Updated 07/18/2023

McLENNAN COMMUNITY COLLEGE

WACO, TEXAS

COURSE SYLLABUS

AND

INSTRUCTOR PLAN

Calculus II

MATH 2414.040

Matt Shelton

NOTE: This is a 16-week course

NOTE: This is a Face-to-Face course

Course Description:

Differentiation and integration of transcendental functions; parametric equations and polar coordinates; techniques of integration; sequences and series; improper integrals.

Prerequisites and/or Corequisites:

Prerequisite: MATH 2413 with a minimum grade of C or consent of division chair.

Instructor Information:

Instructor Name: Matt Shelton
MCC E-mail: mshelton@mclennan.edu
Office Phone Number: (254)299-8834
Office Location: MATH 209
Office/Teacher Conference Hours: Monday & Wednesday 11:00a – 12:00p (In office)
1:00p – 3:00p (Online)
Tuesday 10:00a – 11:00a (In office)

Required Text & Materials:

All textbook materials provided to students through IncludED. Please do not opt out of IncludED otherwise you will not receive the required materials to complete the course. If you already opted out watch your email for options to opt in before the opt in window closes for the semester.

It is recommended that students have access to a graphing calculator. We recommend the TI-83 or 84 graphing calculator.

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.

- 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 Objectives and/or Competencies:

- Use the concepts of definite integrals to solve problems involving area, volume, work, and other physical applications.
- Use substitution, integration by parts, trigonometric substitution, partial fractions, and tables of antiderivatives to evaluate definite and indefinite integrals.
- Define an improper integral.
- Apply the concepts of limits, convergence, and divergence to evaluate some classes of improper integrals.
- Determine convergence or divergence of sequences and series.
- Use Taylor and MacLaurin series to represent functions.
- Use Taylor and MacLaurin series to integrate functions not integrable by conventional methods.
- Use the concept of polar coordinates to find areas, lengths of curves, and representations of conic sections.

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.

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 withdrawn 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.

In this course attendance is determined by being present in the classroom for each class meeting. If a student leaves class early they may be counted absent for that day. There are two ways you can be dropped for attendance. First, if you are counted absent for all classes prior to January 28th you will be dropped from the course and not allowed re-entry. Second, if you are counted absent 8 times before March 27th you will be withdrawn from the course and receive a grade of W.

Course Outline or Schedule:

Dates	Lecture/Work	Tests/Objectives
Week 1	**6.1 Volumes Using Cross-Sections**	
Week 2	**6.2 Volumes Using Cylindrical Shells**	
Week 3	**6.3 Arc Length** **6.4 Areas of Surfaces of Revolution** **6.5 Work and Fluid Forces**	
Week 4		**Ch. 6 Test (OBJ 1,2)**
Week 5	**7.2 Exponential Change and Separable Differential Equations** **7.3 Hyperbolic Functions** **8.1 Using Basic Integration Formulas**	
Week 6	**8.2 Integration by Parts** **8.3 Trigonometric Integrals**	
Week 7	**8.4 Trigonometric Substitutions** **8.5 Integration of Rational Functions by Partial Fractions**	
Week 8	**8.6 Integral Tables and Computer Algebra Systems** **8.8 Improper Integrals**	**Ch. 8 Test (OBJ 2-4)**
	SPRING BREAK	
Week 9	**10.1 Sequences** **10.2 Infinite Series**	
Week 10	**10.3 The Integral Test** **10.4 Comparison Tests** **10.5 The Ratio and Root Tests**	
Week 11	**10.6 Alternating Series, Absolute and Conditional Convergence**	

	10.7 Power Series **10.8 Taylor and Maclaurin Series**	
Week 12	**10.9 Convergence of Taylor Series** **10.10 Application of Taylor Series**	
Week 13	**11.2 Calculus with Parametric Curves**	**Ch. 10 Test (OBJ 5-7)**
Week 14	**11.3 Polar Coordinates** **11.5 Areas and Lengths in Polar Coordinates**	
Week 15	**11.6 Conic Sections** **11.7 Conics in Polar Coordinates**	
Week 16		**Final Exam (OBJ 1 – 8)**

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.

Course Grading Information:

Homework: There is a homework assignment for each section that is covered during the semester. Since the test questions will be similar to the homework problems they will be a good source of practice for the tests. You can work on homework assignments as many times as you want to improve your grade before the due date. Homework is due on the day of the next test. So for example all Chapter 6 homework is due the day we take the Chapter 6 test while the Chapter 7 homework is due the day we take the Chapter 8 test. Once the due date passes, your score is frozen. You can still access problems to practice, but you can't improve your score. Your homework average will count as 20% of your final average.

Tests: There are three tests during the semester. There are no makeup tests or retests. If your final exam grade is higher than your lowest test score, I will drop your lowest test score and replace it with your final exam grade. Each test will count 20% of your final average for a total of 60%.

Final Exam: A cumulative final exam will be given at the end of the semester. It will count 20% of your final average.

The standard grading scale applies:

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

Communication Assignments Rubric (not for a grade)

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

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

Late Work, Attendance, and Make Up Work Policies:

Due dates are set for all homework and test dates are scheduled. If students do not make the deadlines, those grades become zero. If a test is missed, the grade is zero, but that can be the test that is replaced by the final exam.

Student Behavioral Expectations or Conduct Policy:

Cheating will not be tolerated in class. Having someone else do your online homework assignments and tests are both violations of the academic integrity policy and either may result in failing grades and/or being dropped from the class. 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.

07/02/2024

MCLENNAN COMMUNITY COLLEGE

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 Accommodations (Disability Services) 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

Title IX:

Title IX of the Education Amendments of 1972 is a Federal civil rights law that prohibits discrimination on the basis of sex in educational programs and activities that receive Federal funds. 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 a Title IX incident are encouraged to immediately contact the Title IX Coordinator at titleix@mclennan.edu or by calling, Dr. Claudette Jackson, (Accommodations/Title IX) at (254) 299-8465.

Additionally, Title IX provides rights and protections for pregnant and newly parenting students which can include educational accommodations such as excused absences

and the opportunity to make up assignments and tests. Lactation spaces are also available on campus. Please email titleix@mclennan.edu for more information.

MCC employees are mandatory reporters and must report incidents immediately to the Title IX Coordinator. Faculty and Staff may email titleix@mclennan.edu to submit a report.

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 may report sexual harassment anonymously by visiting https://www.lighthouse-services.com

Visit McLennan's Title IX webpage at https://www.mclennan.edu/titleix/ to learn more about Title IX protections, reporting, and resources.

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/)

At our campus, we understand that students face numerous challenges beyond the classroom. That's why we offer Success Coaches who are dedicated to helping you succeed. Our coaches know that life can sometimes get in the way of your educational goals. Through personalized meetings, Success Coaches empower you to overcome obstacles, maximize your potential, and create a clear path to both academic and personal success. Our Success Coaches are ready to help you achieve your dreams! Schedule your appointment today by calling 254-299-8226 or emailing success@mclennan.edu.

College personnel also recognize that food, housing, and transportation are essential for student success. If you are having trouble securing these resources and other essential resources, we encourage you to contact the CREW - Campus Resources Education Web by calling 254-299-8561 or emailing crew@mclennan.edu.

Paulanne's Pantry (MCC's food pantry) provides free food by appointment to students, faculty and staff. To schedule an appointment, go to https://calendly.com/paulannespantry-mcc/15min.

Success Coaching Services, the CREW, and Paulanne's Pantry are located on the second floor of the Student Services building in Success Coaching Services, suite 249.

The Student Counseling Center offers confidential mental health counseling to currently enrolled students at no charge. Counselors are trained to help students with problems related to personal, social, and emotional concerns. Sessions focus on short-term goals in order to facilitate students college success and adjustment. This service is available to students in person or through Zoom.

Make an appointment to meet with a counselor by visiting the center in the Wellness & Fitness building, room 101, calling 254-299-8210, or emailing counseling@mclennan.edu.

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/scholarships-and-resources/emergencygrant.html

MCC Academic Integrity Statement:

Please view our Academic integrity statement for more 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-teaching-and-learning/Faculty-and-StaffCommons/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 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.