

MAT 267 - CALCULUS III FOR ENGINEERS - FALL 2023 ONLINE

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| INSTRUCTOR: Scott Surgent | OFFICE: ECA-208 |
| CLASS TIMES/LOCATIONS: Online, worldwide | EMAIL: surgent@asu.edu WEBSITE: www.surgent.net/math |
| | OFFICE HOURS: TBA |

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 A: (7.5 Weeks) 8/17/2023 – 10/6/2023.

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).

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

WebWork: All homework for this class will be through WebWork, an online homework program. The URL is <http://webwork.asu.edu>. A link will also be provided on the Canvas site.

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.

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.

Email Policy: All communication between student and professor must be through the ASU email.

DATES FOR TOPICS AND EXAMS (Subject to change)

Week 1 Aug 17-26

- 10.1: 3D Coordinate Systems
- 10.2: Vectors
- 10.3: The Dot Product
- 10.4: The Cross Product

Week 2 Aug 27-Sep 2

- 10.5: Equations of Lines & Planes
- 10.7: Vector Functions & Space Curves
- 10.8: Arc Length & Curvature
- 10.9: Motion in Space
- Midterm 1 (10.1-10.9) Tuesday September 5

Week 3 Sep 3-Sep 9

- 11.1: Functions of Several Variables
- 11.3: Partial Derivatives
- 11.4: Tangent Planes & Linear Approximations
- 11.5: The Chain Rule

Week 4 Sep 10-Sep 16

- 11.6: Directional Derivatives & The Gradient Vector
- 11.7: Maximum & Minimum Values
- 12.1: Double Integrals over Rectangles
- 12.2: Double Integrals Over General Regions

Week 5 Sep 17-Sep 23

- 12.3: Double Integrals in Polar Coordinates
- 12.5: Triple Integrals
- 12.6: Triple Integrals in Cylindrical Coordinates
- 12.7: Triple Integrals in Spherical Coordinates
- Midterm 2 (11.1-12.3) Monday September 18

Week 6 Sep 24-Sep 30

- 13.1: Vector Fields
- 13.2: Line Integrals
- 13.3: The Fundamental Theorem for Line Integrals
- 13.4: Green's Theorem

Week 7 Oct 1-Oct 6

- 13.5: Curl & Divergence
- 13.6: Parametric Surfaces & Their Areas
- 13.7: Surface Integrals
- Midterm 3 (12.5-13.7) Friday October 6

Videos: https://mathcast.la.asu.edu:446/course_details/MAT267

- **Course Withdrawal Deadline:** the last day to withdraw from the class is 11/1/2023.
- **Complete Withdrawal Deadline:** the last day to withdraw from all your classes is 12/1/2023.

GRADING SCALE

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

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

Exam I: 30%, Exam 2: 30%, Exam 3 (final): 30%, Webwork: 10%

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 pursued 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.