

Call # 13096
Times: 5:00 - 6:25 p.m. M, T, R
Room: Ed 128

Math 312 Calculus 3

Fall 2006

Instructor: Dr. Glenn Williams
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Web: <http://www.lions.odu.edu/~gwilliam/teaching/m312-f06>
Office Hours: 2:45 – 4:45 p.m. (T, Th) Other times by appointment.
Help Sessions: These are available, by the second week of classes, in ED 126. Please take advantage of this valuable resource. See <http://www.math.odu.edu/lab/> for schedule.
Open Lab hours: These are available, by the second week of classes, in ED 126. See <http://www.math.odu.edu/lab/> for schedule.

Catalog Description: A third course in calculus and analytic geometry. Topics include matrices and determinants, vector valued functions, partial differentiation, multiple integration, vector fields, vector integral theorems.

Prerequisites: MATH 212.

Text: Calculus, Early Transcendentals, 5th. Ed., J. Stewart, ITP, Publishers
Software: Mathcad 11 (provided in labs)
Goals & Objectives: Math 312 systematically develops multivariable calculus. Matrices and determinants are introduced. Vector valued functions (Ch. 13), Partial Differentiation (Ch. 14), Multiple Integration (Ch. 15), Vector Calculus including the integral theorems of Gauss, Green and Stokes (Ch. 16).

Grading Policy:

Lab Assignments	20%
Class Tests (4)	50%
Final Examination	30% (Tuesday, December 12, 3:45-6:45 p.m.)

Grading Scale:	97-100	A	87-89	B+	77-79	C+	67-69	D+
	93-96	A	83-86	B	73-76	C	63-66	D
	90-92	A-	80-82	B-	70-72	C-	60-62	D-

Laboratory Assignments:

MATH 312 is a four credit-hour course. In addition, there is one non-credit contact hour for computer laboratory assignments. You must have a working ODU Netware account to complete lab assignments (<http://season.odu.edu/> to activate an account). One contact-hour is set aside for each laboratory assignment. If more time is needed to complete an assignment, the math lab will be open at other times. Please consult the Open Lab Hours Schedule for a complete list of times.

Typically, you will work on the lab assignments with a partner. Only members of the team who actively participate in completing the *entire* lab assignment should type their names in the electronic document submitted to the instructor. For example, it is not acceptable for a team to split a lab assignment into two parts and for each student to work on one part only. Any violation of this rule will be considered a breach of the ODU Honor Code.

When you work on the labs with a partner, you should assist one another in both understanding and completing the lab assignments. If neither of you can come up with a solution to a problem, either math or computer related, then get help. The instructor and/or lab assistants will be available whenever the lab is open.

Lab assignments are typically given on Wednesday and are due to be completed before the lab closes on Friday of the same week. They will be submitted in electronic form and returned, after grading, in the same way.

Mathcad will be used for all lab assignments. All work on the lab assignments must be done in the lab. As a result of participation in lab activities, you will be expected to acquire some proficiency in using Mathcad.

Class Holidays: Sep. 4 (Labor Day), Oct. 9-10 (Fall Break)

Last day to withdraw:

Tuesday, October 24, 2006.

Honor Code:

By enrolling in this course you agree to adhere to the honor code on all written work: "I pledge to support the Honor System of Old Dominion University. I will refrain from any form of academic dishonesty or deception, such as cheating or plagiarism." I am aware that as a member of the academic community, it is my responsibility to turn in all suspected violators of the honor code.

During exams spread out as much as possible and try not to sit next to another student. The instructor reserves the right to relocate any student(s) to ensure the Honor Code is not compromised. An Honor Code Signature Line is required on all written work turned in for a grade. However, you are free to collaborate on any homework exercises not turned in for a grade.

Writing Policy:

The exams and homework exercises will require that you respond in writing to present a solution, derivation or proof. All work, whether it uses standard or symbolic writing, must be presented in a clear and logical form, and be reasonably free of spelling, grammar and punctuation errors. To receive full credit on quizzes and exams, show all work in arriving at your answers.

Computing Policy:

The class tests and the final exam will be "closed book, no calculators, no computers". However, some of the questions may be related to topics developed in lab assignments.

Attendance Policy:

A student who must miss class is expected to get the notes from other students. Students are expected to be present for all quizzes, tests and exams. Since excessive absence from class can have a negative effect on students' learning and performance, random quizzes will be given in order to encourage good attendance.

Make-up Exam Policy:

No make-up exams will be given. However, in the case of illness and in other exceptional circumstances, for which the student can provide documentation for his or her absence, the final examination grade may be substituted for a missing test grade. No other work can be made up under any circumstances.

Disability Services Policy:

Reasonable accommodations will be made for students with disabilities provided those students have registered with the Office of Disability Services.

Homework:

Online homework will be given most weeks. To be beneficial, this must be done in a timely manner. Hence deadlines will be placed on these assignments. Suggested homework problems are listed below. Students will be expected to be able to solve all suggested problems. The assigned problems are representative of those given on class tests and the final exam so that your performance in this course will generally reflect the skill attained at solving problems. A statement such as 1-7(o) means do the odd problems 1, 3, 5, 7.

Sec	Problems	Sec	Problems	Sec	Problems
12.1	1, 3, 5, 11, 13, 15, 21, 35, 37, 41		Chain rule supplement	15.7	7-21(o), 37, 47
12.6	1-13(o), 17, 19, 29-35(o), 41, 43		Implicit function supplement	15.8	1, 3, 7-25(o), 29, 33, 35
12.7	3-57(o)	14.6	1-25(o), 37-43(o), 53, 59	15.6	1, 3, 7, 9, 11, 21, 23
13.1	1- 25(o), 33-36	14.7	1, 5-17(o), 27-33(o), 37-41(o), 49	16.1	1-9(o), 21, 23, 25, 33
13.2	3-25(o), 29-39(o), 47, 49, 51		Max/min supplement	16.2	1-15(o), 19, 21, 27, 31, 37-41(o)
13.3	1-4,9-27(o), 37-49(o)	14.8	1-19(o), 23, 39	16.3	3-9(o), 13-21(o), 29-33
13.4	3-15(o), 19, 31, 33	15.1	3, 5, 9, 11, 13, 18	16.4	1-21(o)
	Ch. 13 supplement	15.2	3-29(o), 33, 34	16.5	1-7(o), 13-27(o), 30-34
	Matrices supplement	15.3	1-27(o), 37-48, 55, 57	16.6	1-4, 19, 21, 23, 31-47(o)
14.1	7, 11, 15, 17, 21, 23, 35, 37, 45	15.4	1-6, 7-15(o), 17-27(o), 29-32	16.7	5-27(o), 39, 41
14.2	1, 5-15(o), 37, 39		Gamma function supplement	16.8	1-17(o).
14.3	1, 13-73(o)	15.5	1, 3, 5, 9, 11, 13	16.9	3-15(o), 19, 22, 23, 25, 27
14.4	1, 3, 5, 11-17(o), 23-31(o)	15.9	1, 5, 7, 9, 17-23(o)		
14.5	1-35(o), 43-53(o), 56		Jacobian supplement		