

**Fall 2020. MATH2450. Section 011.**

## **Calculus III With Applications.**

**Instructor:** Luan Thach Hoang

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All time reference is Lubbock (Central) time.

**Classroom and Time:** This is an online course. There are NO official classroom and meetings. Students are responsible for learning the material, only contact the instructor during virtual office hours or by email.

**Office hours:** TR 9:00 a.m. - 10:50 a.m., online. Information will be sent to students.

**Course website:** <http://www.math.ttu.edu/~lhoang/2020Fall-M2450/>

**Prerequisite:** (at least a) C in Math 1352 or Math 1452.

**Text:** *CALCULUS*, by K. Smith, M. Strauss and M. Toda; 7th Edition published by Kendall Hunt.

**Course Description:** Partial differentiation, functions of several variables, multiple integrals, line integrals, surface integrals, Stokes Theorem. Applications and problem-solving are strongly emphasized. Partially fulfills Core Mathematics requirement.

### **Course Outline:**

- Chapter 9 – (9.1-9.4 for Review, 9.5-9.7) Vectors in the Plane and in Space (6 hours)
- Chapter 10 – (10.1-10.4) Vector-Valued Functions (5 hours)
- Chapter 11 – (11.1-11.8) Partial Differentiation (11 hours)
- Chapter 12 – (12.1-12.8) Multiple Integration (12 hours)
- Chapter 13 – (13.1-13.7) Vector Analysis (11 hours)

**Expected Learning Outcomes:** Students develop skills in differentiation and integration needed to solve problems in 3-dimensional space. In particular the students will master the concepts of

- tangent and normal vectors, and their geometric and physical interpretations
- partial derivatives, tangent planes, directional derivatives, and gradients, and how to compute them
- three-dimensional integration, and how to compute such integrals
- vector fields, divergence, and curl, and certain applications to the real world and other sciences

**Methods of Assessment of Learning Outcomes:** Assessment of the learning outcomes will be achieved through homework assignments, three midterm exams, and a final exam. The exams will have both multiple choice questions and comprehensive problems.

**Homework Assignments:** will be assigned weekly through Webwork. Students will receive the instructor's message for login information. Due dates are indicated on each assignment. Students should spend very first week to get familiar with the system.

**Webwork Link:** <https://webwork.math.ttu.edu/webwork2/f20lhoangm2450s011/>

**Grading Policy:** Homework will count for 25% of the grade. **However, your overall grade in the Homework at the end of the semester must be at least 50%, otherwise you automatically fail the course.** The lowest score for homework will be dropped. There will be three midterm exams in class, each will count for 15% of the grade. The final exam will count for 30% of the grade. All in-class exams are closed-book. No make-up exams are given unless legitimate documents for excuses are presented to the instructor at least a week in advance.

Grading Scale: A: 90%-100%, B: 80%-89%, C: 70%-79%, D: 60%-69%, F: below 60%

**Class Policies:** This is a distance class, all the students who enrolled in this class should be highly responsible in managing their schedule. This course moves very fast. If you fall behind, even by one section, you may not be able to catch up, since each section generally depends very heavily on the ones before. A student in this class has to be capable to read and understand the textbook. The instructor expects for the student to read each section of the textbook, watch the videos and read the class-notes available on the class website before attempting to solve the homework problems.

### **Examination Schedule:**

- Midterm 1: Friday, September 18, 7:00pm - 8:30pm, Online on Webwork.
- Midterm 2: Friday, October 16, 7:00pm - 8:30pm, Online on Webwork.
- Midterm 3: Friday, November 13, 7:00pm - 8:30pm, Online on Webwork.
- FINAL EXAM: Sunday, December 6, 4:30pm - 7:00pm, Online on Webwork.

### **Critical Dates:**

- Aug. 24: Classes begin.
- Aug. 27: Last day for student-initiated addition of a course on MyTech.
- Sep. 7: Labor Day. University Holiday.
- Sep. 9: Last day for student-initiated drop on MyTech without academic penalty (drop does not count against drop limit).
- Sep. 10: Student-initiated drop made on or after this date counts against drop limit.
- Nov. 24: Last day for student-initiated drop on MyTech with academic penalty (counts against drop limit).
- Nov. 25 - 29: Thanksgiving holiday. No classes.
- Nov. 24 - Dec. 2: No exams.
- Dec. 2: Last day of classes.

### **TTU OPs:**

ADA accommodations (TTU Operating Policy 34.22). Any student who, because of a disability, may require some special arrangements in order to meet course requirements should contact the instructor as soon as possible to make any necessary arrangements. Students should present appropriate verification from Student Disability Services, during the instructor's office hours. Please note instructors are not allowed to provide classroom accommodations to student until appropriate verification from Student Disability Services has been provided. For additional information, you may contact the Student Disability Services office at 335 West Hall or (806) 742-2405.

Absence for observance of a religious holy day (TTU Operating Policy 34.19). 1. "Religious holy day" means a holy day observed by a religion whose places of worship are exempt from property taxation under Texas Tax Code 11.20. 2. A student who intends to observe a religious holy day should make that intention known to the instructor prior to the absence. A student who is absent from classes for the observance of a religious holy day shall be allowed to take an examination or complete an assignment scheduled for that day within a reasonable time after the absence. 3. A student who is excused under Section 2 may not be penalized for the absence; however, the instructor may respond appropriately if the student fails to complete the assignment satisfactorily.

Academic Honesty (TTU Operating Policy 34.12). It is the aim of the faculty of Texas Tech University to foster a spirit of complete honesty and high standard of integrity. The attempt of students to present as their own any work not honestly performed is regarded by the faculty and administration as a most serious offense and renders the offenders liable to serious consequences, possibly suspension. "Scholastic dishonesty" includes, but is not limited to, cheating, plagiarism, collusion, falsifying academic records, misrepresenting facts, and any act designed to give unfair academic advantage to the student (such as, but not limited to, submission of essentially the same written assignment for two courses without the prior permission of the instructor) or the attempt to commit such an act.

**Illness-Based Absence Policy:** If at any time during this semester you feel ill, in the interest of your own health and safety as well as the health and safety of your instructors and classmates, you are encouraged not to attend face-to-face class meetings or events. Please review the steps outlined below that you should follow to ensure your absence for illness will be excused. These steps also apply to not participating in synchronous online class meetings if you feel too ill to do so and missing specified assignment due dates in asynchronous online classes because of illness.

**1. If you are ill and think the symptoms might be COVID-19-related:**

- a. Call Student Health Services at 806.743.2848 or your health care provider.
- b. Self-report as soon as possible using the Dean of Students COVID-19 webpage. This website has specific directions about how to upload documentation from a medical provider and what will happen if your illness renders you unable to participate in classes for more than one week.
- c. If your illness is determined to be COVID-19-related, all remaining documentation and communication will be handled through the Office of the Dean of Students, including notification of your instructors of the period of time you may be absent from and may return to classes.
- d. If your illness is determined not to be COVID-19-related, please follow steps 2.a-d below.

**2. If you are ill and can attribute your symptoms to something other than COVID-19:**

- a. If your illness renders you unable to attend face-to-face classes, participate in synchronous online classes, or miss specified assignment due dates in asynchronous online classes, you are encouraged to visit with either Student Health Services at 806.743.2848 or your health care provider. Note that Student Health Services and your own and other health care providers may arrange virtual visits.
- b. During the health provider visit, request a "return to school" note.
- c. E-mail the instructor a picture of that note.
- d. Return to class by the next class period after the date indicated on your note.

Following the steps outlined above helps to keep your instructors informed about your absences and ensures your absence or missing an assignment due date because of illness will be marked excused. You will still be responsible to complete within a week of returning to class any assignments, quizzes, or exams you miss because of illness.

**Alert:** This is a 4-hour credit course. It is important, difficult, fast and intense. Students must work hard or very hard to stay on top of it!

*NOTE:* When needed, the instructor will communicate with the students using their TTU email addresses. At the beginning of the semester, the instructor will send out two special email messages. One is to confirm the students' email addresses, the other one is about Webwork. If a student does not receive those messages by Tuesday, August 25, 2020, he/she must contact the instructor immediately.

**Handouts:** See updates on the course's webpage. More will be communicated with the students.

- [Syllabus](#)

**Links:** See updates on the course's webpage. More will be communicated with the students.

- [WeBWork](#)
- [How to Enter Answers in WeBWorK \(Prof. D. Gilliam\)](#)