ASU School of Mathematical & Statistical Sciences

MAT 267 - CALCULUS III FOR ENGINEERS - FALL 2024

INSTRUCTOR: Scott Surgent	OFFICE: ECA-208
CLASS TIMES/LOCATIONS: T-Th 4:30-5:45pm SCOB-152 SLN 61511 T-Th 6:00-7:15pm SCOB-252 SLN 62556	EMAIL: surgent at asu dot edu
	OFFICE HOURS: T-Th 3-4pm

Disclaimer: All items on this syllabus are subject to change. Any in-class or Canvas announcement, verbal or written, is considered an official addendum to this syllabus.

Session C: (16 Weeks) 8/22/2024 – 12/10/2024.

Prerequisites: MAT 266 or MAT 271 (Calculus II) or its equivalent with a grade C or better.

Catalog Description: Vector-valued functions of several variables, partial derivatives, multiple integration.

Textbook: *Essential Calculus , Early Transcendentals, 2nd Edition* by James Stewart, Thomson (Brooks/Cole). The book is not required, but is highly recommended as a learning aid.

Canvas: There will be a Canvas site for announcements, grade documentation and learning resources that can be accessed through MyASU.

Calculators: A graphing calculator (e.g. TI83 or TI84 or Casio CFX-9850GB Plus) is highly recommended for this class. Calculators with CAS capabilities will not be allowed during exams.

Homework: All homework for this class will be through Edfinity, an online homework program. A link will be provided on the Canvas site, and more detailed information is given on page 3.

Quizzes: Quizzes will be given randomly in class. You must be in attendance to receive credit for the quizzes. No make-ups will be allowed. All quizzes are open book and you will be allowed to work with a partner and ask me for help if needed. The lowest quiz score will be dropped from your final grade calculation.

Midterms: There will be 3 midterm exams throughout the semester. Make-up tests will only be granted in the event of a documented emergency and the instructor must be notified before the test is given.

Final Exam: There will be a comprehensive final exam at the end of the semester, worth 25% of your grade.

Final Exam Date: Tuesday, 12/10/24, 7:10-9:00 PM, Location TBA

TENTATIVE DATES FOR LECTURES AND EXAMS
(Subject to change)

Week	*Dates*	*Sections*
1	Aug 22	Intro, 10.1: 3D Coordinate Systems
2	Aug 27, 29	10.2 Vectors 10.3 The Dot Product
3	Sep 3, 5	10.4 The Cross Product 10.5 Equations of Lines & Planes
4	Sep 10, 12	10.7 Vector Functions & Space Curves 10.8 Arc Length & Curvature
5	Sep 17, 19	10.9 Motion in Space 11.1 Functions of Several Variables 11.3 Partial Derivatives
6	Sep 24, 26	11.4 Tangent Planes & Linear Approximations **TEST 1 on 9/26 (Sections 10.1 – 10.9)**
7	Oct 1, 3	11.5 The Chain Rule 11.6 Directional Derivatives & The Gradient Vector
8	Oct 8, 10	11.7 Maximum & Minimum Values 12.1 Double Integrals over Rectangles
9	Oct 15, 17	12.2 Double Integrals Over General Regions 12.3 Double Integrals in Polar Coordinates
10	Oct 22, 24	12.5 Triple Integrals **TEST 2 on 10/24 (11.1-11.7, 12.1-12.3)**
11	Oct 29, 31	12.6 Triple Integrals in Cylindrical Coordinates 12.7 Triple Integrals in Spherical Coordinates
12	Nov 5, 7	13.1 Vector Fields 13.2. Line Integrals
13	Nov 12, 14	13.3 The Fundamental Theorem for Line Integrals 13.4 Green's Theorem
14	Nov 19, 21	13.5 Curl & Divergence **TEST 3 on 11/21 (12.5-12.7, 13.1 – 13.4)**
15	Nov 26, 28	13.6 Parametric Surfaces & Their Areas Thanksgiving, no class 11/28-29
16	Dec 3, 5	13.7 Surface Integrals Final exam review
17	Dec 10	**Final Exam (Cumulative and including 13.5-13.7)**

TESTS/QUIZZES/HOMEWORK

10% **Quizzes:** Quizzes are given randomly to encourage attendance and no make-ups will be allowed. All quizzes will be open-note activities and students can work alone or with a partner, if they are comfortable with it. The lowest quiz score will be dropped from the final grade calculation.

15% **Homework:** All homework will be submitted online using the Edfinity platform. Edfinity contains questions pertaining to each topic, the due dates for which are listed on the website. **No extension of due dates will be given**. To enroll in our Edfinity section, please follow the steps below:

1. **Important**: Upgrade to the latest version of Google Chrome or Firefox on a Windows/Mac computer. Other browsers such as Safari may cause issues when you access Edfinity via Canvas.
2. Log into your Canvas course.
3. Click on the Edfinity link in the Course Navigation Menu (on the left side of Canvas) to launch into Edfinity - you will automatically be signed into Edfinity. You **should not** sign up directly at edfinity.com.
4. The first time you access Edfinity, you will be prompted to either pay using a debit/credit card ($35) **OR** enter an access code. If you need to purchase through the Bookstore due to financial aid or scholarship, you can use this direct link: https://www.bkstr.com/arizonastatestore/product/edfinity-with-office-hours-610030-1.
5. Please enroll directly on Edfinity. This guarantees you the best price available ($35). If (and only if) you are on financial aid, purchase Edfinity access codes through the bookstore. Remember, enrolling on Edfinity is the most cost-effective option. There is a 2-week grace period during which you may drop the course and receive a refund.

50% **Midterm Tests:**
Test 1: Thursday 9/26 (Sections 10.1 – 10.9)
Test 2: Thursday 10/24 (Sections 11.1-11.7, 12.1-12.3)
Test 3: Thursday 11/21 (Sections 12.5-12.8, 13.1 – 13.4)

25% **Final Exam:** The final exam will be on **Tuesday, Dec 10, 7:10-9:00 PM.** Location TBA. (The final is comprehensive and includes 13.5-13.7)

- **Course Withdrawal Deadline**: the last day to withdraw from the class is 11/5/2024.
- **Complete Withdrawal Deadline:** the last day to withdraw from all your classes is 12/5/2024.

GRADING SCALE

Grades will be based on your overall weighted percentage. The letter grade assignments are shown below.

A: [90, 100]; B: [80,90); C: [70,80); D: [60,70), E: [0,60)

TUTORING

- The **Math Tutor Center** (**free of charge**) in WXLR A 116 will be open M-Th 10:00 a.m. - 5:00 p.m., Fri. 10:00 a.m. - 3:00 p.m.

- The **Engineering Tutoring Center** provides tutoring in ECF 102 and ECG 104.

- The **ASU Math Community Center** in WXLR A 303 is an excellent place to get help for this class. The MCC is open M-Th, 9:30am to 5pm, Friday 9:30am-4:00pm.

SoMSS and University Policies

CLASS MODALITY

This is an in-person class only, as designated in the ASU class schedule. There will be no Zoom live-streaming available, and lectures will not be recorded.

EXAMS

All exams will be taken in the classroom on the dates indicated in the syllabus.

Non-CAS graphing calculators are allowed on the exams, but graphing calculators that do symbolic algebra are not allowed on the exams (see below). Your calculator may be viewed during exams, and it will be taken away if it is a CAS calculator or have its memory cleared if anything suspicious is written therein. The instructor has the right to regard any suspicious material in your calculator memory as cheating.

Any student who accesses a phone or any internet-capable camera device during an exam for any reason automatically receives a score of zero on the exam. All such devices must be turned off and put away and made inaccessible during the exam.

CLASSROOM BEHAVIOR

Classroom disturbances such as talking loud or showing disrespect to students/faculty will not be tolerated. Electronic media devices such as cell phones, tablets, laptops, music players, etc. are strictly prohibited in class and must be turned off and put away during the duration of class.
An instructor may withdraw a student from a course when the student's behavior disrupts the educational process under USI 201-10 http://www.asu.edu/aad/manuals/usi/usi201-10.html
Students are required to adhere to the ABOR Student Code of Conduct:
http://www.asu.edu/studentaffairs/reslife/outreach/abor_code.htm

FINAL EXAM MAKE UP POLICIES

The final exam schedule listed in the Schedule of Classes will be strictly followed. Except to resolve those situations described below, no changes may be made in this schedule without prior approval of the Dean of the college in which the course is offered. Under this schedule, if a conflict occurs, or a student has more than three exams on one day, the instructors may be consulted about an individual schedule adjustment. If necessary, the matter may be pursed further with the appropriate dean(s). This procedure applies to conflicts among any combination of Downtown Phoenix campus, Tempe campus, Polytechnic campus, West campus, and/or off campus class.

Make-up exams will NOT be given for reasons of a non-refundable airline tickets, vacation plans, work schedules, weddings, family reunions, and other such activities. Students should consult the final exam schedule before making end-of-semester travel plans Exceptions to the schedule and requests for make-up examinations can be granted only by the Department Chair, Associate Department Chair or the Director of First Year Mathematics, and for one of the following reasons:

1. Religious conflict (e.g., the student celebrates the Sabbath on Saturday)

2. The student has more than three exams scheduled on the same day as the math final

3. There is a time conflict between the math final and another final exam.

INCOMPLETE

If there is a last-minute personal or medical emergency, the student may receive a grade of Incomplete and make up the final within one calendar year. The student must provide written documentation and be passing the class at the time to receive an Incomplete. Make-up exams will NOT be given for reasons of a non-refundable airline tickets, vacation plans, work schedules, weddings, family reunions, and other such activities. Students should consult the final exam schedule before making end-of-semester travel plans. *The Dean of the student's college must approve any exceptions to these rules.*

ACADEMIC INTEGRITY

Academic honesty is expected of all students in all examinations, papers, laboratory work, academic transactions and records. The possible sanctions include, but are not limited to, appropriate grade penalties, course failure (indicated on the transcript as a grade of E), course failure due to academic dishonesty (indicated on the transcript as a grade of XE), loss of registration privileges, disqualification and dismissal. For more information, see http://provost.asu.edu/academicintegrity.

DISABILITY ACCOMODATIONS

Qualified students with disabilities who require accommodations are encouraged to make their requests to me at the beginning of the semester either during office hours or by appointment. Note: Prior to receiving disability accommodations, verification of eligibility from the Students Accessibility and Inclusive Learning Services (SAILs) office is required. Disability information is confidential.

Students who feel they will need disability accommodations in this class but have not registered with SAILs should contact them immediately. Their office is located on the first floor of the Matthews Center Building. SAILs staff can also be reached at: 480-965-1234 (V), 480-965-9000 (TTY). For additional information, visit: www.asu.edu/studentaffairs/ed/drc. Their hours are 8:00 AM to 5:00 PM, Monday through Friday.

POLICY ON THREATENING BEHAVIOR

All incidents and allegations of violent or threatening conduct by an ASU student (whether on-or off campus) must be reported to the ASU Police Department (ASU PD) and the Office of the Dean of Students. If either office determines that the behavior poses or has posed a serious threat to personal safety or to the welfare of the campus, the student will not be permitted to return to campus or reside in any ASU residence hall until an appropriate threat assessment has been completed and, if necessary, conditions for return are imposed. ASU PD, the Office of the Dean of Students, and other appropriate offices will coordinate the assessment in light of the relevant circumstances.

EXCUSED ABSCENCES

Absences related to religious observances/practices: If you will be absent from class due to a religious observance or practice, it is your responsibility to inform the instructor during the first week of class. Your instructor will work with you on alternative and reasonable arrangements for any time missed.

Absences related to university sanctioned events and activities: If you will be absent from class due to participation in a university sanctioned event/activity, it is your responsibility to inform the instructor during the first week of class. Your instructor will work with you on alternative and reasonable arrangements for any time missed.

Absences related to illness or quarantine: If you will be unable to attend class due to an illness or quarantine, it is your responsibility to notify the instructor and speak with them about possible accommodations based on your circumstances.

INCLUSION

The School of Mathematical and Statistical Sciences encourages faculty to address and refer to students by their preferred name and gender pronoun. If your preferred name is different than what appears on the class roster, or you would like to be addressed using a specific pronoun, please let your instructor know.

TITLE IX

Title IX is a federal law that provides that no person be excluded on the basis of sex from participation in, be denied benefits of, or be subjected to discrimination under any education program or activity. Both Title IX and university policy make clear that sexual violence and harassment based on sex is prohibited. An individual who believes they have been subjected to sexual violence or harassed on the basis of sex can seek support, including counseling and academic support, from the university. If you or someone you know has been harassed on the basis of sex or sexually assaulted, you can find information and resources at https://sexualviolenceprevention.asu.edu/faqs.

> As a mandated reporter, I am obligated to report any information I become aware of regarding alleged acts of sexual discrimination, including sexual violence and dating violence. ASU Counseling Services, https://eoss.asu.edu/counseling, is available if you wish discuss any concerns confidentially and privately.

DISCLAIMER

This syllabus is tentative and should not be considered definitive. The instructor reserves the right to modify it (including the dates of the tests) to meet the needs of the class. It is the student responsibility to attend class regularly and to make note of any change.