

WACO, TEXAS

## **COURSE SYLLABUS**

## AND

# **INSTRUCTOR PLAN**

**College Algebra** 

MATH 1314.87

Matt Shelton

# **NOTE:** This is a 6-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 <a href="https://www.mclennan.edu/crisis-management/coronavirus-updates/index.html">https://www.mclennan.edu/crisis-management/coronavirus-updates/index.html</a> on any changes to these guidelines.

AN EQUAL OPPORTUNITY INSTITUTION

Summer I 2022

MATH 1314.87

#### Course Description:

In-depth study and application of polynomial, rational, radical, exponential and logarithmic functions, and systems of equations using matrices. Additional topics such as sequences, series, probability and conics may be included. Semester Hours 3 (3 Lecture)

#### Prerequisites and/or Co-requisites:

Math 0311 or consent of division chair.

#### **Instructor Information:**

Instructor Name: Matt Shelton MCC E-mail: <u>mshelton@mclennan.edu</u> Office Phone Number: I am not on campus in the summer Office Location: I am not on campus in the summer Office/Teacher Conference Hours (Online via Zoom): Wednesday 1:00p – 2:00p Thursday 2:00p – 3:00p

#### Required Text & Materials:

Title: MyMathLab Access Code (Included as part of the McLennan IncludED program) Publisher: Pearson ISBN: 9780134753324

TI-83 or 84 graphing calculator

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

#### Methods of Teaching and Learning:

MyMathLab is the online component that will house the course information. All assignments will be done online in this environment. Reference materials and videos are available there as well.

#### Course Objectives and/or Competencies:

Upon successful completion of the course, students will:

- Demonstrate and apply knowledge of properties of functions, including domain and range, operations, compositions, and inverses.
- Recognize and apply polynomial, rational, radical, exponential and logarithmic functions and solve related equations.
- Apply graphing techniques.
- Evaluate all roots of higher degree polynomial and rational functions. Recognize,
- solve and apply systems of linear equations using matrices
- <u>Critical Thinking</u>: Students used inductive and deductive reasoning, explore problems using logical process of inquiry, analysis evaluation and synthesis. Assessment will use discussion, independent practice, collaborative experience, instructional technology. Use of departmental test bank and CAAP test.
- <u>Communications</u>: Students turn in written assignment involving topics related to College Algebra or other mathematics. They then share their result with their instructor and/or colleagues in class via written, oral, and/or visual methods. Assessment will use at least one of the following: board work, class time explanation, case study presentation, poster board presentation, or small group presentation.

Evaluation process will use departmental rubric for communication assessment.

• <u>Empirical/Quantitative</u>: 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 process. Assessment will include discussion, independent practice, collaborative experience, or instructional technology to include questions from a departmental test bank and the CAAP test.

**Course Outline or Schedule:** This is only a suggested schedule to keep you on pace. See below regarding due dates for assignments.

| Dates  | Lecture/Work                                     | Tests/Objectives |
|--------|--|------------------|
| Week 1 | 1.3 Functions and Their Representations          |                  |
|        | 1.4 Types of Functions and Their Rates of Change |                  |
|        | 2.1 Equations of Lines                           |                  |

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|         | 2.2 Linear Equations  |                |  |
|---------|---|----------------|--|
|         | 2.3 Linear Inequalities   |                |  |
|         | 2.4 More Modeling with Functions  |                |  |
| Week 2  | 2.5 Absolute Value Equations and Inequalities Chapter 1/2 Quiz              |                |  |
| WEEK Z  | 3.1 Quadratic Functions and Modeling  | (OBJ 1,3)      |  |
|         | 3.2 Quadratic Equations and Problem Solving                                 | (00) 1,3)      |  |
|         | 3.3 Complex Numbers   |                |  |
|         | 3.4 Quadratic Inequalities  |                |  |
|         | 3.5 Transformations of Graphs   |                |  |
| Week 3  |   |                |  |
| Week 5  | 4.1 More Nonlinear Functions and Their Graphs                               |                |  |
|         | 4.2 Polynomial Functions and Models   |                |  |
|         | 4.3 Division of Polynomials   |                |  |
|         | 4.4 Real Zeros of Polynomial Functions                                      |                |  |
|         | 4.5 The Fundamental Theorem of Algebra<br>4.6 Rational Functions and Models |                |  |
|         |   |                |  |
| March A | 4.7 More Equations and Inequalities   | Chamber 4 Ouis |  |
| Week 4  | 4.8 Radical Equations and Power Functions                                   | Chapter 4 Quiz |  |
|         | 5.1 Combining Functions   | (OBJ 1-4)      |  |
|         | 5.2 Inverse Functions and Their Representations                             |                |  |
|         | 5.3 Exponential Functions and Models  |                |  |
|         | 5.4 Logarithmic Functions and Models  |                |  |
|         | 5.5 Properties of Logarithms  |                |  |
| Week 5  | 5.6 Exponential and Logarithmic Equations                                   | Chapter 5 Quiz |  |
|         | 5.7 Constructing Nonlinear Models   | (OBJ 1-3)      |  |
|         | 6.1 Functions & Systems of Equations in Two Variables                       |                |  |
|         | 6.2 Systems of Inequalities in Two Variables                                |                |  |
|         | 6.3 Systems of Linear Equations in Three Variables                          |                |  |
|         | 6.4 Solutions to Linear Systems Using Matrices                              |                |  |
| Week 6  | 6.5 Properties and Applications of Matrices                                 | Final Exam     |  |
|         | 6.6 Inverses of Matrices  | (OBJ 1-5)      |  |
|         | 6.7 Determinants  |                |  |

#### **Course Grading Information:**

<u>Homework</u>: There is an online homework assignment for each section that is covered during the semester. All of the homework assignments need to be completed by 11:59pm on the final day of class July 5<sup>th</sup>. They will be your main source of practice for the quizzes. You can work on a homework assignment as many times as you want to improve your grade up until the due date. Your homework average will count 20% of your final grade.

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<u>Chapter Quizzes</u>: There will be three online quizzes over some of the chapters covered in this course. Unlike the homework, the tests can only be attempted once (see make-up section below), and they are timed. You will have 120 minutes (the same amount of time you would get in a face-to-face course) to complete each quiz once you start. There is no way to save your progress and return at a later time to finish. You must make sure that when you start a quiz you have enough time to complete it. Also make sure that when you are done you hit the "Submit Quiz" button or else it may not record your grade, and you will not be permitted to access it again. If you accidentally close the test window or click a link that takes you away from the quiz, you will be locked out of all assignments. You will need to contact me to unlock your assignments. Depending on the situation I may not be able to reopen the locked quiz attempt. The quizzes will look exactly like the homework problems for the chapter covered. The quizzes must be completed by 11:59pm on the last day of class July 5<sup>th</sup>. Each quiz will count 20% of your final grade.

<u>Final Exam</u>: There will be a comprehensive final exam. It will be done online and will also be timed. You will have 120 minutes to complete the final exam. The problems on the final will come from the chapter quizzes or the homework for the chapters where there wasn't a quiz. The final exam will be due by 11:59pm on July  $6^{th}$ . It will count 20% of your final grade.

You can check your grades using the "Gradebook" button on the left side of MyMathLab. The standard grading scale applies:

90 - 100 = A 80 - 89 = B 70 - 79 = C 60 - 69 = D 59 and lower = F

This course will use a variety of internal and external assessments. A faculty developed comprehensive final exam will access 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.

Communication Assignments Rubric (not applicable in the summer)

Course name/number/section: Student name/number:

Type of Communication Event:

\_\_\_Boardwork \_\_\_Classtime explanation \_\_\_Personal interview \_\_\_Case study presentation \_\_\_Poster board project presentation \_\_\_Small group presentation \_\_\_Online presentation

| IN WRITTEN<br>LANGUAGE    | 4<br>Student<br>demonstrates <b>full</b><br><b>knowledge with no</b><br><b>mistakes</b> and<br><b>elaborates</b> on<br>mathematical<br>concepts. | 3<br>Student<br>demonstrates<br>good knowledge<br>but does not<br>elaborate.   | 2<br>Student<br>demonstrates<br><b>limited knowledge</b><br>but makes <b>several</b><br><b>mistakes</b> .            | 1<br>Student does <b>not</b><br><b>have a grasp</b> of<br>the mathematical<br>information.                            |
|---------------------------|--|--|--|---|
| IN ORAL<br>LANGUAGE       | 4<br>Student uses fluent<br>and accurate words<br>to describe<br>mathematical<br>concepts and<br>processes.                                      | 3<br>Student uses<br>somewhat<br>appropriate words<br>to describe<br>mathematical<br>concepts and<br>processes.        | 2 Student<br>uses vague words<br>to describe<br>mathematical<br>concepts and<br>processes.                           | 1<br>Student uses<br>incorrect and<br>confusing words<br>to describe<br>mathematical<br>concepts and<br>processes.    |
| IN VISUAL<br>PRESENTATION | 4<br>Student uses<br><b>appropriate and</b><br><b>accurate</b> visual<br>representation of<br>mathematical<br>concepts and<br>processes.         | 3<br>Student uses<br>somewhat<br>appropriate visual<br>representation of<br>mathematical<br>concepts and<br>processes. | 2<br>Student uses some<br>inaccuracy in<br>visual<br>representation of<br>mathematical<br>concepts and<br>processes. | 1<br>Student uses total<br>inaccuracy in<br>visual<br>representation of<br>mathematical<br>concepts and<br>processes. |

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

Due dates are set for all homework, quizzes, and tests. If students do not make the deadlines, those grades become zero. I plan on dropping a couple of the lowest homework grades at the end of the semester. Each student will be allowed one make-up quiz for the semester in case you accidentally get locked out or you just make a low score. Your make-up assignment will need to be completed by 11:59pm on July 5<sup>th</sup>. It is your responsibility to contact me when you've decided which quiz you would like to make up.

Attendance will be monitored each week. If you are counted absent 2 times before June 21<sup>st</sup> (the last day to drop the course) you will be automatically dropped from the course. If you already have 6 drops on your record you will have to stay enrolled and earn a grade at the end of the semester. To be counted as present during any given week you must submit work in at least one MyMathLab homework or submit one chapter quiz. A week will begin on Monday and end Sunday night at 11:59pm.

#### **Student Behavioral Expectations or Conduct Policy:**

Cheating will not be tolerated in class. Having someone else do your online assignments is a violation of the academic integrity policy and either may result in failing grades and/or being dropped from the class. At any time you may be asked to provide proof of your work in this course. Infractions such as these will be reported to the administration for tracking and possible college action.

#### \* Click Here for the MCC Attendance/Absences Policy

(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 guidelines specific to this course.

# $\begin{array}{c} \text{McLennan} \\ \text{COMMUNITY} \\ \text{COLLEGE} \end{array}$

# 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 254-299-8122 Room 319, Student Services Center

#### <u>Title IX:</u>

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 <u>titleix@mclennan.edu</u> 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 <u>http://www.lighthouse-services.com/mclennan/</u>.

Go to McLennan's Title IX webpage at <u>www.mclennan.edu/titleix/</u>. 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 <a href="http://www.mclennan.edu/campus-resource-guide/">http://www.mclennan.edu/campus-resource-guide/</a>

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 <u>SuccessCoach@mclennan.edu</u>. 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 <u>https://www.mclennan.edu/foundation/scholarships-and-resources/emergencygrant.html</u> to find out more about the emergency grant. The application can be found at <u>https://www.mclennan.edu/foundation/docs/Emergency\_Grant\_Application.pdf</u>.

#### MCC Academic Integrity Statement:

Go to <u>www.mclennan.edu/academic-integrity</u> for information about academic integrity, dishonesty, and cheating.

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

Go to <u>https://www.mclennan.edu/center-for-teaching-and-learning/Faculty-and-Staff-Commons/requirements.html</u> 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 (<u>http://www.mclennan.edu/employees/policy-manual/docs/E-XXXI-B.pdf</u>) 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 <u>Helpdesk@mclennan.edu</u> 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.