
Salisbury University Department of Mathematical Sciences
**MATH 160 : Applied Calculus
Syllabus (Tentative)**

Description: Introductory study of differential and integral calculus with emphasis on techniques and applications. For students in the biological, management, social and behavioral sciences.

3 Hours Credit: Meets three hours per week.

Meets General Education (Old) IV C.

Meets General Education (New) Quantitative Analysis.

Prerequisites: High School Algebra II and plane geometry.

Intended Audience: Students other than mathematics, physics, and chemistry majors who are interested in applications of math to their majors.

Objective: To develop students' problem solving skills using the techniques of calculus through numeric, analytic, graphical, and symbolic approaches.

Textbooks: *Applied Calculus: Emphasis on Business Decisions, 3rd Edition*, by Barber and Hetzler; Kendall-Hunt, 2021.

Technology: Use of a graphing calculator or mathematical software accessible via SU computer network may be required by some instructors.

Topic	Weeks
Calculus and Business Introduction (R.1 & R.2)	1.5
Derivatives of Power Functions (1.1 - 1.4) Theory, evaluation (including higher order derivatives), and application.	3
Derivatives of More Complicated Functions (1.5 - 7, 1.9) Products, Quotients, Composed Functions, and Exponential and Logarithmic Functions.	3
More Applications of Derivatives (1.8 & 1.10) Curve Sketching, Optimization, Elasticity	1.5
Integration (2.1, 2.2, & 2.5) Evaluating definite and indefinite integrals, applications, u-Substitution, and numerical methods	3
Tests, Review, and Optional Topics	2
Total	14

Evaluation

Homework and quizzes	25 - 35%
Tests	50 - 60%
Final Exam	15 - 25%

- Free tutoring is available for this course in the Spring and Fall semesters.
- Clear descriptions of thought processes, evidence of critical thinking, and effective communication must be demonstrated in written work.
- **Writing Across the Curriculum:** Students will be expected to communicate mathematics and mathematical ideas effectively in speech and writing. At the University Writing Center, trained consultants are ready to help you at any stage of the writing process. In addition to the important writing instruction that occurs in the classroom and during professors' office hours, the Center offers another site for learning about writing. **All students are encouraged to make use of these important services.**
- **NOTE:** Once a student has received credit, including transfer credit, for a course, credit may not be received for any course with material that is equivalent to it or is a prerequisite for it.