math 1324 involves online homework assignments. Everything is available online including an electronic version of the text and both publisher and instructor videos. There are numerous other learning aids available on the online site.

### **Instructor Information:**

Instructor Name:	Mark Crenwelge, M.A.
MCC Email:	<a href="mailto:mcrenwelge@mclennan.edu">mcrenwelge@mclennan.edu</a>
Office Phone Number:	254-299-8874
Office Location:	MWF 221
Office/Teacher Conference Hours:	See Contact Information in Brightspace
Other Instruction Information:	Email is the best way to contact me

### **Required Text & Materials:**

This class is an Inclusive Access (IA) class. The MyMathLab program will be included in tuition and will be located in the Brightspace shell for the class.

Calculator: Required	TI-83, 83-Plus, 84, or 84Plus
	Options will be discussed in Introductory ZOOM

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

**Methods of Teaching and Learning:**

The following methods for teaching and learning will be used: online video lecture, online homework, online exams, and tutorial software. A three pronged approach is used in this course. For each instructional unit a video recording of the lecture will be available on the Pearson site. Students may be asked to meet with the instructor via ZOOM at the beginning of the semester. ZOOM office hours will also be available.

**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 the derivative to determine the derivative of polynomial, square root, or rational functions

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**Course Outline or Schedule:** Schedule is subject to change as needed. Changes will be announced in email and a current schedule posted in Brightspace.

WEEK	Dates	Assignments
1	May 30-June 1	<b>Chapter 2 Due June 10 at 11:59 PM</b> 2.1 Solution of Linear Systems by the Echelon Method 2.2 Solution of Linear Systems by the Gauss-Jordan Method 2.3 Addition and Subtraction of Matrices 2.4 Multiplication of Matrices 2.5 Matrix Inverses 2.6 Input-Output Model
2	June 4-June 10	<b>Chapter 3 Due June 10 at 11:59 PM</b> 3.1 Graphing Linear Equalities 3.2 Solving Linear Programming Problems Graphically 3.3 Applications of Linear Programming <b>Chapter 4 Due June 10 at 11:59 PM</b> 4.1 Slack Variables and the Pivot 4.2 Maximization Problems  <b>TEST 1 CH 2,3 &amp; 4 DUE June 10 at 11:59 PM</b> (Test will open on June 7 at 8:00 AM until June 10 at 11:59 PM)
3	June 11-June 17	<b>Chapter 7 Due June 17 11:59 PM</b> 7.1 Sets 7.2 Applications of Venn Diagrams 7.3 Introduction to Probability 7.4 Basic Concepts of Probability <b>Chapter 8 Due June 17 at 11:59 PM</b> 8.1 The Multiplication Principle; Permutations 8.2 Combinations 8.3 Probability Applications of Counting Principles 8.4 Binomial Probability 8.5 Probability Distributions; Expected Value  <b>TEST 2 CH 7 &amp; 8 DUE June 17 at 11:59 PM</b> (Test will open June 14 at 8 AM until June 17 at 11:59 PM)

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4	June 18-June 24	<b>Chapter 9 Due July 1 at 11:59 PM</b> 9.1 Frequency Distributions; Measures of Central Tendency 9.2 Measures of Variation 9.3 The Normal Distribution  <b>Chapter 10 Due July 1 at 11:59 PM</b> 10.1 Properties of Functions 10.2 Quadratic Functions; Translation and Reflection 10.3 Polynomial and Rational Functions 10.4 Exponential Functions 10.5 Logarithmic Functions 10.6 Applications: Mathematics of Finance
5	June 25-July 1	<b>Chapter 11 Due July 1 at 11:59 PM</b> 11.1 Limits 11.2 Continuity 11.3 Rates of Change 11.4 Definition of the Derivative  <b>TEST 3 CH 9, 10 &amp; 11 DUE July 1 at 11:59 PM</b> (Test will open June 28 at 8:00 AM until July 1 at 11:59 PM)
6	July 2-July 5	<b>FINAL EXAM DUE July 5 at 11:59 PM</b> (Final will open July 2 at 8:00 AM until July 5 at 11:59 PM)

## **Course Grading Information:**

Grading in this course will be based on Assignments, Tests, and a comprehensive Final Exam according to the following percentages.

Assignment Average 40%

Test Average 40%

Final Exam 20%

**Assignments** include all online homework online in MyMathLab. The assignments will be available beginning the first day of class and you may proceed through them as quickly as you

like. These problems can be attempted as many times as desired. The assignments will have a due date corresponding to the date they are tested. They will still be available to complete or correct after that date with a 10% penalty for late work. The possibility of a 100% for the assignment portion of the grade is therefore dependent on getting all the questions correct before the deadline. These assignments are set up in chapters with questions from each of the sections shown in the Class Outline above.

Assignments may also include any activities which will be assessed in these three areas:

\*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 the instructor and/or other colleagues in class via written, oral, and/or visual methods. A Communication Assignment Rubric will be supplied to the student and will be used to assess the assignment if given.

\*Critical Thinking: Critical Thinking is the essence of all mathematical studies. Through inductive and deductive reasoning, students explore probability and statistical problems using the logical process and 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 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.

**Tests** will be given online with NO makeup available. There will be three tests total. If there is a problem with one of the test date windows please make arrangements before the test is given with the instructor. I will replace the lowest test grade with the grade on the Final Exam if it is higher.

The **FINAL** Exam is cumulative and is Required. It will also be given online within a certain window.

The letter grade received in this course will be based on the customary 90-80-70-60 scale. You can check your grades in MyMathLab. I will only transfer the Final Grade to Brightspace at the end of the semester..

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

Due dates are set for all homework and tests. If students do not meet the deadlines those grades will be recorded as a Zero. Homework can be completed/corrected after the due date with the 10% penalty. If a test is missed, the grade will be recorded as a Zero and can be changed when the Final Exam is taken.

With ALL of the grading policy I reserve the right to make adjustments if there is an emergency or special situation.

Attendance will be based on participation in the course. Each week I will assess if the student has participated by completing assignments and/or tests. **Students are allowed to miss up to 25% of classes (2 weeks) before you could be dropped for non-participation.** Be sure to complete assignments each week online for attendance.

**Student Behavioral Expectations or Conduct Policy:**

Students are expected to maintain online decorum that includes respect for other students and the instructor. Students should demonstrate an attitude that seeks to take full advantage of the education opportunity.

I will be available through email and ZOOM office hours. Please take advantage of this and ask questions when needed. Summer classes move at a much faster pace than long semester classes so be prepared to allow time to complete the work.

**[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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Updated 11/04/2022



## **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-  
2998122

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](mailto:titleix@mclennan.edu) or by calling, Dr. Claudette Jackson, (Diversity, Equity & Inclusion/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/](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/>

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 from 7:30 am - 6:00 pm Monday through Thursday and 7:30 am - 5:00 pm on Friday. You can contact the Academic Support and Tutoring team via Zoom (<https://mclennan.zoom.us/j/2542998500>) or email ([ast@mclennan.edu](mailto:ast@mclennan.edu)) during the above mentioned times.

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](mailto:crew@mclennan.edu) or a Success Coach by calling (254) 299-8226 or emailing [SuccessCoach@mclennan.edu](mailto: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](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](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/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](http://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](mailto: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](mailto: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.