

MATH 119

Calculus with Analytic Geometry

Frequency: Fall/Spring Terms

METU Credit & ECTS Credit: (4-2)5 & 7.5

Catalog description: Functions. Limits and Continuity. Tangent lines and derivatives. Chain rule. Implicit differentiation. Inverse functions. Related rates. Linear approximations. Extreme values. Mean Value Theorem and its applications. Sketching graphs. Indeterminate forms and L'Hospital's rules. Definite integral. Fundamental Theorem of Calculus. Substitution. Areas between curves. Formal definition of natural logarithm function. Techniques of integration. Improper integrals. Arc length. Volumes and surface areas of solids of revolution. Parametric plane curves. Polar coordinates. Arc length in polar coordinates.

Justification for the Course Proposal: This is a fundamental course designed for all science – Engineering Students.

Course Objectives: The sequence Math 119-120 is the Standard complete introduction to the concepts and methods of calculus. It is taken by all engineering students. The emphasis is on concepts, solving problems, theory and proofs. All sections are given a uniform midterm and a final exam. Students will develop their reading, writing and questioning skills in Mathematics.

Course Coordinator: Dr. Burak Kaya

MidTerm1:	30 Points	(April 6, 2019, Saturday at 13:30)
MidTerm2:	30 Points	(May 4, 2019, Saturday at 13:30)
Final Exam:	40 Points	(May 24, 2019, Friday at 13:30)
Quiz/Attendance:	5 Points	

Suggested textbook:



Robert A. Adams, Christopher Essex
CALCULUS
A Complete Course Calculus. Eight Edition.
ISBN 978 0-321-78107-9
QA303.2.A33 2013

Reference Books: Calculus
James Stewart, Fifth Edition

Current Semester Course Home Page: <http://www.ma119.math.metu.edu.tr/>

