

Fall 2024 Texas A & M-Commerce Math 2415 – Calculus III

This is the syllabus for Math 2415-Calculus III, Section 01E for Fall 2024. Please read it carefully. You will be responsible for all information given in the syllabus, and for any modification to it that may be announced in the semester.

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Office hours: MW: 2-3pm, W:10-11am, TR: 11am-12 pm, or by appointment.

Class meetings and room: MTWRF: 9:00-9:50am, BinB 326.

Text: *Calculus*, by James Stewart, 9th Edition published by Thompson Learning Inc.

Course Material: The material to be covered will include selected sections from chapters 12, 13, 14, 15, and 16.

Course Description: Advanced topics in calculus, including vectors and vector-valued functions, partial differentiation, Lagrange multipliers, multiple integrals, and Jacobians; application of the line integral, including Green's Theorem, the Divergence Theorem, and Stokes' Theorem. Prerequisite: Math 2414 with grade "C" or above.

Course Objectives: Upon successful completion of this course, the students will be able to

1. Demonstrate the ability to analyze and visualize curves, surfaces, and region in 2 and 3 dimensions, in Cartesian, polar, cylindrical, and spherical coordinate systems.
2. Perform calculus operations on vector-valued functions including limits, derivatives, integrals, curvature, and the description of motion in space.
3. Perform calculus operations on functions of several variables including limits, partial derivatives, directional derivatives, and multiple integrals.
4. Find and classify extrema and tangent planes of functions of two variables.
5. Apply the computational and conceptual principles of calculus to the solutions of various scientific and business applications.

Instruction: Instruction will include online lectures, demonstration and discussions.

Calculator & supplies: A graphing calculator is needed for this course. A TI 84 calculator is recommended.

Tests: There will be three midterm and a final exams for the course. The tentative schedules for the exams are:

Test 1: Sept. 20, Friday 9:00-9:50am.

Test 2: Oct. 18, Friday 9:00-9:50am.

Test 3: Nov.15, Friday 9:00-9:50am.

Final exam: The Final exam will be a comprehensive exam and is scheduled on **Dec. 11, Wednesday, 8:00am – 10:00am.**

Homework & Projects: Homework are assigned on a weekly basis. You are strongly recommended to work out homework assignments on a regular basis since **No one can learn mathematics without doing it!** The assigned homework problems will be collected to grade **once every two weeks** (See the last page for detailed homework due information). Some homework problems or the similars will be used as test questions.

Course grades: The course grade consists of

Homework & Quizzes:	15%
Three tests :	60%
Final exam:	25%.

The letter grades will be assigned using the following scale:

A: 90-100% B: 80-89% C: 70-79% D: 60-69% F: 0-59%

Withdrawal Policy: Concerning the deadlines and consequences of withdrawals please check on

<https://inside.tamuc.edu/admissions/registrar/academicCalendars/>

Tutoring & Help : A better way to learn math is to keep progress and leave no gaps in one's study. So please get help as soon as you need it and do not wait until it is too late. You are welcome to come to me or go to Math Skills Center located in **Bin 328** where you can find free tutors for help. The tutoring hours of Math Skills Center for the current semester are:

MTWR 10am – 6pm, and F 10am – 2pm

Academic Integrity: I have a **NO TOLERANCE** policy for cheating and if you are caught cheating you will fail this course. Cheating in this course includes the following:

- Giving or receiving answers during an exam or quiz.
- Viewing the exam or quiz answers of others.
- Having notes/practice work available during quizzes or tests.

- Possession or access to test items before the test is given.
- Deception in getting an excused absence to obtain the undeserved opportunity to make-up work.
- Use of cell phones or text messaging technology during exams or quizzes. You may not use the calculator on your cell phones.
- Improper citations in written works, or using another person's ideas and words as your own without giving proper credit.
- **Any** method, no matter how well rationalized or accepted, which improves a person's grade by any means other than study and skillful performances on exams and/or other assignments.

Students found guilty of an act of academic dishonesty in this course will be subject to receiving an "F" in this course.

Classroom Behavior: "All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment" (See Student's Guidebook). A&M-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

AI use policy: Texas A&M University-Commerce acknowledges that there are legitimate uses of Artificial Intelligence, ChatBots, or other software that has the capacity to generate text, or suggest replacements for text beyond individual words, as determined by the instructor of the course.

Any use of such software must be documented. Any undocumented use of such software constitutes an instance of academic dishonesty (plagiarism).

Individual instructors may disallow entirely the use of such software for individual assignments or for the entire course. Students should be aware of such requirements and follow their instructors' guidelines. If no instructions are provided the student should assume that the use of such software is disallowed.

In any case, students are fully responsible for the content of any assignment they submit, regardless of whether they used an AI, in any way. This specifically includes cases in which the AI plagiarized another text or misrepresented sources.

13.99.99.R0.03 Undergraduate Academic Dishonesty

13.99.99.R0.10 Graduate Student Academic Dishonesty

The information for students with disability: The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If

you have a disability requiring an accommodation, please contact: Office of Student Disability Resources and Services, Texas A&M University-Commerce, Gee Library, Room 132, Phone (903) 886-5150 or (903) 886-5835, Fax (903) 468-8148, email: StudentDisabilityServices@tamuc.edu

Counselling & Help: The Counseling Center at A&M-Commerce, located in the Halladay Building, Room 203, offers counseling services, educational programming, and connection to community resources for students. Students have 24/7 access to the Counseling Center's crisis assessment services by calling 903-886-5145. For more information regarding Counseling Center events and confidential services, please visit www.tamuc.edu/counsel

Campus Concealed Carry Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in Texas A&M University-Commerce buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and A&M-Commerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations. For a list of locations, please refer to (<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf>) and/or consult your event organizer). Pursuant to PC 46.035, the open carrying of handguns is prohibited on all A&M-Commerce campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.

Homework Assignment

The following homework assignments refer to problems in the 8th edition of the book. It is your responsibility to have the right edition of the book and work on the assigned homework problems.

Section 12.1: 2, 3, 6, 10, 11(a), 14, 18.

Section 12.2: 4, 5(a), (d), (e), 14, 17, 22, 24, 26.

Section 12.3: 4, 8, 18, 24, 44.

Section 12.4: 2, 4, 20, 28,34.

Section 12.5: 2, 8, 10, 26, 28, 33.

Section 12.6: 4, 12, 20, 21-28.

Section 13.1: 2, 4, 8, 12, 32.

Section 13.2: 6, 10, 14, 17, 22, 24.

Section 13.3: 2, 8, 14, 19, 47, 50.

Section 14.1: 10, 12, 15, 16, 22, 24.

Section 14.2: 5, 6, 10, 13, 30, 31.

Section 14.3: 17, 20, 21, 41, 64, 76 (a), (f).

Section 14.4: 1, 4, 12, 13, 21, 26, 30.

Section 14.5: 3, 4, 6, 10, 23, 32.

Section 14.6: 6, 8, 9, 12, 15, 23, 44.

Section 14.7: 1, 2, 6, 7, 9, 15, 33.

Section 15.1: 4, 10, 13, 16, 28, 32.

Section 15.2: 5, 7, 10, 17, 24, 40, 57.

Section 15.3: 7, 10, 19, 24, 25, 31.

Section 15.4: 4, 5, 8, 9, 11, 12.

Section 15.5: 1, 2, 5, 9, 10, 11, 12.

Section 15.6: 3, 5, 9, 10, 11, 13.

Section 15.7: 1(a), 2(a), 3(a), 4(a), 15, 19, 21.

Section 15.8: 1(a), 2(a), 3(b), 4(b), 17, 25, 30.

Section 15.9:

Section 16.1:

To be continued

Math 2415 Weekly Schedule

	Sections to be covered	Homework Due
W1	Sections 12.1, 12.2	
W2	Sections 12.3, 12.4	HW Due 9/6: Sections 12.1, 12.2, 12.3, 12.4
W3	Sections 12.5, 12.6	
W4	Sections 13.1, Review and Test 1.	HW Due 9/20: Sections 12.5, 12.6, 13.1
W5	Sections 13.2, 13.3	
W6	Sections 14.1, 14.2	HW Due 10/4: Sections 13.2, 13.3, 14.1, 14.2
W7	Sections 14.3, 14.4	
W8	Sections 14.5, Review and Test 2	HW Due 10/18: Sections 14.3, 14.4, 14.5
W9	Sections 14.6, 14.7	
W10	Sections 15.1, 15.2	HW Due 11/1: Sections 14.6, 14.7, 15.1, 15.2
W11	Sections 15.3, 15.4	
W12	Sections 15.5, Review and Test 3	HW Due 11/15: Sections 15.3, 15.4, 15.5
W13	Sections 15.6, 15.7	
W14	Sections 15.8, 15.9 & Thanksgiving	HW Due 12/05: Sections 15.6, 15.7, 15.8, 15.9
W15	Course Review	
W16	Final Exam	12/14, Wed. 8:00am-10:00am