MATH 462 Section 01
Spring 2008 TR 9:45-11:00am
MOD 4
Dr. Chad A.S. Mullikin

Contact Information :
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General Information : Lectures will be held TR from 9:45am until 11:00am in MOD 4.

Office Hours : My office hours (AB 270) will be as follows (or by appointment):

Monday	9:10-11:10, 12:30-2:30
Tuesday	12:30-2:30
Wednesday	None
Thursday	12:30-2:30
Friday	9:10-11:10

Textbook : Multivariable Mathematics, Linear Algebra, Multivariable Calculus, and Manifolds, Theodore Shifrin.

Course Description : Curvilinear coordinates, differentiation and integration of vector functions, divergence theorem, curl, Stoke's theorem, conservative fields, orthogonal transformations.

Course Goals : We will help develop tools necessary to study much more general applications to physics and engineering.

Course Objectives This course deals with analysis of vector valued functions. We will discuss derivatives of such functions as well as the implications of the derivative to integration on manifolds. Indeed, this relationship is known to you in the one dimensional case as the Fundamental Theorem of Calculus. We hope to become one with the equation:

$$\int_{\partial M} \omega = \int_M d\omega,$$

and understand some of its physical applications.

Homework and Tests : There will be one in class midterm examination and the final examination. There will be regular homework assigned that will be collected and graded. You are encouraged to work with others on the homework, but please write up your own solutions.

Midterm: February 28, 2008
Final Exam: May 7, 2008 9:00-11:00am

Attendance : Attendance is required. *Any student with a valid excuse for missing an exam must obtain permission to reschedule well before the examination date.* Please let me know of any conflicts immediately.

Grading :

Homework :40%
Midterm :30%
Final Exam :30%

Letter grades are awarded according to the following:

$$
\begin{aligned}
97 \leq & \mathbf{A+} \\
93 \leq & \mathbf{A} < 97 \\
90 \leq & \mathbf{A\text{-}} < 93 \\
87 \leq & \mathbf{B+} < 90 \\
83 \leq & \mathbf{B} < 87 \\
80 \leq & \mathbf{B\text{-}} < 83 \\
77 \leq & \mathbf{C+} < 80 \\
73 \leq & \mathbf{C} < 77 \\
70 \leq & \mathbf{C\text{-}} < 73 \\
67 \leq & \mathbf{D+} < 70 \\
63 \leq & \mathbf{D} < 67 \\
60 \leq & \mathbf{D\text{-}} < 63 \\
& \mathbf{F} < 60
\end{aligned}
$$

Accommodations : Students who want to receive disabilities accommodations should contact Mrs. Dunklin, Coordinator for Student Support Services at 380-3470 as soon as possible so that warranted accommodations can be arranged. Her office is located in Student Academic Services, 1st floor, Administration Building.

Withdrawal : Only under extreme circumstances will I award a student a W or WF after the deadline. These grades are reserved for students who for some reason cannot complete the remainder of the course, i.e., students who are physically unable to return to the classroom.

Tentative Schedule : This schedule is subject to change as needed.

Week	**Subject**
1	Review & Lagrange Multipliers
2	Background (Linear Algebra, some Topology, etc.)
3	Background (Linear Algebra, some Topology, etc.)
4	Background (Linear Algebra, some Topology, etc.)
5	Determinants and n-Dimensional Volume
6	Change of Variables Theorem (No More Lies)
7	Differential Forms
8	Differential Forms
9	Line Integrals and Surface Integrals
10	Line Integrals and Surface Integrals
11	Stokes's Theorem
12	Applications
13	Applications
14	Applications

Caveat Discipulus: This syllabus is subject to change as necessary.