IZMIR UNIVERSITY OF ECONOMICS
FACULTY OF ARTS AND SCIENCE
DEPARTMENT OF MATHEMATICS

COURSE	Math 205 Analytic Geometry
SEMESTER	FALL 2003
INSTRUCTOR	Assis. Prof. Dr. Halil Oruç
E-MAIL	halil.oruc@deu.edu.tr
CLASS SCHEDULE	Monday 09:00-12:00
OFFICE AND PHONE	
OFFICE HOURS	

COURSE OBJECTIVES

This course is designed to study the geometry of figures by algebraic representation and manipulate the equations describing their positions, configurations and separations . It also aims to give a brief introduction for the study of motion of bodies.

By the end of this course students are expected to

- understand the line, plane, conics and parametric curves
- interpret a quadratic equation
- use calculus in polar coordinates
- use calculus in order to describe paths, velocities and acceleration of moving bodies.

TEXTBOOK

Your basic textbook is "**Calculus with Analytic Geometry** 9th edition" by G.B. Thomas and R.L. Finney, . Addisson-Wesley Publishing Company 1996. There is 10th edition in the market. In the latest edition, the order of the sections are different. The text book is a good summary of the content. It is rich in examples, exercises as well as applications. It also may be used as a reference book for Calculus courses.

REFERENCE BOOKS AND JOURNALS

"Analytic Geometry 6th edition" by D. F. Riddle, PWS Publishing Company 1996. This book covers only the analytic geometry part of the course, but in detail.

COURSE GRADING

Course grades will be based on a weighted composite of performance evaluations in several areas:

Midterm Exam	25%
Quizzes & Assignments	30%
Final Exam	40%
Class Participation	5%

PERCENT	GRADE	LETTER
90-100	4.0	AA
85-89	3.5	AB
80-84	3.0	BB
75-79	2.5	BC
70-74	2.0	CC
65-69	1.5	CD
60-64	1.0	DD
50-59	0.5	DF
49 and below	0.0	FF

COURSE OUTLINE

DATE	CHAPTER	PAGES	TOPIC
20.10	0	Class Notes	Calculation of the circumference of the Earth, Pythagoras Theorem, Pythagorean triples, Cartesian plane, point of division, translation and rotation of axes.
27.10	9.1		Circles, parabolas, ellipses, hyperbolas.
3.11	9.2		Classifying conic sections by eccentricity.
10.11	9.3		Quadratic equations, discriminant test.
17.11	9.4		Parameterization of plane curves.
24.11	9.5-9.6		Calculus with parameterized curves, slope, length, area of surface of revolution.
17.11	9.7-9.8		Graphing in polar coordinates, polar equations for conic sections.
24.11	9.10		Integration in polar coordinates, area, length
1.12	10.6-10.7		Cylinders and quadric surfaces, sphere, ellipsoid, hyperboloid.
8.12	10.1,10.2,10.3, 10.4		Vectors in the plane, in space, the dot product, cross product, properties, applications.
15.12	10.5		Lines and planes in space.
22.12	10.5		Intersection of lines and planes.
29.12	11.1		Vector valued functions, space curves, limit, continuity and derivatives, velocity, speed.
6.01	11.1		Differentiation and integration rules.
13.01	11.3,11.5.		Arc length and unit tangent vector, curvature and TNB frame.

QUZZES -ASSIGMENTS

Almost every week a **brief quiz** of one or two questions will happen about the previous week's topic. The answers and common mistakes will be discussed the following week. Each quiz takes about 20 minutes. The two quizzes with the lowest grades (among them missed quizzes) will not be taken into account in the computation of the final course grade. No make-up quiz will be given in any circumstances.

Each section of text book has plenty of exercises. Some will be solved in the class and those that are not solved in the class will be given as assignments. You are strongly encouraged to solve by yourselves. "Mathematics is learnt by only doing".

RULES FOR ATTENDANCE: Attendance is an essential requirement of this course and is the responsibility of the student. Class begins promptly and you are expected to be present at the beginning and at the end of each class session.

HOMEWORK POLICY: Homework problems are the best preparation for exams. You should try to work the homework problems without constant reference to the text or *passively* receiving help from others. I encourage to discuss problems with others, but you should try to do the actual problems yourself. If you have gotten the idea about how to solve a problem from another person or by looking things up in the text, try to do a related problem without outside aid.

- The content of this syllabus can be changed by the instructor at any time by informing the related department's head
- The student is supposed to be aware of the facts and notices written in this syllabus.

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