

MIDDLESEX COUNTY COLLEGE
EDISON, NEW JERSEY

MATHEMATICS DEPARTMENT

Date: Spring 2010

Course Title: Algebra I (Part B)

Course No.: MAT-013B

Class Hours: 4

Laboratory Hours: 0

Credit Hours: 0

Dept. Head Approval: _____
Maria DeLucia, Ph.D.

Dean Approval: _____
Reginald Luke, Ph.D.

Prerequisite:

Prerequisite(s): MAT 013A or Permission of Mathematics Department Chairman.

Textbook of Course:

Author: Miller, O'Neill, Hyde

Title: Introductory Algebra, 2nd Edition

Publisher: McGraw-Hill

Catalog Course Description:

This is the second semester of a two semester course in algebra I designed to introduce and develop elementary algebraic concepts. Topics include: techniques of graphing, solving linear systems, polynomials and their operations, special products and factoring, rational expressions and equations, Introduction to Radical Expressions, and solving quadratic equations by factoring.

Grade Requirement:

A "C" is the minimum acceptable grade for completion of the remedial/development level or movement to a credit course.

GRADING POLICY

ALEKS Pie	15%
ALEKS quizzes and in-class quizzes	15%
4 Tests	40%
Final Exam	30%

Grades should be assigned as follows:

92% - 100%	A	77% - 78%	C+
89% - 91%	A-	70% - 76%	C
87% - 88%	B+	60% - 69%	D
82% - 86%	B	below 60%	F
79% - 81%	B-		

Tests:

There are 4 tests. Each instructor is responsible to produce his or her own tests.

Quizzes:

It is suggested that quizzes be given frequently. *MathZone* (on-line) quizzes can be set up for you. You will be given more information about the software during the orientation before the beginning of the semester.

Homework

Homework should be assigned each class meeting and periodically checked. Whether textbook assignments are graded or not, students should be made aware that doing homework is of the utmost importance in order to solidify learned skills and to provide a strong foundation upon which they can learn new material. As part of homework, students should work on completing their ALEKS pie and should be expected to put at least 3-4 hours per work on ALEKS.

Attendance

There is no official attendance policy. However, students should be made aware of how important attendance is for their success. Some instructors build in extra quizzes to encourage good attendance. Whatever you choose, some students will have attendance problems and the issue needs to be addressed.

Final Exam:

The two-hour final exam will be administered during the last class session and is a requirement of the course. The Final Exam is a departmental final and includes **all the material covered in**

MAT 013. A minimum of 60% on the Final Exam is required to pass the class with a grade of C or better.

Additional Material:

MathZone, is a powerful Web-based tutorial for homework, quizzing, testing and multimedia instruction. *MathZone* offers: (a) Practice exercises, (b) Video, (c) e-Professor, and (d) NetTutor. Students might have an access code from last semester or they can buy a new one.

Extra Help

Students should be informed where they can get help if they have difficulty with the subject matter. Some suggestions are:

1. If you are a full-time instructor, students should be encouraged to come for help during your office hours.
2. Faculty volunteer and peer tutoring is available in the Johnson Learning Center.
3. Professional tutors are available in the Developmental Mathematics Lab/Tutoring Center in MH 142. In addition to tutoring, students have access to computers on which they will be able to review and practice the skills they have learned in class. They will be able to work on software programs that are aligned with their textbooks. If you would like your class to meet in the lab for an orientation session, contact a lab staff member at x3807.
4. Students should be encouraged to work in study groups. This will be fostered if you allow students to work in groups, at times, during your class sessions especially on review days before a test.

Calculators:

It is suggested that students may use scientific calculators at the discretion of the instructors.

End of Semester Procedure

Review Packets for the Final Exam are available in Center II and on-line. You will be asked to submit an end of year summary.

**SUGGESTED
DAY-TO-DAY OUTLINE
MAT- 013B**

Day	Sections	Topics	ALEKS PIE & QUIZ
1	Introduction, ALEKS , 3.1	3.1 Rectangular Coordinate System Obj. 2-Plotting in a Rectangular Coordinate System Obj. 3-Applications of Plotting and Identifying Points	
2	3.2	3.2 Linear Equations in Two Variables Obj. 1-Definition of a Linear equation in Two Variables Obj. 2-Graphing Linear equations in Two Variables by Plotting Points Obj. 3- x-and y- Intercepts Obj. 4-Horizontal and Vertical Lines	Work on Arithmetic Readiness
3	3.3, 3.4	3.3 Slopes of a Line and Rates of Change Obj. 1-Introduction to Slope Obj. 2-Slope formula Obj. 3-Parellel and Perpendicular Lines Obj. 4-Applications of Slope: Rate of Change 3.4 Slope-Intercept Form of a Line Obj. 1-Slope-Intercept Form of a Line Obj. 2-Graphing a Line from Its Slope and y- Intercept Obj. 3-Determine Whether two Lines Are Parallel, Perpendicular, Or Neither	
4	More on 3.4, 3.5	3.4 Slope-Intercept Form of a Line Obj. 4-Writing an Equation of a line Using Slope-intercept Form 3.5 Point-Slope Formula Obj. 1- Writing an equation of a Line using the Point-Slope Formula Obj. 2-Writing an Equation of a Line Given two Points Obj. 3-Writing an Equation of a Line Parallel or Perpendicular to Another Line Obj. 4-Different forms of Linear Equations: A Summary	Work on Functions, lines & Systems of equations
5	Catch-up and Review		
6	TEST # 1 (Ch. 3)		
7	4.1	4.1 Solving Systems of equations by the Graphing method Obj. 1-determine Solutions to a System of Linear Equations Obj. 2-Dependent and Inconsistent Systems of Linear Equations Obj. 3-Solving Systems of Linear Equations by Graphing	Continue work on Functions, lines & Systems of equations

8	4.2	4.2 Solving Systems of Equations by the Substitution method Obj. 1-Solving Systems of Linear Equations by the Substitution Method Obj. 2-Solutions to Systems of Linear Equations: A Summary Obj. 3-Applications of the Substitution method	
9	4.3	4.3 Solving Systems of Equations by the Addition Method Obj. 1-Solving a System of Linear equations by the Addition method Obj. 2-Summary of Methods for using Linear Equations in two Variables	
10	4.4 and Review	4.4 Applications of Linear Equations in Two Variables Obj. 1-Applications Involving Cost	Practice on Quiz Chapters 3 & 4
11	TEST # 2 (Ch. 4)		Due Mastery Quiz on Chapters 3 & 4
12	Review Ch 5 and focus on 5.6	Review Polynomials and properties of exponents and focus on Multiplication of polynomials and special products.	Work on Integer Expressions and polynomials Practice on Quiz Review Chapter 5
13	6.1	6.1 Greatest Common Factor and Factoring by Grouping Obj. 1-Identifying the Greatest Common Factor Obj. 2-Factoring out the Greatest Common factor Obj. 3-Factoring out a Negative factor Obj. 4-Factoring out a Binomial factor Obj. 5-Factoring by Grouping	Due Mastery Quiz on Review Chapter 5
14	6.2, 6.3	6.2 Factoring Trinomials of the Form $x^2 + bx + c$ Obj. 1-Factoring Trinomials with a leading Coefficient of 1 6.3 Factoring Trinomials: trial-and-Error method Obj. 1- Factoring Trinomials by the Trial-and-Error method	Continue work on Integer exponents and polynomials
15	6.4, 6.5	6.4 Factoring trinomials: AC-Method Obj. 1-Factoring Trinomials by the AC-Method 6.5 Difference of Squares and Perfect Square Trinomials Obj. 1-Factoring a Difference of Squares Obj. 2-Factoring Perfect Square Trinomials	
16	6.7, 6.8	6.7 Solving Equations Using the Zero product Rule Obj. 1-Definition of a Quadratic Equation Obj. 2-Zero Product Rule Obj. 3-Solving Equations by Factoring 6.8 Applications of Quadratic Equations Obj. 1-Applications of Quadratic Equations	Work on Complex Numbers and Quadratic Equations Practice Quiz on Chapter 6
17	Review Ch. 6		
18	TEST # 3 (Ch. 6)		Due Mastery Quiz on Chapter 6

19	7.1, 7.2	7.1 Introduction to Rational Expressions Obj. 1-Definition of a Rational Expression Obj. 2-Evaluating rational Expressions Obj. 3-Domain of a rational Expression Obj. 4-Simplifying Rational Expressions to Lowest Terms Obj. 5-Simplifying a Ratio of -1 7.2 Multiplication and Division of rational Expressions Obj. 1-Multiplication of rational Expressions Obj. 2-Division of Rational Expressions	Work on Rational Expressions and Proportions
20	7.3	7.3 Least Common Denominator Obj. 1-Least Common Denominator Obj. 2-Writing Rational Expressions with the Least Common Denominator	
21	7.4	7.4 Addition and Subtraction of Rational Expressions Obj. 1-Addition and Subtraction of Rational Expressions with the Same Denominators Obj. 2-Addition and Subtraction of rational Expressions with Different Denominators Obj. 3-Using Rational Expressions in Translations	Practice on Quiz Chapter 7
22	8.1, 8.2	8.1 Introduction to Roots and radicals Obj. 1-Definition of a Square Root 8.2 Simplifying Radicals Obj. 1-Multiplication property of Radicals(Focus on square roots) Obj. 2-Simplifying Radicals Using the Multiplication Property of radicals	Due Mastery Quiz on Chapter 7
23	8.3	8.3 Addition and Subtraction of Radicals Obj. 1-Definition of Like Radicals Obj. 2-Addition and Subtraction of Radicals	Work on Radicals and Rational exponents
24	Catch-up and review		Practice on Quiz Chapter 8
25	TEST # 4 (Ch. 7, 8)		Due Mastery Quiz on Chapter 8
26	Final review		
27	Final Review		
28	FINAL EXAM		