Math 1111  
Departmental Course Syllabus

The following are the core objectives for this course that are assessed at the University level.

**VSU General Education Outcomes:**

**Area A2:** Students will demonstrate mathematical proficiency by analyzing a variety of functions and solving various equations.

**Critical Thinking:** Students will identify, evaluate, and apply appropriate models, concepts, or principles to issues, and they will produce viable solutions or make relevant inferences.

### Topics & Suggested Pacing Guide—Course Outline: (Not including Testing & Review)

<table>
<thead>
<tr>
<th>Chapter/Section</th>
<th>Topics</th>
<th>Suggested Days</th>
<th>50 min lectures</th>
<th>75 min lectures</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1/P2/P3/P4/P5/P6</td>
<td>Algebraic Expressions- Exponents¹, Radicals¹ and Rational Exponents, Polynomials, Factoring, Rational Expressions</td>
<td>6 days</td>
<td>4 days</td>
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<tr>
<td>1.1/1.2/1.3/1.4/1.5/1.6/1.7</td>
<td>Graph of an Equation, Solving Linear Equations, Solving Rational Equations, Applications with Linear Equations, Complex Numbers, Quadratic Equations, Other Type of Equations, Linear Inequalities and Absolute Value Inequalities</td>
<td>9 days</td>
<td>6 days</td>
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<tr>
<td>2.1/2.2/2.3/2.4/2.5/2.6/2.7/2.8</td>
<td>Linear Equations in the Cartesian Plane, Definitions of function, domain and range, functional notation, Analyzing Functions and their Graphs, Transformation of Functions, Combinations of Functions, Inverse Functions, Distance and Midpoint Formulas, Equation of a Circle</td>
<td>6 days</td>
<td>4 days</td>
<td></td>
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<tr>
<td>3.1/3.2/3.5/3.6/3.7</td>
<td>Quadratic Functions, Polynomial Functions of higher degree than 2, Optional: 3.3-Division of Polynomials, Optional: 3.4-Zeros of Polynomials, Rational Functions and Asymptotes, Graphs of Rational Functions, Solving Polynomial Inequalities, Solving Rational Inequalities, Direct, Indirect, and Joint Variation</td>
<td>6 days</td>
<td>4 days</td>
<td></td>
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<tr>
<td>4.1/4.2/4.3/4.4/4.5 and 5.1</td>
<td>Exponential Functions², Logarithmic Functions², Properties of Logarithms, Exponential Equations, Logarithmic Equations, Applications of Exponential and Logarithmic Functions, Solving Linear Systems of Equations</td>
<td>9 days</td>
<td>6 days</td>
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Math 1111  College Algebra
3 Credit Hours  Nevins Hall
Mathematics Department
Valdosta State University

**Pre-requisites:** No Pre-requisites. College Algebra is an entry level course.

**Required Text:** College Algebra Essentials by Blitzer (4th Edition): Pearson

**Course Description:** Math 1111 is algebraic topics including polynomials, rational expressions, equations, inequalities, graphing, exponents and radicals, relations and functions through exponential and logarithmic functions. Book may not be current – see your instructor.

**Student Learning Outcomes:**

Upon completion of this course, students will be able to:

1. Use the rules of algebra to simplify, evaluate, rationalize, perform operations with, and apply algebraic expressions that contain both real and imaginary numbers.
2. Determine the distance between two points in the coordinate plane and find the midpoint of the line segment joining the points. Recognize, write, and graph equations of circles.
3. Solve equations (including linear, polynomial, rational, radical, exponential, logarithmic, and absolute value) and use the solutions to draw reasonable conclusions about a situation being modeled.
4. Solve and graph inequalities, including linear, polynomial, rational, and absolute value.
5. Solve quadratic equations using a variety of methods, including factoring, completing the square, the quadratic formula, extracting roots, and technology.
6. Use information about a line (such as slope, intercepts, and points on the line) to write equations, sketch graphs, and determine whether lines are parallel or perpendicular.
7. Using appropriate notation and terminology, analyze relations and functions by determining the domain, range, functional values, inverse relationships, and composition of functions both algebraically and graphically.
8. Graph quadratic functions by determining their maximum or minimum values and intercepts.
9. Analyze and sketch graphs of polynomial, rational, exponential, and logarithmic functions including transformations.
10. Use properties of logarithms to evaluate, rewrite, expand, or condense logarithmic expressions’
11. Solve systems of equations using a variety of methods, including technology.
**Departmental Final Exam:**
The departmental final exam is mandatory for all students and comprehensive. The final exam comprises 20-30% of the overall course grade.

**Grading Scale:**  
A(90-100)  B(80-89.99)  C(70-79.99)  D(60-69.99)  F(59 and below)

**Attendance & Tardiness:** Attendance is expected. A student who misses more than 20% of the classes will be subject to receiving a failing grade in the course.

**Student Success Center:**
The Student Success Center provides free tutoring in core courses, the top four of which are math, writing, Spanish, and biology/chemistry. It also offers time management and study skills workshops as well as provides free professional academic advising and on-campus job information in one location: Langdale Residence Hall. Help is available to all VSU students. Call 333-7570 to make an appointment or visit the website: [www.valdosta.edu/ssc](http://www.valdosta.edu/ssc).

**Title IX Statement:**
Valdosta State University (VSU) is committed to creating a diverse and inclusive work and learning environment free from discrimination and harassment. VSU is dedicated to creating an environment where all campus community members feel valued, respected, and included. Valdosta State University prohibits discrimination on the basis of race, color, ethnicity, national origin, sex (including pregnancy status, sexual harassment and sexual violence), sexual orientation, gender identity, religion, age, national origin, disability, genetic information, or veteran status, in the University’s programs and activities as required by applicable laws and regulations such as Title IX. The individual designated with responsibility for coordination of compliance efforts and receipt of inquiries concerning nondiscrimination policies is the University’s Title IX Coordinator: Maggie Viverette, Director of the Office of Social Equity, [titleix@valosta.edu](mailto:titleix@valosta.edu), 1208 N. Patterson St., Valdosta State University, Valdosta, Georgia 31608, 229-333-5463.

**Access Statement:** Students with disabilities who are experiencing barriers in this course may contact the Access Office for assistance in determining and implementing reasonable accommodations. The Access Office is located in Farber Hall. The phone numbers are 229-245-2498 (V), 229-375-5871 (VP) and 229-219-1348 (TTY). For more information, please visit VSU’s Access Office or email: [access@valdosta.edu](mailto:access@valdosta.edu).