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MAT 2675 Calculus III, Spring 2019, OER Syllabus

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CUNY New York City College of Technology

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CALCULUS III



MAT 2675: Multivariable Calculus – Spring 2019

Instructor: Dr. Caner Koca (pronounced *Jah-nérr Co-jah*)

Office: Namm 426 **email:** ckoca@citytech.cuny.edu **Office Hours:** T-Th 11:45am-12:45pm

Lecture Section: D669 **Time:** T-Th 8am-9:40am **Room:** Namm 705

Textbooks: We will be using two Open Educational Resource (OER) textbooks. They are available for you to view online, or to download as a PDF to view offline.

1. [Whitman Calculus](#) (Chapters 12-16)
2. [OpenStax Calculus 3](#) (Chapters 1-6)

Prerequisite: MAT 1575

Credits: 4

Course Description: This course is a continuation of MAT 1575. Topics include polar and parametric equations, vectors, solid analytic geometry, partial derivatives, multiple integrals, vector fields, line integrals and Green's Theorem.

OpenLab: For more information visit <https://openlab.citytech.cuny.edu/mat2675sp19/>

Tests: There will be three (3) in-class one-hour-exams during the semester, and one (1) final exam. The dates of these 4 exams are **TBA in class, on BlackBoard and on OpenLab**. You may not use any textbooks, notebooks, cheat-sheets or calculator for these exams. On the exam, there should be nothing on your desk but a pencil and an eraser. You may not use pens on tests. The final exam will be cumulative. Missing Tests Policy: Attending the tests on the test dates is compulsory; otherwise, a grade of zero will be recorded. Any student who has an excused, documented conflict with a test time must sign and submit a Request for Exam Exemption Form (available on Blackboard) to the professor along with a document explaining the excuse. Under no circumstances will a test be given on an alternate date or time. If a test is missed with an excused absence (college-related or medical), the final exam percentage will be substituted for the missed test. If the absence is college-related, the student must provide an official signed letter from the College. If the absence is because of a medical emergency, the student must provide a note from his/her doctor. If a student misses two or more tests with an excused absence, the make ups will be handled on a case by case basis.

Homework: There will be weekly homework assignments that consist of two components:

(1) WebWork: WebWork is an online homework assignment/grading system. More information about the assignments and log-in information will be provided to you by e-mail. The system grades your problems in real time so that you get instant feedback. You will have 7 days to complete each WebWork assignment.

(2) Written Homework: A list of homework problems and their due dates are posted on the course schedule (available on Blackboard). Even though these assignments are not to be collected or graded, you are expected to complete them before the due date in order to keep up with the course

material. The solutions are posted on Blackboard. You should study the solutions, and come to professor's office hours if your answer does not match with the one on the solutions. The problems on the test will be nearly identical or very similar to the homework problems. Thus, it is essential for you to solve (and write!) the homework problems for your own benefit.

Quizzes: There will be several 5-min quizzes, in the beginning of almost every lecture, based on the material/written homework assignment of the past week's lectures. Students are expected to study the previous lectures material before coming to the next lecture. Lowest 2 quiz scores will be dropped. No makeup quiz will be given.

Piazza: This term we will be using [Piazza](#) for class discussion. The system is highly catered to getting you help fast and efficiently from classmates and myself. Rather than emailing questions to me, I encourage you to post your questions on Piazza.

Calculator Policy: A graphing calculator will not be required to solve any of the homework or test problems. The use of calculators is prohibited during the tests. However, you may use one to check your solutions on the homework.

Class Participation/Etiquette: 10% of the overall grade is dedicated to Class Participation and Classroom Etiquette. This grade will be assigned by the professor at his discretion.

Grading Policy: Your letter grade will be based on the following percentages:

50%	3 Tests.	25%	1 Final Exam	10%	WebWork Average
10%	Class Participation/Etiquette	5%	Quizzes		

The lowest test will count as 10%, and the other two tests will count 20% each. If you average over 80% on WebWork problems, you will receive full credit for WebWork.

The letter grade is assigned by the following scheme: A-range (90-100%), B-range (80-89%), C-range (70-79%), D-range (60-69%), F (below 60%). Plus/minus will be assigned appropriately. There may be a slight curve depending on the overall class average, but students should not take this curve for granted, and it will not have a dramatic impact.

Attendance Policy: You are expected to attend all class meetings and you are responsible for all the material covered.

New York City College of Technology Policy on Academic Integrity: Students and all others who work with information, ideas, texts, images, music, inventions, and other intellectual property owe their audience and sources accuracy and honesty in using, crediting, and citing sources. As a community of intellectual and professional workers, the College recognizes its responsibility for providing instruction in information literacy and academic integrity, offering models of good practice, and responding vigilantly and appropriately to 3 infractions of academic integrity. Accordingly, academic dishonesty is prohibited in The City University of New York and at New York City College of Technology and is punishable by penalties, including failing grades, suspension, and expulsion. The complete text of the College policy on Academic Integrity may be found in the catalog.

MAT 2675: CALCULUS III, Spring 2019
CLASS SCHEDULE

Books [Whitman Calculus](#)
[OpenStax Calculus 3](#)

Lec.	Topics	Reading	Reading (Openstax)
1	Points in space. Coordinate Systems	12.1 12.6	2.7
2	Vectors in space Dot Product Cross Product	12.2 12.3 12.4	2.1 2.2 2.3 2.4
3	Lines and Planes in Space	12.5	2.5
4	Vector valued functions and space curves Tangent vectors to curves	13.1 13.2 13.3	3.1 3.2 3.3
5	Multivariable functions Quadric Surfaces	14.1 14.2	4.1 2.6
6	Partial Derivatives Tangent Planes	14.3 14.6	4.3 4.4
7	Chain Rule	14.4	4.5
8	Test 1		
9	Directional Derivatives Gradient	14.5	4.6
10	Max-Min Problems	14.7	4.7
11	Lagrange Multipliers	14.8	4.8
12	Volume under graphs	15.1	5.1
13	Double and iterated integrals	15.1	5.2
14	Double integral in polar coordinates	15.2	5.3
15	Review		
16	Test 2		

17	Triple integrals	15.5	5.4
18	Double integrals in spherical and cylindrical coordinates	15.6	5.5
19	Change of Variables and jacobians	15.7	5.7
20	Vector fields Line integrals	16.1 16.2	6.1 6,2
21	Conservative vector fields	16.3	6.3
22	Green's Theorem	16.4	6.4
23	Divergence and Curl	16.5	6.5
24	Test 3		
25	Vector functions on surfaces Surface integrals Surface area	16.6 16.7 15.4	6.6
26	Stokes' Theorem	16.8	6.7
27	Stokes' Theorem,ctd Gauss' Theorem	16.8 16.9	6.7 6.8
28	Gauss' Theorem, ctd	16.9	6.8
29	Review		
30	Final		