University of North Texas at Dallas
Spring 2016
SYLLABUS

MATH 2730 Multivariable Calculus (3 Credit Hours)

Department of	Mathematics and Information Sciences	Division of	Liberal Arts and Sciences

Instructor Name:	Vinod Arya
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Class Times & Location:	MW 11:30 am – 12:50 pm; DAL2-243
Office Hours & Location:	**MW 10:30 am – 11:30 am MTWR 1:00 pm – 2:00 pm. Other hours by appointment.**

Course Catalog Description:	Vectors and analytic geometry in 3D-space; partial and directional derivatives; extrema; double and triple integrals and applications; cylindrical and spherical coordinates.

Prerequisites:	Math 1720 Calculus II
Co-requisites:	None

Main Text/Code	*University Calculus, Early Transcendentals 2/e by Joel Hass, Maurice Weir and George Thomas Jr.* ISBN-13: 9780321717399. **Required: MyMathLab (Code: *arya91843).**

Recommended Texts and/or References:	*Mathematica 8*, by Wolfram Industries. My Math Lab.

Access to Learning Resources:	UNT Dallas Library:
	  phone: (972) 780-3625;
	  web: http://www.unt.edu/unt-dallas/library.htm
	UNT Dallas Bookstore:
	  phone: (972) 780-3652;
	  e-mail: 1012mgr@fheg.follett.com

Course Goals or Overview:	The goal of this course is to prepare students so that they are able to
1	Solve multivariable calculus problems.
2	Demonstrate knowledge of problem-formulation, problem-solving and modeling techniques central to applications of mathematics.
3	Manipulate and analyze numerical and graphical data to draw reasonable inferences and conclusions.
4	Effectively read and write mathematical sentences and elementary mathematical statements.

Learning Objectives/Outcomes:	At the end of this course, the student will
1	Understand the concepts of vectors, vector valued functions, multi-variable functions and vector fields.
2	Understand the connection between vector functions and motion in space, and demonstrate their understanding through problem solving and elementary mathematical writing.
3	Understand the connection between 3D-geometry and multivariable functions, and demonstrate their understanding through problem solving and elementary mathematical writing.

4	Understand the concepts of multiple integrals and demonstrate their understanding through problem solving and elementary mathematical writing.
5	Understand the concepts of vector fields and demonstrate their understanding through problem solving and elementary mathematical writing.

Course Outline

This schedule is subject to change by the instructor. Any changes to this schedule will be communicated through UNT e-mail.

	Tuesday	Thursday
Week 1	11. Vectors and the Geometry of Space	11. Vectors and the Geometry of Space
Week 2	11. Vectors and the Geometry of Space	11. Vectors and the Geometry of Space
Week 3	12. Vector Functions and Motion in Space	12. Vector Functions and Motion in Space
Week 4	12. Vector Functions and Motion in Space	12. Vector Functions and Motion in Space
Week 5	*Review*	*Exam 1*
Week 6	13. Partial Derivatives	13. Partial Derivatives
Week 7	13. Partial Derivatives	13. Partial Derivatives
Week 8	13. Partial Derivatives	13. Partial Derivatives
Week 9	14. Multiple Integrals	14. Multiple Integrals
Week 10	*Spring Break*	*Spring Break*
Week 11	14. Multiple Integrals	14. Multiple Integrals
Week 12	14. Multiple Integrals	14. Multiple Integrals
Week 13	*Review*	*Exam 2*
Week 14	15. Integration in Vector Fields	15. Integration in Vector Fields
Week 15	15. Integration in Vector Fields	15. Integration in Vector Fields
Week 16	*Comprehensive Final Exam*	*TBA*

<u>Quizzes/Tests/Exams</u> will be announced several days in advance via one or more of the following means: 1. In Class, 2. via email, and 3. On the Blackboard.

Course Evaluation Methods

This course will utilize the following instruments to determine student grades and proficiency of the learning outcomes for the course.

Exams: *written tests designed to measure knowledge of presented course material.*
Assignments: *written assignments designed to supplement and reinforce course material.*
Quizzes: *small-scale written tests designed provide more frequent feedbacks on the students' understanding.*
Group Projects: *small-scale assignments designed to promote mathematical communication between peers.*
Class Participation: *daily attendance and participation in class discussions, etc.*

Grading Matrix

Instrument	Value (points or percentages)
Exam 1	20%
Exam 2	20%
Comprehensive Final Exam	20%
HW Assignments Quizzes, and Projects	40%
Total	**100%**

Home-Work Policy

Home-Work assignments must be completed by the due date. No late assignments will be accepted.

Quiz/Test Policies

Quizzes/Tests must be taken as scheduled. Make-up quiz/exam shall be given only for documented emergencies, and with the prior permission of the instructor.

University Policies and Procedures

Students with Disabilities (ADA Compliance):
The University of North Texas Dallas faculty is committed to complying with the Americans with Disabilities Act (ADA). Students' with documented disabilities are responsible for informing faculty of their needs for reasonable accommodations and providing written authorized documentation. For more information, you may visit the Office of Disability Accommodation/Student Development Office, Suite 115 or call Laura Smith at 972-7803632.

Student Evaluation of Teaching Effectiveness Policy:
The Student Evaluation of Teaching Effectiveness (SETE) is a requirement for all organized classes at UNT. This short survey will be made available to you at the end of the semester, providing you a chance to comment on how this class is taught. I am very interested in the feedback I get from students, as I work to continually improve my teaching. I consider the SETE to be an important part of your participation in this class.

Academic Integrity:
Academic integrity is a hallmark of higher education. You are expected to abide by the University's code of conduct and Academic Dishonesty policy. Any person suspected of academic dishonesty (i.e., cheating or plagiarism) will be handled in accordance with the University's policies and procedures. Refer to the Student Code of Conduct at http://www.unt.edu/csrr/student_conduct/index.html for complete provisions of this code.

Bad Weather Policy:
On those days that present severe weather and driving conditions, a decision may be made to close the campus. In case of inclement weather, call UNT Dallas Campuses main voicemail number (972) 780-3600 or search postings on the campus website www.unt.edu/dallas. Students are encouraged to update their Eagle Alert contact information, so they will receive this information automatically.

Attendance and Participation Policy:
The University attendance policy is in effect for this course. Class attendance and participation is expected because the class is designed as a shared learning experience and because essential information not in the textbook will be discussed in class. The dynamic and intensive nature of this course makes it impossible for students to make-up or to receive credit for missed classes. Attendance and participation in all class meetings is essential to the integration of course material and your ability to demonstrate proficiency. Students are responsible to notify the instructor if they are missing class and for what reason. Students are also responsible to make up any work covered in class. It is recommended that each student coordinate with a student colleague to obtain a copy of the class notes, if they are absent.

Diversity/Tolerance Policy:
Students are encouraged to contribute their perspectives and insights to class discussions. However, offensive & inappropriate language (swearing) and remarks offensive to others of particular nationalities, ethnic groups, sexual preferences, religious groups, genders, or other ascribed statuses will not be tolerated. Disruptions which violate the Code of Student Conduct will be referred to the Center for Student Rights and Responsibilities as the instructor deems appropriate.