MAT 267 - CALCULUS III FOR ENGINEERS – SPRING 2024

INSTRUCTOR: S. Nikitin	OFFICE: WXLR 436
CLASS TIME: 10:30-11:45 am, 1:30-2:45 pm	EMAIL: nikitin@asu.edu
CLASS LOCATION:WXLR A118 (10:30-11:45am), SCOB 150 (1:30-2:45 pm)	OFFICE HOURS: Tu.Th.9:15 am – 10:15 am (by appointment)

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) 1/8/2024 – 4/26/2024.

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 (optional): *Essential Calculus , Early Transcendentals, 2nd Edition* by James Stewart, Thomson (Brooks/Cole). For those who purchased the ebook, it will be accessible through Canvas via the Brytewave Course Materials link.

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.

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 20% of your grade.

Final Exam Date: Tuesday, 4/30/24, 7:10-9:00 PM, Location NEEB 105

TENTATIVE DATES FOR LECTURES AND EXAMS
(Subject to change)

Week	Dates	Sections
1	1/8-1/12	10.1: 3D Coordinate Systems 10.2 Vectors 10.3 The Dot Product
2	1/15-1/19	MLK Day, University closed 1/15 10.4 The Cross Product 10.5 Equations of Lines & Planes
3	1/22-1/26	10.7 Vector Functions & Space Curves 10.8 Arc Length & Curvature
4	1/29-2/2	10.9 Motion in Space 11.1 Functions of Several Variables
5	2/5-2/9	11.3 Partial Derivatives **TEST 1 on 2/8 (Sections 10.1 – 10.9)**
6	2/12-2/16	11.4 Tangent Planes & Linear Approximations 11.5 The Chain Rule
7	2/19-2/23	11.6 Directional Derivatives & The Gradient Vector 11.7 Maximum & Minimum Values
8	2/26-3/1	12.1 Double Integrals over Rectangles 12.2 Double Integrals Over General Regions 12.3 Double Integrals in Polar Coordinates
9	3/4-3/8	Spring Break, No class
10	3/11-3/15	12.5 Triple Integrals **TEST 2 on 3/14 (11.1-11.7, 12.1-12.3)**
11	3/18-3/22	12.6 Triple Integrals in Cylindrical Coordinates 12.7 Triple Integrals in Spherical Coordinates
12	3/25-3/29	13.1 Vector Fields 13.2. Line Integrals
13	4/1-4/5	13.3 The Fundamental Theorem for Line Integrals 13.4 Green's Theorem
14	4/8-4/12	13.5 Curl & Divergence **TEST 3 on 4/11 (12.5-12.7, 13.1 – 13.4)**
15	4/15-4/19	13.5 Curl & Divergence 13.6 Parametric Surfaces & Their Areas
16	4/22-4/26	13.7 Surface Integrals Final Exam Review
17	4/29-5/3	**Final Exam (Cumulative and including 13.5-13.7)**

TESTS/QUIZZES/HOMEWORK

EC Work in class is a source of extra credit points. Each successfully solved and presented in class problem is worth 1% of the total class grade. In order to have better chance of improving your grade you can solve problems from webwork ahead of class schedule and come to class prepared in order to solve similar problems in class. All extra credit problems considered in class are taken directly from webwork or minor modifications of webwork problems. All materials (mathematical statements and necessary formulas in PDF format) needed for extra credit quizzes (if any) will be posted in Canvas or at https://www.public.asu.edu/~nikitin/

12% **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.

10% **Homework:** The homework will be through WeBWorK, an on-line homework program that gives students instant feedback on their answers. The URL is http://webwork.asu.edu. Each assignment will be open for several days with ample time to complete it. All free-response questions will be given unlimited attempts, but multiple-choice questions will only allow a limited number of attempts. Homework due dates will be strictly enforced and will not be extended on an individual basis.

48% **Midterm Tests:**
Test 1: Thursday 2/8 (Sections 10.1 – 10.9)
Test 2: Thursday 3/14 (Sections 11.1-11.7, 12.1-12.3)
Test 3: Thursday 4/11 (Sections 12.5-12.8, 13.1 – 13.4)

30% **Final Exam:** The final exam will be on **Tuesday, April 30, 7:10-9:00 PM.** Location NEEB 105. (The final is   comprehensive and includes 13.5-13.7)

- **Course Withdrawal Deadline**: the last day to withdraw from the class is 3/31/2024.
- **Complete Withdrawal Deadline:** the last day to withdraw from all your classes is 4/26/2024.

GRADING

Grades will be based on your overall weighted percentage (PE). The letter grade assignments are shown at http://www.public.asu.edu/~nikitin/grading/index.html.

PE is calculated as

$(0.8*(Test\_1+Test\_2+Test\_3)+0.6*Quizzes+Work\_in\_class+1.5*Final\_exam+WebWork/2)*0.2$

where Test_1=Test_2=Test_3=Quizzes=Final_exam=WebWork=100.

"WebWork" is the percentage of completion of HW posted at https://webwork.asu.edu

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.

- Engineering Tutoring Centers 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.