MATH 156 – Calculus for Engineering II

Department of Mathematics and Computer Sciences

Methods of Instruction	Theor.	Appl.	Lab.	Intern.	Project/Field Work	Other	Total	Credit	ECTS Credit
	42	28	-	-	-	-	70	(3 2 4)	7

Semester	Spring 2007
Instructor	Sezgin Sezer (A-Block, 107/A, Phone: +90 312 2844500 Ext: 307) **Home Page**: **http://ari.cankaya.edu.tr/~sezgin** **e-mail**: sezgin@cankaya.edu.tr
Schedule	**Sec. 01**: Wed 10:40 – 12:30 B308/309, Thu 14:40 – 15:30 B308/309, Fri: 12:40-14:30 B308/309 **Sec. 03**: Mon 12:40 – 14:30 B308/309, Tue 13:40 – 15:30 B428, Wed: 12:40-13:30 B401/402
Office Hours	Monday 10:40 – 11:30, Tuesday 10:40 – 11:30, Thursday: 10:40 – 11:30
Prerequisite	None
Catalog Description	Sequences and series; alternating series, power series, Taylor and Maclaurin series; vectors; lines and planes in space; vector valued functions; functions of several variables; partial derivatives, directional derivatives; extreme values; Lagrange multipliers; double integrals; polar coordinates; triple integrals; cylindrical and spherical coordinates; substitution; line integrals; vector fields; path independence; Green's theorem; surface integrals; Stoke's theorem, divergence theorem; complex numbers and functions; complex exponential, trigonometric, logarithmic function.
Textbook	Thomas' Calculus, Addison Wesley, 11th International Edition.
Reference Books	Calculus Complete Course by Robert A. Adams Publisher: Addison – Wesley 1990.

Evaluation Criteria		Number of	Percentages
	Midterm Exams	2	30 + 30
	Quiz	-	-
	Homework	-	-
	Project	-	-
	Term Homework	-	-
	Laboratory Work	-	-
	Class Participation	-	-
	Final Exam	1	40

Exam Dates	First Midterm Exam: 19 March 2007 Second Midterm Exam: 25 April 2007

Course Description Details		
Week	**Dates**	**Topics covered**
1	12. 02 – 16. 02	11.1 Sequences, 11.2 Infinite Series,
2	19. 02 – 23. 02	11.3 The Integral Test, 11.4 Comparison Tests 11.5 The Ratio and Root Tests
3	26. 02 – 02. 03	11.6 Alternating Series, Absolute and Conditional Convergence, 11.7 Power Series
4	05. 02 – 09. 03	11.8 Taylor and Maclaurin Series 11.9 Convergence of Taylor Series; Error Estimates 11.10 Applications of Power Series
5	12. 03 – 16. 03	12.1 Three-Dimensional Coordinate Systems 12.2 Vectors 12.3 The Dot Product 12.4 The Cross Product, 12.5 Lines and Planes in Space 12.6 Cylinders and Quadric Surfaces
6	19. 03 – 23. 03	13.1 Vector Functions 14.1 Functions of Several Variables, 14.2 Limits and Continuity in Higher Dimensions, 14.3 Partial Derivatives, 14.4 The Chain Rule
7	26. 03 – 30. 03	14.5 Directional Derivatives, 14.6 Tangent Planes and Differentials, 14.7 Extreme Values and Saddle Points, 14.8 Lagrange Multipliers
8	02. 04 – 06. 04	15.1 Double Integrals, 15.2 Areas, 15.3 Double Integrals in Polar Form, 15.4 Triple Integrals in Rectangular Coordinates
9	09. 04 – 13. 04	15.6 Triple Integrals in Cylindrical and Spherical Coordinates, 15.7 Substitutions in Multiple Integrals
10	16. 04 – 20. 04	16.1 Line Integrals, 16.2 Vector Fields, Work,
11	23. 04 – 27. 04	Review
12	30. 04 – 04. 05	16.3 Path Independence, Potential Functions, and Conservative Fields 16.4 Green's Theorem in the Plane
13	07. 05 – 11. 05	16.5 Surface Area and Surface Integrals, 16.6 Parametrized Surfaces
14	14. 05 – 18. 05	16.7 Stoke's Theorem, 16.8 Divergence Theorem