McLennan COMMUNITY COLLEGE

WACO, TEXAS

COURSE SYLLABUS

AND

INSTRUCTOR PLAN

CALCULUS II

MATH 2414.10

Dr. DEANNA BARNES

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.

Course Description:
Develops additional integration techniques and more advanced applications of the definite integral, and introduces and applies topics that may include derivatives and integrals of transcendental functions, indeterminate forms, improper integrals, and infinite series. Graphing calculator required.

Prerequisites and/or Corequisites:
MATH 2413 or consent of division chair. Semester Hours 4 (4 lec)

Course Notes and Instructor Recommendations:
Math 2414 in a face-to-face format involves mandatory class meetings as well as online discussions, homework assignments from the text, and in person exams. Students have the option of using MyMathLab as a supplement to text assignments, but not in place of text assignments. Class notes and lecture videos will be available in Brightspace to assist student success. Homework is assigned and discussed. All homework must be uploaded weekly to Brightspace.

Instructor Information:
Instructor Name: Deanna R. Barnes
MCC E-mail: dbarnes@mclennan.edu
Office Phone Number: 254-299-8810
Cell Phone Number: 713-459-5045
(Text first, then I will call back. Be sure to tell me who you are and what class you are in.)
Office Location: MATH 218
Office Hours: Office hours are available by appointment
Link to Zoom Meeting Room: Personal ID Number 2542998810

Required Text & Materials:
Title: *Thomas' Calculus: Early Transcendentals*
Author: Weir & Hass
Edition: 14th edition
Publisher: Addison Wesley
ISBN: 9780134768762
Required graphing calculator – TI-83, TI-83 Plus, TI-84, or TI-84 Plus
ABSOLUTELY NO TI-89, HP-48 or similar CAS calculators allowed (symbolic integration capable)

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

Methods of Teaching and Learning:
Students will be required to read chapters prior to lecture. Lecture notes will be available in Brightspace. Students may choose to view videos for further review and learning enhancement. Homework will be uploaded weekly to Brightspace for a completion grade. There is no extra credit. Active participation in class (asking questions, answering questions based on reading and lecture) leads to improved test scores, rendering extra credit unnecessary. I will post announcements in advance of class meetings if I am unable to make it. **Make sure to set your notifications in Brightspace to receive text/email when any announcement is posted**.

Course Objectives and/or Competencies:

Upon completion of the course, the student will be able to:

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

Helpful Tips:

1. Read the book **before** the material is covered in class.
2. Pay attention during class and spend time outside of class doing assignments, working additional problems, and studying the material covered. (You should spend at least 2 hours working outside of class for every 1 hour in class.)
3. **Ask questions** if you do not understand.
4. If you are having trouble, get help **immediately**.
5. Review **throughout** the semester.
6. Be willing to **work hard**.

Use this calendar along with the assignment table below it to see what problems you will turn in for homework. You will work the assigned homework problems and submit them for a grade in Brightspace.

Component Due Date	Assignments Due by 11:00pm CST	Component Due Date	Assignments Due by 11:00 pm CST
Component 1 January 14	Discussion 1 Sec 6.1 & 6.2	Component 9 March 18	Discussion 9 Sec 10.1 – 10.3
Component 2 January 21	Discussion 2 Sec 6.3 – 6.5	Component 10 March 25	Discussion 10 Sec 10.4 – 10.6
Component 3 January 28	Discussion 3 Sec 7.1 – 7.4	Component 11 April 1	Discussion 11 Review (on campus) Exam 3
Component 4 February 4	Discussion 4 Review (on campus) Exam 1	Component 12 April 8	Discussion 12 Sec 10.7 – 10.9
Component 5 February 11	Discussion 5 Sec 8.1 – 8.3	Component 13 April 15	Discussion 13 Review (on campus) Exam 4
Component 6 February 18	Discussion 6 Sec 8.4 & 8.5	Component 14 April 22	Discussion 14 Sec 11.1 – 11.3
Component 7 February 25	Discussion 7 Sec 8.6 & 8.8	Component 15 April 29	Sec 11.4 & 11.5 Review for Final Exam
Component 8 March 4	Discussion 8 Review (on campus) Exam 2	May 3	**Final Exam 11:00am – 1:00pm**

Week	Section	Topic	Page	Problems
1	6.1	Volumes Using Cross-Sections	375	17 – 45 odd 51, 53, 55
	6.2	Volumes Using Cylindrical Shells	384	1 – 11 odd, 15 – 29 odd, 33, 35, 37
	6.3	Arc Length	391	1 – 13 odd
2	6.4	Areas of Surfaces of Revolution	396	1- 5 (odd, **part a only**), 13 – 21 odd
	6.5	Work and Fluid Forces	404	3 – 13 odd
	7.1	The Logarithm Defined as an Integral	433	1 – 25 odd, 35, 47, 49, 51
3	7.2	Exponential Change & Separable Diff. Eq.	442	1 – 21 odd
	7.3	Hyperbolic Functions	450	1, 3, 5, 13, 17, 41, 49
4	7.4	Relative Rates of Growth	457	1 – 9 odd
		Exam 1		
5	8.1	Using Basic Integration Formulas	465	1 – 41 odd
	8.2	Integration by Parts	471	1 – 65EOO
6	8.3	Trigonometric Integrals	479	1 – 49 EOO, 51 – 67 odd
	8.4	Trigonometric Substitution	484	1 – 23 odd, 35 – 51 odd
	8.5	Integration by Partial Fractions	491	1 – 29 odd, 33 – 41 odd, 55, 59, 67, 69
7	8.6	Integration Tables and Computer Alg. Sys.	497	1 – 53 EOO
	8.8	Improper Integrals	517	1 – 65 EOO
8		**Exam 2**		
9	10.1	Sequences	586	1 – 11 odd, 13 – 63 EOO
	10.2	Infinite Series	597	1 – 71 EOO, 77 – 85 odd
	10.3	The Integral Test	604	1 – 39 odd
10	10.4	Comparison Tests	610	1 – 45 odd
	10.5	The Ratio and Roots Test	616	1 – 43 odd, 57 – 61 odd
	10.6	Alternating Series, Abs. and Cond. Convergence	622	1 – 43 odd, 47
11		**Exam 3**		
	10.7	Power Series	633	1 – 17 odd, 23, 25, 27, 39
12	10.8	Taylor and MacLaurin Series	640	1 – 17 odd 23 – 39 odd
	10.9	Convergence of Taylor Series	647	1 – 17 odd, 31, 35
13		**Exam 4**		**Comprehensive Chapter 10 Test**
	11.1	Parameterizations of Plane Curves	669	1 – 17 odd, 29 – 35 odd
14	11.2	Calculus with Parametric Curves	680	1, 5, 9, 13 – 27 odd
	11.3	Polar Coordinates	684	1 – 19 odd, 27 – 43 odd, 53 – 65 odd
	11.4	Graphing in Polar Coordinates	688	1 – 19 odd
	11.5	Areas and Lengths in Polar Coordinates	693	1 – 15 odd, 21, 23, 25
15		**Exam 5**		
		Review for Final Exam		
16		**Final Exam**		**Objectives 1 – 7**

***EOO means you are to work <u>E</u>very <u>O</u>ther <u>O</u>dd problem** for example (1 – 13 EOO is 1, 5, 9, 13)

<u>Course Grading Information:</u>

The final class average will be determined by the following guidelines:

*4 or more major examinations 60%
Semester (comprehensive) examination 20%
**an average of daily work and quizzes 10%
Discussion Participation. 10%

Course Policies:

* There will be no makeup exams. Your lowest exam will be dropped. However, if you miss an exam, that will count as your dropped exam. All homework will be submitted through Brightspace. Exams must be taken in class.

** NO LATE HOMEWORK will be accepted. It should be noted that enrollment in this course does not guarantee advancement to the next course level. The final responsibility for learning lies with the student.

Supplemental Instruction:

This course has been selected to participate in MCC's Supplemental Instruction (SI) Program. SI is a series of weekly review sessions designed to help students succeed in their academic pursuits. SI is for ALL students who want to improve their understanding of Calculus II and improve their grades.

The sessions offer a chance to meet with classmates to compare notes, discuss important concepts, develop strategies for studying, and test yourselves before exams. At each session, you will be guided through the materials by your SI Leader who has previously taken this course and done well.

Each week, the SI Leader will conduct two one-hour sessions. You may attend any of the sessions that fit into your schedule. Session times and locations will be announced in Brightspace. If your course average falls below 70, you will be required to attend SI sessions until your average improves. If you attend every SI session, I will offer you 5 bonus points on your Final Exam.

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."

Academic Integrity Statement:

It is expected that all work submitted for a grade represents your own effort. While collaboration on daily assignments is encouraged and expected, exams are to be the work of individual students. Cheating will not be tolerated in this class. If you are caught cheating, you will be removed from this class, given an F for the course, and disciplinary action (suspension) will be recommended to the Vice President of Instruction.

Instructor Attendance Policy:

Make attendance a priority. Attendance will be counted based on online activity and submission of assignments. Attendance is very important in this class. In order to receive credit for the course, you must be in attendance at least 75% of the time scheduled for the class.

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 additional guidelines specific to this course.

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 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

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 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/. 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. 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.

MCC Academic Integrity Statement:
Go to 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 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.