

# MATH 023: ALGEBRA BASICS

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## 1. Course Information

**Subject**

MATH - Mathematics

**Course Number**

023

**School**

Science, Technology, Engineering, Mathematics

**Course Title**

Algebra Basics

## 2. Hours

**Semester Hours**

4.00000

**Lecture**

4

**Lab**

0

**Practicum**

0

## 3. Catalog Description

**For display in the online catalog**

This course is designed for those students who do not have the necessary background in basic algebra or are in need of a thorough review of basic algebra. Topics include: apply the properties of real numbers, use the order of operations for real numbers, solve linear equations and inequalities, solve application problems involving linear equations, graph linear equations and inequalities with the slope intercept form of an equation, determine equations of lines given specific information, solve systems of linear equations by means of graphing and simple substitution only, solve application problems involving systems of linear equations, perform operations with polynomials, division of algebraic expressions involving exponents should be limited to monomials, simplify algebraic expressions involving exponents. This course cannot be used to satisfy degree requirements.

## 4. Requisites

**Prerequisites**

None

**Corequisites**

None

## 5. Course Type

**Course Fee Code**

1

**Course Type for Perkins Reporting**

non-vocational (not approved for Perkins funding)

## 6. Justification

**Describe the need for this course**

To provide students with the developmental mathematics skills in Algebra that they need to continue to a college-level Math Course. This course prepares students for MATH 151, MATH 156, MATH 158, MATH 161, MATH 171, and/or MATH 181.

## 7. General Education

Will the college submit this course to the statewide General Education Coordinating Committee for approval as a course, which satisfies a general education requirement?

No

## 8. Consistency with the Vision and Mission Statements, the Academic Master Plan, and the strategic initiatives of the College

Please describe how this course is consistent with Ocean County College's current Vision Statement, Mission Statement, Academic Master Plan, and the strategic initiatives of the College:

Add item	
1	This course will help the college to fulfill its mission of fostering excellence by offering comprehensive programs that develop intentional learners of all ages.

## 9. Related Courses at Other Institutions

### Comparable Courses at NJ Community Colleges

#### Institution

Mercer County CC

#### Course Title

Beginning Algebra

#### Course Number

037

#### Number of Credits

4

#### Institution

Middlesex County College

#### Course Title

Basic Math Alternative

#### Course Number

009

#### Number of Credits

1

#### Institution

Middlesex County College

#### Course Title

Basic Math

#### Course Number

014

#### Number of Credits

3

## Transferability of Course

### Georgian Court University

Course Code, Title, and Credits	Transfer Category	If non-transferable; select status
		Will not transfer

### Kean University

Course Code, Title, and Credits	Transfer Category	If non-transferable; select status
		Will not transfer

### Monmouth University

Course Code, Title, and Credits	Transfer Category	If non-transferable; select status
		Will not transfer

### Rowan University

Course Code, Title, and Credits	Transfer Category	If non-transferable; select status
		Will not transfer

### Rutgers - New Brunswick, Mason Gross School of the Arts

Course Code, Title, and Credits	Transfer Category	If non-transferable; select status
		Will not transfer

### Stockton University

Course Code, Title, and Credits	Transfer Category	If non-transferable; select status
		Will not transfer

### If not transferable to any institution, explain:

This is a Developmental Course

## 10. Course Learning Outcomes

### Learning Outcomes

Students who successfully complete this course will be able to:	
CLO1	Perform operations using real numbers, including simple radicals.
CLO2	Apply properties of real numbers and use the Order of Operations for real numbers.
CLO3	Solve linear equations and inequalities, and application problems involving linear equations.
CLO4	Graph linear equations and inequalities with the slope intercept form of an equation.
CLO5	Determine equations of lines given specific information.
CLO6	Solve systems of linear equations by graphing and substitution methods.
CLO7	Solve application problems involving systems of linear equations.
CLO8	Perform operations with polynomials and basic division of algebraic expressions.
CLO9	Simplify and evaluate algebraic expressions involving exponents and formulas.
CLO10	Estimate the decimal approximation of radicals.

## 11. Topical Outline

(include as many themes/skills as needed)

	Major Themes/ Skills	Assignments (Recommended but not limited to)	Assessments (Recommended but not limited to)	Course Learning Outcome(s)
T01	Real Number Expressions	Practice problems assigned from textbook or online homework system.	Quiz and/or Exam	1, 2, 9, 10
T02	Algebraic Expressions	Practice problems assigned from textbook or online homework system.	Quiz and/or Exam	8, 9

T03	One Variable Equations	Practice problems assigned from textbook or online homework system.	Quiz and/or Exam	3, 9
T04	Two Variable Equations	Practice problems assigned from textbook or online homework system.	Quiz and/or Exam	4, 5
T05	Inequalities	Practice problems assigned from textbook or online homework system.	Quiz and/or Exam	3, 4
T06	Systems of Equations	Practice problems assigned from textbook or online homework system.	Quiz and/or Exam	6, 7
T07	Applications	Practice problems assigned from textbook or online homework system.	Quiz and/or Exam	1, 3, 4, 5, 6, 7, 8, 9

## 12. Methods of Instruction

In the structuring of this course, what major methods of instruction will be utilized?

Lecture, Modeling, Guided and Independent Practice

## 13. General Education Goals Addressed by this Course (this section is to fulfill state requirements)

Information

### Quantitative Knowledge and Skills

Yes

### Related Course Learning Outcome

All

### Related Outline Component

All

### Assessment of General Education Goal (Recommended but not limited to)

Exams/Quizzes

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### Independent/Critical Thinking

Yes

### Related Course Learning Outcome

All

### Related Outline Component

All

**Assessment of General Education Goal (Recommended but not limited to)**

Exams/Quizzes

**14. Needs****Instructional Materials (text etc.):**

Appropriate textbook with online resources

**Technology Needs:**

N/A

**Human Resource Needs (Presently Employed vs. New Faculty):**

N/A

**Facility Needs:**

N/A

**Library needs:**

N/A

**15. Grade Determinants**

The final grade in the course will be the cumulative grade based on the following letter grades or their numerical equivalents for the course assignments and examinations

**A: Excellent****B+: Very Good****B: Good****C+: Above Average****C: Average****D: Below Average****F: Failure****I: Incomplete****R: Audit**

For more detailed information on the Ocean County College grading system, please see Policy #5154.

**16. Board Approval****History of Board approval dates**

August 25, 2016