

INTERMEDIATE ALGEBRA INTENSIVE
21:640:104 (3+N3 CREDITS)
AND
INTERMEDIATE ALGEBRA
21:640:105 (3 CREDITS)

COURSE DESCRIPTION: This course is intended to give students the necessary numerical and algebraic skills to allow for success in subsequent courses requiring a solid foundation in quantitative reasoning. The topics contained in this course include whole numbers, fractions, decimals, proportions, percents, variable expressions, equations (linear and quadratic) and applications, systems of linear equations, polynomial operations and factoring, and graphing simple equations

This is a foundational mathematics course designed for students who require additional preparation before taking 21:640:106 (Math for Liberal Arts) or 21:640:107 (College Algebra for Humanities) or 21:640:109 (College Algebra for Science and Business)

PREREQUISITE: Determined by the Mathematics Placement Examination.

FORMATS OF THE COURSE: Rutgers University Newark offers the Intermediate Algebra courses in two formats, as described below.

- 1) **TRADITIONAL LECTURE:** This format of the course is typically taught by a dedicated instructor using a textbook in a traditional classroom.
- 2) **HYBRID:** This format of the course uses an adaptive learning software called ALEKS 360. With this format, classes are typically held in a computer lab with students working on a computer and a dedicated instructor present in each class and regularly available for office hours.

CALCULATORS POLICY: NO Calculators: This course involves computation and the development of related skills. Calculators are never allowed. Problems can be done with pencil and paper. Sufficient work for computations must be shown. Credit will be deducted for insufficient work.

REQUIREMENTS FOR PASSING THE COURSE: Students must pass the final exam with a score of 70% or better in order to pass the course with a minimum C grade, **passing the final exam (70% or better) does NOT guarantee that a student will pass the course.** For students achieving 70% or better on their final exam, the course grade is determined by the percentage breakdown (e.g. for quizzes, exams, and so forth) indicated on the course syllabus.

In other words, there are two conditions students must satisfy to pass this course.

- a. Must score 70% or higher on the final exam.
- b. Must have a final course average (after taking the final exam) of 70% or higher.

FREE TUTORING: Please be informed that virtual tutoring will be available to you for the Spring 2020 semester. Here is a link explaining to how to book an appointment:

<https://rutgers.box.com/s/d5mwyuchi4yrhjtdk858y6bc4clwdv57>

COURSE MATERIAL: The following is a list of course material options for each format of the course.

- 1) **TRADITIONAL LECTURE:** “Developmental Mathematics: Prealgebra, Beginning Algebra, & Intermediate Algebra”, 1st Edition, by Julie Miller and Molly O’Neill and Nancy Hyde, published by McGraw Hill Educations, ISBN 9781265500580.
The textbook is available for purchase at the Rutgers Newark Barnes & Noble Bookstore located at 42 Halsey Street, Newark.

- 2) **HYBRID:** There is no textbook required for this format of the course. You will, however, be required to purchase an **18-week license** for ALEKS 360, and online Adaptive Learning Software. *Purchasing a license less than 18 weeks will force you to purchase another license mid-semester for an additional cost.*
 - **REQUIRED ALEKS 360 18-week license:** The ALEKS 360 license will grant students access to an electronic copy of the textbook at no addition. Students may purchase the license:
 1. directly through ALEKS for a discounted price
or
 2. ALEKS 360 18-week Access Card, ISBN 9781260189391 through the Rutgers Newark Barnes & Noble Bookstore at retail price. The bookstore is located at 42 Halsey Street, Newark or you can purchase at the bookstore website.
 - **OPTIONAL Course Material:** Loose-leaf copy of the textbook. Students may purchase this option copy:
 1. In-app purchase directly through ALEKS for an additional nominal fee
or
 2. through the Rutgers Newark Barnes & Noble Bookstore located at 42 Halsey Street, Newark as a bundle with the ALEKS 360 18-week license, ISBN 9781264959860 at a retail price.

THIS COURSE COVERS THE FOLLOWING CONTENT: The content covered in both formats is the same. Below is a specific breakdown for each.

TRADITIONAL LECTURE SECTIONS

Topics from the following chapters will be covered.

Chapter 1: Whole Numbers (Exclude Section 1.1)

Chapter 2: Integers and Algebraic Expressions

Chapter 3: Solving Equations

Chapter 4: Fractions and Mixed Numbers

Chapter 5: Decimals

Chapter 6: Ratios and Proportions

Chapter 7: Percents

Chapter 8: Measurement and Geometry (Exclude Sections 8.4 and 8.5)

Chapter 9: Introduction to Statistics (Section 9.5 only)

Chapter 10: Lines and Inequalities (Exclude Section 10.7)

Chapter 11: Graphing Linear Equations in Two Variables (Exclude Section 11.6)

Chapter 12: Systems of Linear Equations in two Variable (Exclude Sections 12.5 and 12.6)
Chapter 13: Polynomials and Properties of Exponents
Chapter 14: Factoring Polynomials (Exclude Section 14.6)
Chapter 15: Rational Expressions and Equations (Exclude Section 15.5)
Chapter 17: More Equations and Inequalities (Sections 17.3 and 17.4 only)
Chapter 18: Radicals and Complex Numbers (Section 18.1 only)
Chapter 19: Quadratic Equations and Functions (Sections 19.1 and 19.2 only)

HYBRID SECTIONS: The content is divided into the following three parts.

PART 1: Topics from the following chapters will be covered.

Chapter 1: Whole Numbers
Chapter 2: Integers and Algebraic Expressions
Chapter 3: Solving Equations (Exclude Section 3.5)
Chapter 4: Fractions and Mixed Numbers
Chapter 5: Decimals
Chapter 6: Ratios and Proportions
Chapter 7: Percents (Sections 7.1 and 7.3 only)
Chapter 8: Measurement and Geometry (Exclude Sections 8.4 and 8.5)
Chapter 9: Introduction to Statistics (Section 9.5 only)
Chapter 10: Lines and Inequalities (Exclude Sections 10.4, 10.7, and 10.8)
Chapter 13: Polynomials and Properties of Exponents (Section 13.1 and 13.6 only)
Chapter 14: Factoring Polynomials (Section 14.1 only)
Chapter 15: Rational Expressions and Equations (Exclude Sections 15.1 and 15.5)
Chapter 18: Radicals and Complex Numbers (Section 18.1 only)

PART 2: Topics from the following chapters will be covered.

Chapter 3: Solving Equations (Section 3.5 only)
Chapter 4: Fractions and Mixed Numbers (Section 4.2 only)
Chapter 5: Decimals (Section 5.4 only)
Chapter 6: Ratios and Proportions (6.3 only)
Chapter 7: Percents (Sections 7.2, 7.4, and 7.5 only)
Chapter 10: Lines and Inequalities (Exclude Sections 10.2 and 10.7)
Chapter 12: Systems of Linear Equations in two Variable (Sections 12.2 and 12.4 only)
Chapter 13: Polynomials and Properties of Exponents
Chapter 14: Factoring Polynomials (Exclude Section 14.6, 14.7, and 14.8)
Chapter 15: Rational Expressions and Equations (Sections 15.1, 15.2, 15.6, and 15.7 only)
Chapter 17: More Equations and Inequalities (Sections 17.3 and 17.4 only)

PART 3: Topics from the following chapters will be covered.

Chapter 11: Graphing Linear Equations in Two Variables (Excludes Section 11.6)
Chapter 12: Systems of Linear Equations in two Variable (Sections 12.1 and 12.3 only)
Chapter 14: Factoring Polynomials (Section 14.7, and 14.8 only)
Chapter 19: Quadratic Equations and Functions (Sections 19.1 and 19.2 only)

DEPARTMENT INFORMATION:

Department of Mathematics & Computer Science
Smith Hall 216,
101 Warren Street
Newark, New Jersey 07102
Phone: (973) 353-1004
Fax: (973) 353-5270
Website: <https://sasn.rutgers.edu/math>