

Updated 07/18/2023



WACO, TEXAS

**COURSE SYLLABUS
AND
INSTRUCTOR PLAN**

CALCULUS II

MATH 2414.010

Dr. DEANNA R. BARNES

NOTE: This is a 16-week Online course.

INTRODUCTION TO STATISTICS

MATH 2414.010

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 Email: 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 which class you are in.)

Office Location: MATH 218

Office/Teacher Conference Hours: Text for Zoom meeting any time 8:00am to 8:00pm M-S

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/>

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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 Maclurin series to represent functions.
7. Use Taylor or Maclurin 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.

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.

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Late Work, Attendance, and Make Up Work Policies:

* There will be no makeup exams. Your lowest exam grade 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.

Course Outline or Schedule:

In order to be successful in this course, I strongly urge you to do the following each week:

1. Go to Brightspace, click on the Component you are working on.
2. Follow the steps in the Component Checklist in the order they appear. Do not try to skip around or work out of order. The course is designed to help you move through the material as efficiently as possible.

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 August 25	Discussion 1 Sec 6.1 & 6.2	Component 9 October 20	Discussion 9 Sec 10.1 – 10.3
Component 2 September 1	Discussion 2 Sec 6.3 – 6.5	Component 10 October 27	Discussion 10 Sec 10.4 – 10.6
Component 3 September 8	Discussion 3 Sec 7.1 – 7.4	Component 11 November 3	Discussion 11 Review (on campus) Exam 3
Component 4 September 15	Discussion 4 Review (on campus) Exam 1	Component 12 November 10	Discussion 12 Sec 10.7 – 10.9
Component 5 September 22	Discussion 5 Sec 8.1 – 8.3	Component 13 November 17	Discussion 13 Review (on campus) Exam 4
Component 6 September 29	Discussion 6 Sec 8.4 & 8.5	Component 14 November 24	Discussion 14 Sec 11.1 – 11.3
Component 7 October 6	Discussion 7 Sec 8.6 & 8.8	Component 15 December 1	Sec 11.4 & 11.5 Review for Final Exam
Component 8 October 13	Discussion 8 Review (on campus) Exam 2	December 5	Final Exam 11:00am – 1:00pm

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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 – 65 EOO
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 Maclurin 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 Every Other Odd problem for example (1 – 13 EOO is 1, 5, 9, 13)

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Course Grading Information:

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%

The lowest discussion, homework and exam grade will be dropped. The comprehensive final exam will NOT be dropped. NO LATE HOMEWORK will be accepted.

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.

Late Work and Make Up Work Policies:

In order to get the most out of this class and not get confused, it is important that you not fall behind. I will not deduct points for late work but all work must be completed by the last day of class. Any missing work will be recorded as a zero. I will update grades in Brightspace (your official course grade) based upon the due dates. I will record a zero for any missing work but will update your score with what you earn the next time I update grades.

You may be dropped from the course (without further warning) for lack of online participation if you fall more than two components behind on course work. Consequently, you should plan on working in MyMathLab daily. Research shows that successful students spend approximately 2 hours working outside of class for every one hour in class. Since our class is a 4 hour class, you should expect to work an additional 8 hours per component outside of class time if you want to be successful.

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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 discussion participation, and an attitude that seeks to take full advantage of the education opportunity.

Instructor Attendance Policy:

Make attendance a priority. Attendance will be counted based on lecture attendance 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)

(<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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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.