Online (SmartPathCore) 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.

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

<table>
<thead>
<tr>
<th>Modules</th>
<th>Topics</th>
<th>Suggested Days</th>
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<tbody>
<tr>
<td>Module 1- P1/P2/P3/P4/P5/P6</td>
<td>Algebraic Expressions - <strong>OMIT: Theory of Sets-Union and Intersection</strong>, Exponents[^1^] <strong>Scientific Notation:</strong> Converting decimals to Scientific and Scientific to Decimals only, Radicals[^1^] and Rational Exponents, Polynomials, Factoring, Rational Expressions</td>
<td>7 days</td>
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<tr>
<td>Module 2- 1.1/1.2/1.3/3.7/1.4/1.5</td>
<td>Graph of an Equation, Solving Linear Equations, Solving Rational Equations, Applications with Linear Equations, Modeling Using Variation, Complex Numbers, Quadratic Equations</td>
<td>7 days</td>
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<tr>
<td>Module 3- 2.8/1.6/1.7/2.1/2.2</td>
<td>Distance and Midpoint Formulas; Circles, Other Type of Equations, Linear Inequalities and Absolute Value Inequalities, Basics of Functions and their Graphs, More on Functions and their Graphs</td>
<td>7 days</td>
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<tr>
<td>Module 4- Mid-term Exam</td>
<td>Prepare for the Mid-Term Exam by Reviewing Modules 1, 2, and 3.</td>
<td>4 days</td>
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<td>Module 5- 2.3/2.4/2.5/5.1/2.5/2.6/2.7</td>
<td>Linear Functions and slope, More on Slope, System of Linear equations in two Variables, Transformation of Functions, Combinations of Functions, Inverse Functions</td>
<td>7 days</td>
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<tr>
<td>Module 6- 3.1/3.2/3.5/3.6</td>
<td>Quadratic Functions, Polynomial Functions of higher degree than 2, Rational Functions and Asymptotes, Graphs of Rational Functions, Solving Polynomial Inequalities, Solving Rational Inequalities</td>
<td>7 days</td>
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<tr>
<td>Module 7- 4.1/4.2/4.3/4.4/4.5</td>
<td><strong>Exponential Functions[^2^], Logarithmic Functions[^2^]</strong>, Properties of Logarithms, Exponential Equations, Logarithmic Equations, Applications of Exponential and Logarithmic Functions, Solving Linear Systems of Equations</td>
<td>7 days</td>
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<tr>
<td>Module 8- Final Exam Week</td>
<td>Prepare for the Final Exam by Reviewing Modules 1, 2, 3, 5, 6, and 7.</td>
<td>4 days</td>
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Notes
1. Fundamentals only
2. Include emphasis on asymptotic behavior

Every instructor must include applications of the following type:
- Simple & Compound Interest
- Mixture
- Direct, Indirect, and Joint Variation
- Exponential Growth and Decay

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.


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.

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. Using 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.
**Midterm Exam and Final Exam:** The online Math 1111 requires a midterm exam and a final exam.

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

**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:**
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**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.