

Course: **GE 153 - Differential and Integral Calculus for Non-Science Majors**
Credit Hours: **3 Hours**

Professor: **Benjamin B. James**
Office: **Trigg Hall 133 TR 11:00**
Phone: **252-335-3726**
Email: bbjames@mail.ecsu.edu

Required Text(s) and Materials: Calculus for Business, Economics, and the Social and Life Sciences, 10th Edition, Hoffmann and Bradley, McGraw-Hill, 2010 and a scientific calculator.

Course Description: Basic differential and integral calculus involving techniques of differentiation and integration with applications to business, economics, industry, management and behavioral sciences, with emphasis on intuitive and graphical understanding.

Learning Outcomes: Students should be able to recognize and solve problems and understand the fundamentals of limits, differentiation and integration detailed below:

Limits	Relative extrema
Limits at infinity	Second derivative test
Continuity (and one-sided limits)	Optimization
Derivative by the definition	Differentiate log functions
Differentiate a polynomial	Differentiate exponential functions
Product rule	Differentiate trig functions
Quotient rule	Indefinite integrals
Higher order derivatives	Integration by substitution
Chain rule - generalized power rule	Definite integrals - area under a curve
Marginal analysis	Area between curves
Implicit differentiation	Average value of a function
Related rates	Integrating using tables

Course Outline:

Week	Sections	Week	Sections
1	1.1, 1.2, 1.3, 1.4	9	3.4
2	1.5	10	3.5
3	1.6, Test 1	11	4.3, 4.4
4	2.1	12	Trig, Test 3
5	2.2, 2.3	13	5.1, 5.2
6	2.4, 2.5	14	5.3
7	2.6, Test 2	15	5.4
8	3.1, 3.2	16	6.1

Only work odd numbered problems unless an even numbered problem is specifically named.

Section	Pages	Practice Problems
1.1	9 - 14	1-11, 19-21, 25-45
1.2	22 - 26	13-27, 31-33, 37, 41-43
1.3	36 - 41	1-41, 45, 53
1.4	53 - 58	1, 5-17, 21, 27-45, 49
1.5	69 - 73	1, 2, 3, 4, 5, 6, 7-47, 51, 55
1.6	81 - 84	1, 2, 3, 4, 5-39, 45-49
		Test 1
2.1	108 - 112	3-5, 9, 13-19, 23,27-29, 33, 41, 45
2.2	121 - 125	1-25, 29, 37, 41-45, 49, 51, 55, 59, 65, 67, 71
2.3	134 - 138	1-19, 23-33, 37-53, 57-61, 67
2.4	147 - 152	1-5, 11, 13, 17-23, 29-39, 43-47, 51-59, 63, 73
2.5	159 - 163	1-9, 13, 17, 19, 25, 29
2.6	171 - 175	1-33, 37-43, 55
		Test 2 (Mid-term)
3.1	198 - 204	23-33, 53-55
3.2	216 - 220	27-37, 53-59
3.3	230 - 235	None
3.4	249 - 253	1-21, 29, 33, 37-43, 49, 53
3.5	265 - 271	5-9, 17, 19, 23, 25, 29, 33-37
4.3	330 - 333	1-69
4.4	341 - 347	21-33
Trig Fcns		<u>Trig Function Homework</u>
		Test 3
5.1	371 - 374	1-29, 35-41, 51, 53
5.2	383 - 386	3-35, 45, 47, 51, 55a,b
5.3	399 - 402	1-39, 45, 51, 53
5.4	416 - 420	1-23, 29-41, 47, 51, 55, 59-61
5.5	430 - 433	1 - 43
5.6	446 - 449	1-9, 15, 19-25, 31-35, 39, 45, 47
6.1	474 - 478	27 - 37
		Final Exam

Course Grading Components:

- Requirements: A grade of "C" or better in both GE 115 – College Algebra and GE 118 – Precalculus, or by placement by the Mathematics Placement Test, or with the consent of the Department Chair.
- Assignments: See course outline

Grading Policy: To determine whether you pass or fail the course, only the test and final exam scores will be used.

1. If your grade on the final exam does not exceed 60%, you will receive an **F**.
2. Your quiz average is calculated according to the table below.

Test 1	Test 2	Test 3	Final Exam
20%	20%	20%	40%

If your calculated average does not exceed 60%, you will receive an **F**.

3. If your calculated grade does exceed 60, then your final grade will be calculated as follows: An average grade will be calculated for your homework and will have equal weight as the tests and final exam, as shown in the table below. Any extra credit points will be added to homework average.

Test 1	Test 2	Test 3	Final Exam	Homework
20%	20%	20%	20%	20%

Your final grade will be the higher grade computed in steps two or three.

The midterm grade will be based on the average of the test grades taken at that point in time.

Grading Scale: The grading scale is consistent with the university policy and is as follows:

A	B	C	D	F
90-100%	80-89%	70-79%	60-69%	Below 60%

Classroom Policies:

- **Attendance Policy:** Elizabeth City State University recognizes that regular and punctual class attendance is essential to each student's academic performance. Although all learning does not take place in the formal classroom, classroom instruction is the primary vehicle for the delivery of knowledge to students, the evaluation of achievement, the forum for intellectual exchange, skill development, and the molding of attitudes, which promote the attainment of goals resident in the teaching-learning process at ECSU. This policy is designed to encourage students to make the best grades of which they are capable, while discouraging absences. In short, all students are expected to attend all class meetings of all courses in which they are enrolled. Students involved in official University functions may need to make special arrangements with course instructors who expected to cooperate while maintaining the integrity of their course requirements and of the University policy. (Examples: Courses meeting 3 times per week = 3-6 absences or Courses meeting 2 times per week = 2-4 absences) Students will be allowed to make up missed tests or submit assignments late only with the consent of the instructor. Punctuality being an important component of a well structured class, every student is

expected to be on time to every class. Late arriving students should expect the instructor to make note of this.

- **Drop Policy:** Refer to the university drop policy
- **Missed Assignments/ Make-up Work:** It is the responsibility of the student to be up-to date with any missed work. Tests (or quizzes) will be start being announced in class approximately 1 week before the test. It is the student's responsibility to know when the tests are being given. I will give as much notification of a test as I can. NOTE that I use the terms "Test" and "Quiz" interchangeably. In my classes there is no difference between a test and a quiz.

For excused absences a make-up test will be given. Appropriate documentation, such as notes from doctors, court summons, etc., is required for an absence from a test to be excused.

Policy on Academic Honesty: As members of the academic community, students are expected to recognize and uphold standards of intellectual and academic integrity. The examples and definitions given below are intended to clarify the standards by which academic honesty and academically honorable conduct are to be judged. The following list is merely illustrative and is not intended to be exhaustive.

- **PLAGIARISM.** Plagiarism is presenting another person's work as one's own. It includes paraphrasing or summarizing the works of another person without acknowledgement, including submitting another student's work as one's own.
- **CHEATING.** This involves giving or receiving unauthorized assistance before, during or after an examination.
- **UNAUTHORIZED COLLABORATION.** Submission for academic credit for a work, product or a part thereof, represented as being one's own effort that has been developed in substantial collaboration with or without assistance from another person or source is a violation.
- **FALSIFICATION.** It is a violation to misrepresent material or fabricate information in an academic exercise or assignment.
- **MULTIPLE SUBMISSIONS.** It is a violation of academic honesty to submit substantial portions of the same work for credit more than once without the explicit consent of the instructor(s) to whom the material is submitted for additional credit. In cases where there is a natural development of research or knowledge in a sequence of courses, use of prior work may be desirable or even required.

Accommodation Statement: ECSU is on record as being committed to both the spirit and letter of federal equal opportunity legislation; reference Public Law 92-112 - The Rehabilitation Act of 1973 as amended. With the passage of federal legislation entitled *Americans with Disabilities Act (ADA)*, pursuant to section 504 of the Rehabilitation Act, there is renewed focus on providing this population with the same opportunities enjoyed by all citizens.

The university is required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of that disability. Student responsibility primarily rests with informing faculty of their need for accommodation and in providing authorized documentation through designated administrative channels.

Any student in the class who has a disability that may prevent full demonstration of ability should contact the instructor personally before the end of the first week of classes so that a discussion can be held regarding accommodations necessary to ensure full participation and facilitate individual educational opportunities.