

FLORIDA STATE COLLEGE AT JACKSONVILLE

COLLEGE CREDIT COURSE OUTLINE

COURSE NUMBER:	MAT 0024
COURSE TITLE:	Elementary Algebra
PREREQUISITE(S):	MAT 0002 with a grade of "C" or better, or a satisfactory score on placement test
COREQUISITE(S):	None
CREDIT HOURS:	4
CONTACT HOURS/WEEK:	4
CONTACT HOUR BREAKDOWN:	
Lecture/Discussion:	4
Laboratory:	
Other _____:	
FACULTY WORKLOAD POINTS:	4
STANDARDIZED CLASS SIZE ALLOCATION:	20

CATALOG COURSE DESCRIPTION:

(This course does not apply toward an associate's degree)

This course is designed for students who have had little or no algebra. The major topics in this course are sets, real numbers and their properties, exponents and polynomials, linear equations and linear inequalities, as well as an introduction to applications, factoring, rational expressions, radicals (square roots), and graphing in two variables. Satisfactory completion of this course requires passing the course and the State Exit Examination. Eligibility to sit for the State Exit Examination is determined by the student having a qualifying grade of "C" or better at the time of the examination. The final course grade is determined by the qualifying course grade and affirmed by a passing score on the State Exit Examination.

GRADING METHOD:

Student must have a grade of A, B, C, to be eligible to take the exit examination. The exit examination either affirms the passing grade (A, B, C) or denies it with an "F" grade. After remediation, a student is allowed one retake of the exit examination.

NUMBER OF COURSE ATTEMPTS:

State statute limits a student's enrollment in this course to three attempts. Unless a student officially withdraws before the drop deadline, each registration in this course will count as a semester of enrollment regardless of the grade received. Students may have only two attempts at a college preparatory studies course and pay the in-state tuition rate. After two attempts, students must pay the out-of-state rate or may enroll in adult education courses that provide an alternative to traditional college preparatory instruction.

COLLEGE PREPARATORY ATTENDANCE POLICY:

College Preparatory Studies faculty are required to institute an attendance policy for all college preparatory courses. Faculty has two options:

One: At the minimum, faculty should use the following policy: "College Preparatory Studies (CPS) students are required to attend classes on a regular basis. Students who miss 9 contact hours or the equivalent of 15% of the CPS will receive a failing grade (at the discretion of the instructor)."

OR

Two: Faculty who prefer a stricter attendance policy may institute their own.

The following guidelines will be used for the implementation of the policy. They are for your information and are not to be listed on your course syllabus:

1. Faculty will include CPS Attendance Policy on all college preparatory syllabi.
2. Faculty will keep an attendance record of all students enrolled in college preparatory courses.
3. Faculty will record absences for students who level change based on the students' first day of enrollment in the new class.
4. Faculty should inform students when they are close to violating the attendance policy.
5. For purposes of the minimum policy, faculty may excuse (or not count) student absences for personal illness requiring hospitalization, death in the family (parent, spouse, children, brothers, or sisters), jury duty, or military duty. Exceptions to this rule should be handled by the faculty on a case-by-case basis with the appropriate dean of liberal arts.
6. Refer to guidelines for sending out attendance warning letters for CPS courses.

SUGGESTED TEXT(S):

Elementary Algebra: Graphs and Models, current edition, Bittinger, Ellenbogen, Johnson; Addison-Wesley

Introductory Algebra, current edition, Bittinger; Addison-Wesley

Beginning Algebra, current edition, Lial, Hornsby, McGinnis; Addison-Wesley

Beginning Algebra, current edition, Martin-Gay; Prentice-Hall

Beginning Algebra with Applications; current edition; Aufmann, Barker, Lockwood; Houghton-Mifflin

Elementary Algebra for College Students, current edition, Angel; Prentice Hall

ELECTRONIC DELIVERY:

Beginning Algebra; current edition, Miller, O'Neill, McGraw-Hill

Prentice-Hall Interactive Math 2 (PHIM2); Martin-Gay;
Introductory Algebra, 2/E; Prentice Hall

MyMathLab; Pearson Education (Prentice Hall and Addison Wesley)

MathZone/ALEKS; McGraw-Hill

IMPLEMENTATION DATE:

Fall Term, 1984 (851) (was MAT 1024)

REVIEW OR MODIFICATION DATE:

Fall Term, 1999

Fall Term, 2002 (20031)

Fall Term, 2004 (20051)

Fall Term, 2005 (20061)

Summer Term, 2007 (20073)

Fall Term, 2008 (20091) - Outline Review 2007

COURSE TOPICS	CONTACT HOURS <u>PER TOPIC</u>
I. Sets of Real Numbers	2
A. Definitions, Notation, and Subsets	
B. Operations on Sets	
II. Real Numbers and Their Properties	6
A. Real Numbers and The Number Line	
B. Properties	
C. Operations	
D. Order of Operations	
E. Applications	
III. Exponents and Polynomials	11
A. Exponents	
1. Integer Exponents	
2. Rules of Exponents	
3. Scientific Notation	
4. Algebraic Expressions	
5. Applications	
B. Polynomials	
1. Addition and Subtraction of Polynomials	
2. Multiplication of Polynomials	
a. Multiplication of a Monomial by a Polynomial	
b. Multiplication of Two Polynomials	
c. Special Cases Using Binomials	
3. Division of Polynomials	
a. Monomials by a Monomial	
b. Polynomials by Monomials	
c. Polynomials by Polynomials	
IV. Linear Equations in One Variable	11
A. Definitions	
B. Solving Linear Equations using Properties of Equalities	
C. Literal Equations	
D. Applications	
E. Solve Equations with Fractions	

COURSE TOPICS (CONTINUED)	CONTACT HOURS <u>PER TOPIC</u>
V. Linear Inequalities, One Variable	4
A. Definitions, Notation, and Properties	
B. Solving Linear Inequalities	
C. Graphing Linear Inequalities	
VI. Introduction to Polynomial Factoring	11
A. Definitions	
B. Factors Common to All Terms	
C. Factoring Binomials	
D. Factoring Trinomials	
E. Factoring by Grouping	
F. Solving Quadratic Equations Using Factoring and Applications	
VII. Introduction to Rational Expressions	8
A. Introduction and Simplification	
B. Multiplication and Division	
C. Addition and Subtraction with Like Denominators	
D. Addition and Subtraction with Unlike Denominators (optional)	
E. Solving Proportions	
VIII. Introduction to Square Roots	3
A. Simplification of Square Roots	
B. Add, Subtract, and Multiply Square Roots	
IX. Linear Equations in Two Variables	4
A. Plotting Points	
B. Graphing Linear Equations Using Intercepts	

*TOPICS NEED NOT BE COVERED IN THE SEQUENCE LISTED



NOTE: Use either the Tab key or mouse click to move from field to field. The box will expand to accommodate your entry.

Section 1	
COURSE PREFIX AND NUMBER: <u>MAT 0024</u>	SEMESTER CREDIT HOURS (CC): <u>4</u> CONTACT HOURS (NCC): _____
COURSE TITLE: <u>Elementary Algebra</u>	

Section 2
TYPE OF COURSE: (Click on the box to check all that apply)

<input type="checkbox"/> AA Elective	<input type="checkbox"/> AS Required Professional Course	<input checked="" type="checkbox"/> College Prep
<input type="checkbox"/> AS Professional Elective	<input type="checkbox"/> AAS Required Professional Course	<input type="checkbox"/> Technical Certificate
<input type="checkbox"/> Other _____	<input type="checkbox"/> PSAV	<input type="checkbox"/> Apprenticeship
<input type="checkbox"/> General Education: (For General Education courses, you must also complete Section 3 and Section 7)		

Section 3 (If applicable)
INDICATE BELOW THE DISCIPLINE AREA FOR GENERAL EDUCATION COURSES:

<input type="checkbox"/> Communications	<input type="checkbox"/> Social & Behavioral Sciences	<input checked="" type="checkbox"/> Mathematics
<input type="checkbox"/> Natural Sciences	<input type="checkbox"/> Humanities	

Section 4
INTELLECTUAL COMPETENCIES:

<input checked="" type="checkbox"/> Reading	<input checked="" type="checkbox"/> Speaking	<input checked="" type="checkbox"/> Critical Analysis	<input checked="" type="checkbox"/> Quantitative Skills	<input type="checkbox"/> Scientific Method of Inquiry
<input checked="" type="checkbox"/> Writing	<input checked="" type="checkbox"/> Listening	<input type="checkbox"/> Information Literacy	<input type="checkbox"/> Ethical Judgment	<input checked="" type="checkbox"/> Working Collaboratively

Section 5		
LEARNING OUTCOMES		METHOD OF ASSESSMENT
•	The successful student should be able to:	
•	Appreciate elementary algebra and gain confidence in their ability to learn and use the principles of elementary algebra, appropriately	Demonstrated level of confidence and abilities to use elementary algebra while participating in a variety of individual and collaborative class activities, supplemental learning activities, outside assignments, quizzes and tests
•	Understand and perform mathematical operations with sets of real numbers relating to notations, subsets and operations in sets	Accurate communication about sets of real numbers and demonstrated proficiency to solve problems relating to notations, subsets and operations in sets
•	Understand and perform mathematical operations with real numbers relating to the number line, properties, operations, order of operations and applications	Accurate communication about real numbers and demonstrated proficiency to solve problems using real numbers
•	Understand and perform mathematical operations with exponents and polynomials	Accurate communication about exponents and polynomials and demonstrated proficiency to solve related problems
•	Understand and perform mathematical operations with linear equations and linear inequalities in one variable	Accurate communication about linear equations and/or inequalities with one variable
•	Understand and perform fundamental operations with basic introductory polynomial factoring to include solving quadratic equations using factoring	Accurate communication about polynomial factoring and demonstrated solving quadratic equations using factoring

(Section 5 Continued)

Section 5		
LEARNING OUTCOMES		METHOD OF ASSESSMENT
•	Understand and perform mathematical operations related to rational expressions to include simplification, multiplication, division, addition and subtraction of like denominators [unlike denominators, optional], solving proportions	Accurate communication about rational expressions and proficiency to solve related mathematical problems
•	Understand the concept of introductory square roots and linear equations in two variables using plot points and graphing linear equations	Accurate communication about square roots and linear equations and proficiency to solve basic problems, plot points and graph linear equations
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Section 6

Name of Person Completing This Form: Donna Martin, Nancy Eschen, Judy Batson Date: 11/19/2008

SECTION 7 MUST BE COMPLETED FOR ALL GENERAL EDUCATION COURSES ONLY (exclude AA electives)

Section 7	KNOWLEDGE	<i>Primary</i>	<i>Secondary</i>	<i>N/A</i>	VALUE	<i>Primary</i>	<i>Secondary</i>	<i>N/A</i>
A.	Global and Historical Knowledge & Understanding				Intellectual honesty	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	• Comprehends a general knowledge of the nature, origins and contributions of major civilizations	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Curiosity and openness to new ideas	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	• Comprehends the workings and interrelations of personal, business and government economies	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Recognition of one's own creative potential	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	• Comprehends political, social and economic systems and their effects upon society	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Acceptance of and respect for differences among people and cultures	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
B.	Cultural and Aesthetic Knowledge and Understanding							
	• Comprehends the contributions of the arts and humanities to the human experience on a personal, national or global level	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Civic Engagement	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	• Comprehends the historical development of the arts and sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Lifelong Learning	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	• Comprehends religious and cultural systems and their effects upon society	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
C.	Human Awareness and Understanding							
	• Comprehends the dynamics of human behavior and the process of increasing self-awareness, growth and development	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
	• Comprehends the stages of human development and the dynamics of human relationships in diverse cultures	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
	• Comprehends the factors that promote physical, mental and social well-being	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
D.	Mathematics, Science and Technology							
	• Comprehends the basic concepts and investigative processes of the natural sciences	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
	• Comprehends the breadth, significance and development of the mathematical sciences	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	• Comprehends the ways science and technology have shaped and continue to reshape human cultures and the environment	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

Section 8

Name of Person Completing This Form: Donna Martin, Nancy Eschen, Judy Batson Date: 11/19/2007