

MAC 2313: CALCULUS WITH ANALYTIC GEOMETRY III

FALL 2019

INSTRUCTOR INFORMATION

Instructor: Feng Yu

Office: MSB 0305B

Office Hour: MTWR 1:00PM-2:15PM

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CLASS INFORMATION

MTWR: 2:30PM-3:20PM, MSB 0405 (Section 0006)

MTWR: 9:30AM-10:20AM, MSB 0406 (Section 0012)

IMPORTANT DATES:

Classes Begin: 8/26, Drop/Swap deadline: 8/29, Add deadline: 8/30, Withdrawal deadline: 11/1, Classes End: 12/4

MIDTERM TEST: Test 1: 9/19. Test 2: 10/17. Test 3: 11/7. Test 4: 11/26.

FINAL EXAM: TBA

HOLIDAYS: Football Game: 8/29 (no class after 2:00 PM). Labor Day, 9/2 (no class), Veterans Day 11/11 (no class), Thanksgiving, 11/27-11/28 (no class).

COURSE DESCRIPTION: Class Hours: 4. Lab and Field Work Hours: 0. Contact Hours: 4.

Prerequisite(s): Grade of "C" (2.0) or better in MAC 2312, or score of 5 on the Calculus BC Advanced Placement Exam, or C.I. Corequisite(s): None. Prerequisite(s) or Corequisite(s): None.

Geometry of higher dimensional Euclidean space; vectors and vector functions; partial derivatives; multiple integrals; line integrals; vector fields; Green's Theorem and Stokes' Theorem.

REQUIRED MATERIAL: *Calculus (Early Transcendentals) 8th Edition, by Stewart with WebAssign access.*

COURSE GOALS: The main topics of this course include vectors, vector functions and vector fields, the geometry of higher dimensional Euclidean spaces, partial derivatives, multiple integrals, line integrals and the Fundamental Theorem for Line Integrals, Green's Theorem, Stokes' Theorem and the Divergence Theorem.

STUDENT LEARNING OUTCOMES: A student who has taken this course should be able to:

1. perform basic vector operations such as finding dot products, cross products, vector projections, the angle between two vectors and normalizing vectors.

2. visualize curves, surfaces and regions in three dimensional space.
3. use the tools of calculus on vector functions to find limits, derivatives, integrals, arc length, curvature and to find unit tangent, unit normal and binormal vector functions.
4. find planes tangent to a give surface and find extrema for a function of two variables.
5. visualize vector fields in three dimensional space.
6. evaluate line integrals and surface integrals using vector calculus.
7. determine if a vector field is conservative and be able to apply the Fundamental Theorem for Line Integrals.
8. be able to apply Green's Theorem, Stokes' Theorem and the Divergence Theorem as appropriate.

GRADING SCALE: The + only system will be used in this class. Letter grades will be awarded according to the following grading scale:

100-90 A, 89-86 B+, 85-80 B, 79-76 C+, 75-70 C, 69-66 D+, 65-60 D, 59-0 F

GRADING POLICY: Your class grade will be determined by four in-class tests worth 60% of your grade (15% each), in-class quizzes worth 10% of your grade, online homework worth 5% of your grade and a comprehensive final worth 25% of your grade. Your score on the final will replace your lowest test score provided that your score on the final is higher than the score of your lowest test. The final is not optional.

CALCULATORS: Calculators are not allowed on the quizzes, tests and the final. Problems on the quizzes, tests and final will be designed such that they are not necessary. However, some of the online homework problems will require a calculator.

ONLINE HOMEWORK: There will be graded online assignments in WebAssign. As these assignments must be completed online, students will be expected to have access to a computer. Students may use a computer in one of the computer labs on the main campus or their own personal computer. Instructions for accessing Webassign will be given in class and via knight's email.

Email and phone technical support can be reached at

<https://www.webassign.com/support/student-support/>.

ACADEMIC ACTIVITY REQUIREMENT: All faculty are required to document students' academic activity at the beginning of each course. This academic activity must be completed by the end of the first week of classes or as soon as possible after adding the course. Failure to do so may result in a delay in the disbursement of your financial aid. Instructions on how to complete this academic activity will be given in class and sent to your knight's email.

WEEKLY SCHEDULE: Note that this schedule is subject to change and serve as a guideline only. Any changes will be announced in class, sent to your knight's email and changed on Webcourses.

Week	Sections	Note
Week 1 (8/26-8/29)	12.1, 12.2, 12.3	No classes after 2 PM on Thursday, 8/29
Week 2 (9/2-9/5)	12.3, 12.4, 12.5	No class on Monday, 9/2 Labor day
Week 3 (9/9-9/12)	12.6, 13.1, 13.2	
Week 4 (9/16-9/19)	13.2, 13.3, Review	Test 1, Thursday, 9/19(12.1-12.6, 13.1, 13.2)
Week 5 (9/23-9/26)	13.3, 13.4, 14.1	13.4 optional
Week 6 (9/30-10/3)	14.2, 14.3, 14.4	
Week 7 (10/7-10/10)	14.5, 14.6, 14.7	
Week 8 (10/14-10/17)	15.1, 15.2, Review	Test 2 - Thursday, 10/17,13.3, 13.4(opt), 14.1-14.7
Week 9 (10/21-10/24)	15.2, 15.3, 15.6	Skip 15.4, 15.5
Week 10 (10/28-10/31)	15.7, 15.8, 16.1	Withdrawal deadline: Friday, 11/1
Week 11 (11/4-11/7)	16.1, 16.2, Review	Test 3 - Thursday, 11/7 15.1-15.3, 15.6-15.8
Week 12 (11/11-11/14)	16.3, 16.4, 16.5	No class on Monday, 11/11 Veteran's Day
Week 13 (11/18-11/21)	16.5, 16.6, 16.7	
Week 14 (11/25-11/28)	Review	Test 4 - Tuesday, (11/26 16.1-16.7)
Week 15 (12/2-12/5)	16.8, 16.9, Review	Class End at 12/4, Wednesday

CLASSES BEGIN – Monday, August 26th

WITHDRAWAL DEADLINE – Friday, November 1st

CLASSES END – Wednesday, December 4th

FOOTBALL GAME – Thursday, August 29th (no classes after 2 PM)

LABOR DAY – Monday, September 2nd (no classes)

VETERAN'S DAY – Monday, November 11th (no classes)

THANKSGIVING – Wednesday, November 27th and Thursday, November 28th (no classes)

FINAL - Time and Location: TBA

MAKE-UP POLICY: Personal travel plans and personal or family emergencies are not typically valid reasons for taking tests at a time different from scheduled. However, exceptions can be made at the discretion of the instructor. If you want to request an exception, you must provide valid documentation (preferably in advance) and no later than within one week of the missed exam. Otherwise, a grade of zero for the missed exam will be factored into your course average. Authorized university event absences and religious observance absences are covered below:

- a. Students are frequently asked to represent the university in authorized events and activities. In some cases, this participation conflicts with the students to complete missed classroom deadlines or assignments, including written or oral examinations, quizzes, term papers, or other assignment and its grading scale. No penalty due to absence may be applied to these make-up assignments. More details and precedures can be found [here](#).
- b. It is the practice of the University of Central Florida to reasonably accommodate the religious observances, practices, and beliefs of individuals in regard to admissions, class attendance, and the scheduling of examinations and work assignments. A student who desires to observe a religious holy day of his or her religious faith must notify all of his/her instructors at the beginning of the term to be excused from classes to observe the religious holy day.

ACCESSIBILITY ACCOMMODATIONS: The University of Central Florida is committed to providing reasonable accommodations for all persons with disabilities. This syllabus is available in alternate formats upon request. Students who need accommodations must be registered with Student Accessibility Services, Ferrel Commons Room 185, before requesting accommodations from the professor. Their website is <https://sas.sdes.ucf.edu/>.

DEPLOYED ACTIVE DUTY MILITARY STUDENTS: Students who are deployed active duty military and/or National Guard personnel and require accommodation should contact their instructors as soon as

possible after the semester begins and/or after they receive notification of deployment to make related arrangements.

ACADEMIC INTEGRITY: Students should familiarize themselves with UCF's Rules of Conduct at [here](#). According to Section 1, "Academic Misconduct", students are prohibited from engaging in:

- a. Unauthorized assistance: Using or attempting to use unauthorized materials, information or study aids in any academic exercise unless specifically authorized by the instructor of record. The unauthorized possession of examination or course related material also constitutes cheating.
- b. Communication to another through written, visual, electronic, or oral means. The presentation of material which has not been studied or learned, but rather was obtained through someone else's efforts and used as part of an examination, course assignment or project.
- c. Commercial Use of Academic Material: Selling of course material to another person, student, and/or uploading course material to a third party vendor without authorization or without the express written permission of the University and the Instructor. Course materials include but not limited to class notes, Instructor's power points, tests, quizzes, labs, instruction sheets, homework, study guides, and handouts.
- d. Falsifying or misrepresenting the student's own academic work.
- e. Plagiarism: Whereby another's work is used or appropriated without any indication of the source, thereby attempting to convey the impression that such work is the student's own.
- f. Multiple Submissions: Submitting the same academic work for credit more than once without the express written permission of the instructor.
- g. Any student who knowingly helps another violate academic behavior standards is also in violation of the standards.

RESPONSES TO ACADEMIC DISHONESTY, PLAGIARISM OR CHEATING: Students should also familiarize themselves with the procedures for academic misconduct in UCF's student handbook, [The Golden Rule](#). UCF faculty members have a responsibility for students' education and the value of a UCF degree, and so seek to prevent unethical behavior and when necessary respond to academic misconduct. Penalties can include a failing grade in an assignment or in the course, suspension or expulsion from the university, and/or a "Z Designation" on a student's official transcript indication academic dishonesty, where the final grade for this course will be preceded by the letter Z. For more information about the Z Designation, see [here](#).

CAMPUS SAFETY STATEMENT: Emergencies on campus are rare, but if one should arise during class, everyone needs to work together. You should be aware of your surroundings and familiar with some basic safety and security concepts. In case of an emergency, dial 911 for assistance.

Every UCF classroom contains an emergency procedure guide posted on a wall near the door. You should make a note of the guide's physical location and review the online version at [here](#).

Students should know the evacuation routes from each of their classrooms and have a plan for finding safety in case of an emergency. If there is a medical emergency during class, you may need to access a first-aid kit or AED (Automated External Defibrillator). To learn where those are located, see <http://www.ehs.ucf.edu/AEDlocations-UCF>.

To stay informed about emergency situations, you can sign up to receive UCF text alerts by going to my.ucf.edu and logging in. Click on "Student Self Service" (or Employee Self Service for faculty) located on the left side of the screen in the toolbar, scroll down to the blue "Personal Information" heading on the Student Center screen, click on "UCF Alert", fill out the information, including e-mail address, cell phone number, and cell phone provider, click "Apply" to save the changes, and then click "OK."

Students with special needs related to emergency situations should speak with their instructors outside of class. To learn about how to manage an active-shooter situation on campus or elsewhere, view [this video](#).