

COURSE DESCRIPTION

Dept., Number	Math 262	Course Title	Unified Calculus and Analytic Geometry II
Semester hours	3	Course Coordinators	Tristan Denley, Chair and Associate Professor Marlow Dorrough, Instructor, Director of Freshman Mathematics

Current Catalog Description

Differential and integral calculus; analytic geometry introduced, covered in integrated plan where appropriate. (Four-term sequence for engineering and science majors; 262 terminal course for nonscience major)

Textbook

George B. Thomas, Maurice D. Weir, Joel Hass, and Frank R. Giordano. *Thomas' Calculus*, 11th edition, 2005, Volume 1 – Custom Edition for the University of Mississippi.

Course Outcomes

Upon successful completion of this course, the students:

1. understand the concepts and rules of integration,
2. know different techniques for finding antiderivatives,
3. possess enhanced problem-solving skills,
4. can apply the concepts and theories learned in this course to solve application problems.

Relationship between Course Outcomes and Program Outcomes

The ABET/CAC criteria for computer science require the study of at least 15 hours of mathematics beyond the precalculus level. The BSCS program requires at least two courses in differential and integral calculus, Math 261 and 262, to satisfy part of this expectation.

All four course outcomes contribute to program outcomes (a) and (j).

Prerequisites by Topic

This course is a continuation of Math 261. To enroll, a student must have a grade of at least “C” in the prerequisite course.

Major Topics Covered in the Course

This second course in the sequence covers integration and its applications using chapters 5, 6, 7, and 8 of the textbook. The content includes, but is not limited to, evaluation of definite and indefinite integrals; computation of area, volume, arc length, and surface area; transcendental functions; and improper integrals.

Assessment Plan for the Course

The instructor assesses the student performance related to the course outcomes by using examinations, quizzes, homework assignments, and Mathematica labs

How Data in the Course are Used to Assess Program Outcomes (unless adequately covered already in the assessment discussion under Criterion 4)

The conduct of this course is not governed by the ABET program faculty. No data are collected that are used to assess program outcomes directly.

Estimate Curriculum Category Content (Semester hours)

Mathematics 3 hours