**Grading Procedure:** The final grade in this course will be determined by points obtained on unit exams, problem sets, quizzes, and the final. 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 (approximately 60% of final grade)
  All exams, to be completed in a bluebook purchased by student for each exam, are closed book/closed notes. 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 will be 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 8 points possible on each and will be given at instructor’s discretion. No makeup on missed quizzes.

- **Homework** – 4 to 9 points possible for each problem set. The problem set will consist of all assignments for a chapter and will generally be stapled and turned in on the day of the exam (unless otherwise indicated). 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. Note that at least a grade of D or better is needed on the final exam in order to receive a grade of C or better in the class.


**Calculator:** A nongraphing 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. Five 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>
</tr>
</thead>
<tbody>
<tr>
<td>3%</td>
<td>College algebra review</td>
</tr>
<tr>
<td>10%</td>
<td>Functions (linear, quadratic, polynomial, rational, exponential, logarithmic)</td>
</tr>
<tr>
<td>9%</td>
<td>Mathematics of finance</td>
</tr>
<tr>
<td>5%</td>
<td>Limits</td>
</tr>
<tr>
<td>16%</td>
<td>Derivatives and applications</td>
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<tr>
<td>17%</td>
<td>First and second derivative analysis and graphs</td>
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<tr>
<td>10%</td>
<td>Exponential and logarithmic functional analysis</td>
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<tr>
<td>5%</td>
<td>Implicit differentiation; related rates</td>
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<tr>
<td>5%</td>
<td>Antiderivatives and indefinite integrals</td>
</tr>
<tr>
<td>10%</td>
<td>Definition of definite integral, Fundamental Theorem of Calculus, and applications</td>
</tr>
<tr>
<td>10%</td>
<td>Methods of integration</td>
</tr>
</tbody>
</table>
Student Learning Outcomes:
- Given a situation encountered in finance, students will determine the correct finance formula to solve the problem.
- Given a polynomial, rational, exponential or log function, students will analyze the function using concepts of derivative and create a graph that includes intercepts, holes, asymptotes, maximum and/or minimum values and points of inflection, if they exist.
- Given a situation encountered in business or social sciences, students will determine the function or equation that best models the situation and solve the problem.

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 28) perform with reasonable accuracy all of the following:
- Identify & graph different types of functions (polynomial, rational, piecewise, exponential, logarithmic)
- Determine domain and range of functions
- Perform operations (add, subtract, multiply, divide, compose) on functions
- Factor completely algebraic expressions
- Solve linear and quadratic equations and inequalities
- Solve rational equations and inequalities
- Solve higher-order equations
- Solve exponential and logarithmic equations
- Solve systems of equations
- Perform operations on exponential and logarithmic expressions
- Perform operations on polynomials
- Write algebraic expressions to be used in solving application problems
- Compute the sum of a geometric sequence
- Apply the binomial theorem to expand a binomial
- Use a calculator to perform basic operations

Course Objectives: In order to pass this class and be prepared for the subsequent course (Math 29), students must be able to do all of the following:
- Define business terms
- Use algebraic skills to solve business, economics, and social science problems
- Solve finance 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 (as well as domain, intercepts, asymptotes, etc.) to graph functions
- Use derivatives to solve simple optimization problems
- Find antiderivatives of functions
- Use the techniques of integration to solve basic area problems, as well as problems in business, economics, and social science