

MATH 251 Multivariable Calculus, Section 002
MWF 9:30-10:20, Oglebay Hall 107; T 10:00-10:50, Chitwood Hall 102

Instructor Tony Se
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Office Hours MTWTh 2:00-3:00 pm, or by appointment

Final Exam

Tuesday, May 05, 2pm - 4pm, Location TBD

General Course Information

Method of Instruction: Lecture

Credit Hours: 4

Course Prerequisites: MATH 156 with a grade of C- or better

Where to Find Help

If you need help with the material in this course, you can come to my office hours, ask a tutor in one of the Math Learning Centers, or visit any MATH 251 instructor who holds open office hours. Please make good use of these free services. More details will be posted on eCampus. You can also ask me questions through email.

Course Materials

Textbook

Calculus: Early Transcendentals, 8th Edition, by James Stewart

This is the same textbook that is currently used in Math 153, 154, 155, and 156. Instead of obtaining a hard copy, you may read the e-book once you have purchased access to WebAssign (see below).

WebAssign

You are required to purchase access to WebAssign for this class. Everyone has free access for two weeks, but fees must be paid by the end of the second week of classes. If you purchased multi-semester access in 155, 156, or a previous attempt at 251, you should be able to continue using it. If you have trouble, let me know.

To log into WebAssign, go to eCampus and select this course. Click the link in the left toolbar. If you have a WebAssign account from a previous class and purchased multi-semester access, but did NOT log into WebAssign using eCampus, you will need to link the two accounts. You should have an option to do this in WebAssign or you can contact WebAssign tech support.

If you miss any WebAssign deadline, you can still complete your missed assignment by requesting an automatic extension on WebAssign. Note that 5% of the total assignment score will be deducted for each day past the deadline.

Calculators

No calculators are allowed on any exam.

eCampus

Information about this course will be posted on eCampus. Please check eCampus regularly for announcements, classwork, homework and exam solutions, your grade, etc. Any updates to this syllabus will also be posted on eCampus.

Course Description

Introduction to solid analytic geometry, vector algebra, and calculus of several variables.

Major Topics

- An Introduction to Linear Algebra
- Vectors and the Geometry of Space
- Vector Functions
- Partial Derivatives and Applications
- Multiple Integrals
- Vector Calculus

Expected Learning Outcomes

- Calculate the determinant of a matrix
- Solve a system of linear equations using Gaussian elimination
- Perform standard operations on vectors in two-dimensional and three-dimensional space and use these operations to analyze a given circumstance
- Identify, construct, and roughly sketch/describe lines, planes, and quadric surfaces in three-dimensional space
- Apply the calculus techniques of differentiation and integration to solve problems involving vector-valued and multivariable functions
- Identify and analyze vector fields
- Calculate integrals using various forms of the Fundamental Theorem of Calculus

Course Outline

We will cover the major topics in roughly the following order: Linear Algebra, and Chapters 12, 13, 14, 15, 16.

Attendance Policy

Attendance points will be part of your classwork. No make-up classwork will be given, but some of the lowest scores of your classwork will be dropped at the end of the semester. You are encouraged to come to the office hours or ask other students for class notes if you want to learn the material that you missed while you were absent.

Grading Scale

Breakdown of Points

Classwork	50
Homework	50
WebAssign	50
Four Midterms	400
Final Exam	200
Total	750

Conversion between Points and Letter Grade

A	675
B	600
C	525
D	450
F	<450

Grading

In this course you will be graded not only on your ability to obtain the correct answer to a problem, but also on your ability to use the problem solving methods taught in this course and your ability to justify your work. A correct answer without supporting work will be given no credit.

Exams

You will have four midterm exams during the semester. See the calendar below for the tentative exam dates.

If you know in advance that you will miss a midterm exam for a university-excused absence (for example, you are participating in a university athletics event), we will arrange a make-up, but you must notify me at least **one week** before the scheduled exam. If you miss a midterm exam for any other reason, you will get 0 for the exam.

Your lowest midterm score will be replaced by the average of the percentage scores on your lowest midterm exam and your Final Exam, whichever is higher. Your Final Exam score cannot be replaced.

Calendar

01/13	Monday	First day of classes
01/17	Friday	Last day to add a class
01/20	Monday	Martin Luther King Jr. Day (no class)
02/05	Wednesday	Exam 1
02/28	Friday	Exam 2
03/14	Saturday	Spring Break begins
03/23	Monday	Classes resume
04/01	Wednesday	Exam 3
04/10	Friday	Good Friday (no class)
04/17	Friday	Withdrawal deadline
04/24	Friday	Exam 4
05/01	Friday	Last day of classes
05/05	Tuesday	Final Exam, 2:00-4:00pm

Adverse Weather Commitment

In the event of inclement or threatening weather, you should use your best judgment regarding travel to and from campus. Safety should be the main concern. If you cannot get to class because of adverse weather conditions, you should contact me as soon as possible. Similarly, if I am unable to reach our class location, I will notify you of any cancellation or change as soon as possible on eCampus.

Academic Integrity

Students are required to abide by the Math Department Examination Policy (see attached).

The integrity of the classes offered by any academic institution solidifies the foundation of its mission and cannot be sacrificed to expediency, ignorance, or blatant fraud. Therefore, I will enforce rigorous standards of academic integrity in all aspects and assignments of this course. For the detailed policy of West Virginia University regarding the definitions of acts considered to fall under academic dishonesty and possible ensuing sanctions, please see the West Virginia University Academic Catalog at <http://catalog.wvu.edu/undergraduate/coursecreditstermsclassification/#academicintegritytext>. Should you have any questions about possibly improper research citations or references, or any other activity that may be interpreted as an attempt at academic dishonesty, please see me before the exam or quiz to discuss the matter.

Sale of Course Materials

All course materials, including lectures, class notes, quizzes, exams, handouts, presentations, and other materials provided to students for this course are protected intellectual property. As such, the unauthorized purchase or sale of these materials may result in disciplinary sanctions under the Campus Student Code.

Inclusivity Statement

The West Virginia University community is committed to creating and fostering a positive learning and working environment based on open communication, mutual respect, and inclusion.

If you are a person with a disability and anticipate needing any type of accommodation in order to participate in this class, please advise me and make appropriate arrangements with the Office of Accessibility Services (293-6700).

For more information on West Virginia University's Diversity, Equity, and Inclusion initiatives, please see <http://diversity.wvu.edu>

Student Evaluation of Instruction

Effective teaching is a primary mission of West Virginia University. Student evaluation of instruction provides the university and the instructor with feedback about your experiences in the course for review and course improvement. Your participation in the evaluation of course instruction is both strongly encouraged and highly valued. Results are strictly confidential, anonymous, and not available to the instructor until after final grades are released by Admissions and Records. Information about how you can complete this evaluation will be provided later.

Last updated: January 13, 2020

Math Department Examination Policy

Students are required to adhere to the University's standards of academic integrity. To safeguard our education standards, the Math Department has the following policy for all courses Math 121 through Math 261:

- 1) No electronic devices are permitted on your person in any test, assessment or exam. This includes cell phones, watches, or other devices that have the capability to send/receive electronic communications or photos. The course coordinator may allow calculators or access to a graphing utility. Please check course syllabus for calculator permissions.
- 2) Unapproved materials and attempting to view other students work will not be permitted.
- 3) Absolutely no communication of any kind is permitted between students during any tests/exams. No talking is permitted.
- 4) Students may not arrive late for an exam. If a student arrives in the room once test distribution has begun, the student may not be permitted to test.
- 5) All students should have their WVU ID on their person and available to present if requested.
- 6) Students taking tests in one of the Math labs must attend the lab section for which they are registered and must swipe their WVU student ID. Students CANNOT test during a section for which they are not registered and cannot test without their WVU ID in the lab. No exceptions.
- 7) Students may not conceal/alter/misrepresent their identity.
- 8) Students should expect the following:
 - a) Sanctions for any question in which work/calculations do not support the answer.
 - b) Audio/video/still recordings of students during testing.
 - c) Cannot leave the room during testing and return to the test (use restroom prior to testing).
 - d) Empty pockets if requested by an instructor or proctor
 - e) Request to move or sit in an assigned seat.
- 9) Students should expect knowledge checks by instructors to verify their mastery of the knowledge covered in exams.

Violations to any of the above policies will have sanctions including:

- Grade reduction on a test
- Grade reduction for the course
- F for the test
- F/UF for the course
- Recommendation for academic probation
- Recommendation for dismissal from the institution

Multiple violations, including violations in other or previous courses will result in a recommendation for suspension or dismissal from WVU.

Please refer to your syllabus for a course specific sanctions. The University/College appeal procedure will be followed.