Grading Procedure: Points obtained on unit exams, problem sets, quizzes, and the final will determine the final grade in this course. There is NO extra credit. The grading scale is (on the total number of points) 90-100% for an A; 80-89% for a B; 70-79% for a C; 55-69% for a D; and 54% and below is a Fail. The points will be distributed as follows:

- Unit exams – 100 points possible for each exam (approx. 60% of final grade)
  All exams are closed book. There is no makeup given on a missed exam; however, an exam may be taken earlier if student anticipates being absent on a scheduled exam date. If an exam (only one exam is allowed) should be missed, the percentage score from the final exam will be used in place of the missing score; any other exam missed after that will receive a score of zero.
- Quizzes – 4 to 9 points possible on each and will be given at instructor’s discretion. No makeup given on missed quizzes.
- Homework – 3 to 8 points possible for each problem set. The problem set will consist of all assignments for a chapter and will generally be turned in two days after the last lecture for that chapter. On the average, a minimum of two hours should be spent on homework for each lecture hour. Not turning in homework could result in a student’s final grade being lowered by one grade. (Quizzes & homework will be approximately 10% of final grade)
- Final exam – about 30% of final grade


Calculator: A non-graphing scientific calculator will be permitted on some exams and quizzes

Attendance: It is absolutely imperative that students are in class everyday that the class meets. Three unexcused absences will put a student in jeopardy of being dropped from the class. Aside from the circumstances under which you may be dropped by the instructor, it is your responsibility as a student to withdraw from class if you do not intend to complete it. Students must not expect faculty to initiate withdrawal procedures for them. If you wish to drop this class, you may do so through Corsair Connect. Students may process a drop for themselves through 75% of the class. Data regarding the withdrawal parameters are provided within your Corsair Connect account.

Academic Honesty: All students are expected to abide by the Code of Academic Conduct and Reporting Policy; that is, all students will turn in their own work (homework, exams, and quizzes). Any student caught cheating, in addition to receiving a grade of zero on his/her work, will be in danger of being dropped from the class as well as have a Dishonesty Report placed in his/her academic file.

Course Content:

<table>
<thead>
<tr>
<th>Percentage Of Term</th>
<th>Topic</th>
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<tbody>
<tr>
<td>14%</td>
<td>Review of methods of integration</td>
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<tr>
<td>7%</td>
<td>Numerical integration</td>
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<tr>
<td>10%</td>
<td>Improper integrals</td>
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<tr>
<td>34%</td>
<td>Functions of several variables</td>
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<tr>
<td>14%</td>
<td>Differential equations</td>
</tr>
<tr>
<td>21%</td>
<td>Probability distributions and applications</td>
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</tbody>
</table>
**Student Learning Outcomes:**
- Given a real-valued function of two or more variables, students will use appropriate techniques to differentiate and/or integrate the function.
- Given the description of a practical situation such as related rates, differential approximation, compound interest, supply and demand, cost, revenue/profit maximization, productivity, exponential growth/decay or probability density, students will define a function that models the situation and analyze this function to obtain relevant information.

**Prerequisite Skills:** To ensure that a student will have the most successful experience in this class, it will be assumed that the student can (prior to enrolling in Math 29) perform with reasonable accuracy all of the following:
- Graph systems of linear and quadratic inequalities.
- Solve polynomial, rational, radical, exponential, and logarithmic equations.
- Use algebraic skills to solve business, economics, and social science problems.
- Find the limit of functions.
- Find derivatives of functions and express their answers in simplest factored form.
- Use derivatives to solve problems in business, economics, and social sciences.
- Use concepts of derivatives to graph functions.
- Use derivatives to solve optimization problems.
- Find antiderivatives of functions.
- Use techniques of integration to solve area problems, as well as problems in business, economics, and social sciences.

**Course Objectives:** In order to pass this course, students must be able to do all of the following:
- Evaluate definite, indefinite, and improper integrals using substitution, parts, and tables.
- Use numerical integration to estimate definite integrals.
- Use different techniques of integration to solve problems in business and social sciences.
- Differentiate and integrate functions of several variables.
- Find maxima and minima of functions of several variables to solve application problems.
- Find equation of least squares line.
- Use method of LaGrange Multipliers to optimize functions.
- Find total differential of functions to solve application problems.
- Use double integrals to solve application problems.
- Solve differential equations and related application problems.
- Use calculus to solve advanced business and economic problems.
- Apply calculus to statistical topics (probability density function, expected value, standard deviation, and normal distribution).