Mathematics 2450, Section 021 (Fall 2021): Calculus III with Applications

Lectures: TuTh 9:30–11:30 in MATH 16
Instructor: Dmitri Pavlov (Assistant Professor)
Teaching assistant: Nicholas Taylor
Tutoring (by TA): TuTh 12:30–2, Weeks Hall 304, or email tay97575@ttu.edu for an individual appointment (including Zoom sessions);
Midterms: September 23, October 28
Comprehensive final exam: Tuesday, December 7, 10:30–1:00
Website: https://dmitripavlov.org/#teaching
Homework: https://webwork.math.ttu.edu/webwork2/f21dpavlovm2450s021/
Questions about homework: use WeBWorK's "Email instructor" button
Questions about mathematics, including lectures, textbook, homework: tay97575@ttu.edu; in person: Weeks Hall 304, TuTh 12:3–2
Questions about enrolling/dropping class, missed exams, logins/passwords: dmitri.pavlov@ttu.edu; in person: MATH 117C
Prerequisites: C or better in MATH 1452 or consent of department.
Official textbook: K. Smith, M. Strauss, M. Toda. Calculus. Kendall Hunt. (No access code necessary.)
Last day to add a course: August 26
Last day to drop a course without academic penalty: September 8
Last day to drop a course with academic penalty: November 23
Last day of classes: December 1

1 Special policies for the Fall 2021 semester

The policies documented in the given link apply during the Fall 2021 semester:
https://www.depts.ttu.edu/provost/downloads/August-2021-Update-Academic-Affairs-COVID-19-Guidance.pdf

2 Course outline

Partial differentiation, functions of several variables, multiple integrals, line integrals, surface integrals, Stokes theorem. Applications and problem-solving are strongly emphasized.

3 Expected learning outcomes

Upon the completion of this course students will be able to solve problems on topics described in the course outline.

4 Assessment of learning outcomes

Homework will be assigned using the WeBWorK system. Usernames and passwords will be distributed via TTU email. All homework must be submitted on or before the last day of classes.

Two midterms and a comprehensive final exam will be administered at designated days. Each exam will be administered in class. Assigned seating may be used for exams.

There will be no makeup exams. Absences at midterms excused in accordance with TTU operating policies (see below) will result in a pro rata rescaling of the remaining exam points.

Announcements about midterms will be made via TTU email. Students are required to check their TTU email regularly for updates.

5 Criteria for grade determination

The final score will be computed by adding points as follows:

- homework (48.4 points)
- two midterm exams (15 points each),
- comprehensive final exam (23 points).

The final grade is assigned according to the following rubric:

$$[0, 60) \mapsto \mathrm{F}, \mathrm{D}, \quad [60, 70) \mapsto \mathrm{D}, \quad [70, 80) \mapsto \mathrm{C}, \quad [80, 90) \mapsto \mathrm{B}, \quad [90, 100) \mapsto \mathrm{A}, \quad [100, \infty) \mapsto \mathrm{A}+.$$

There is a 1.4-point curve built in the grading system. No other curves will be applied.

Homework is graded automatically by the WeBWorK system. A total of 242 homework problems will be assigned, each problem is worth 0.2 points.

Any multiple-choice problem on the final exam is worth 1 point.

Any other problem on the midterms and final exam is worth 3 points, which are assigned as follows.

- 3 points: the final answer is correct, all intermediate steps and claims are correct, no missing steps;
- 2 points: arithmetic mistakes, i.e., getting to 3 points requires adjusting only some numbers;
- 1 point: parts of the solution can be reused as at least 1/3 of a correct solution;
- 0 points: everything else, including submissions that merely give the correct answer.

6 Regrading policy

Questions about the WeBWorK system possibly grading a homework problem incorrectly should be addressed directly to the teaching assistant using WeBWorK's interface.

Grade disputes for exam problems are resolved as follows:

- A successful appeal to increase the grade to 2 points requires the student to demonstrate how to change some numbers in the solution (and nothing else) to get a correct solution.
- A successful appeal to increase the grade to 1 point requires the student to provide a written correct solution to the problem such that at least 1/3 of this solution duplicates (with no nonnumerical changes) parts of the original solution, in an essential way, so that removing any of these parts will not result in a correct solution.

7 Equipment

If a modality shift happens during the semester, the following equipment is required:

- A computer equipped with a webcam, microphone, and speakers;
- A stable Internet connection with a downstream speed of 50 Mbps or higher.

8 Operating policy 34.04, §4: Class attendance

Except for documented emergency room visits, advance notification is required for any excused class absences (including midterms).

- Department chairpersons, directors, or others responsible for a student representing the university on officially approved trips must notify the student's instructors of the departure and return schedules.
- In case of an illness that will require an absence from class for more than one week, the student should notify her/his academic dean. The dean's office will inform the student's instructors through the departmental office. In case of class absences because of a brief illness, the student should inform the instructor directly.
- Refer to OP 34.19, Student Absence for Observance of Religious Holy Days, for information regarding an absence to observe a religious holy day.

9 Operating policy 34.19: Student absence for observance of religious holy day

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 in writing 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.

10 Operating policy 34.22, §2a: Reasonable accommodation for students with disabilities

Any student who, because of a disability, may require special arrangements in order to meet the 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 a student until appropriate verification from Student Disability Services has been provided. For additional information, please contact Student Disability Services in West Hall or call 806.742.2405.

11 Operating policy 34.12, §4: Texas Tech University Statement of Academic Integrity

Academic integrity is taking responsibility for one's own class and/or course work, being individually accountable, and demonstrating intellectual honesty and ethical behavior. Academic integrity is a personal choice to abide by the standards of intellectual honesty and responsibility. Because education is a shared effort to achieve learning through the exchange of ideas, students, faculty, and staff have the collective responsibility to build mutual trust and respect. Ethical behavior and independent thought are essential for the highest level of academic achievement, which then must be measured. Academic achievement includes scholarship, teaching, and learning, all of which are shared endeavors. Grades are a device used to quantify the successful accumulation of knowledge through learning. Adhering to the standards of academic integrity ensures grades are earned honestly. Academic integrity is the foundation upon which students, faculty, and staff build their educational and professional careers. (Texas Tech University Quality Enhancement Plan, Academic Integrity Task Force, 2010.)