

Math 102: Intermediate Algebra Syllabus

Course Description

Properties of the real number systems, factoring, linear and quadratic functions, polynomial and rational expressions, inequalities, systems of equations, exponents and radicals.

Credits: 4 Semester Credits

Prerequisite(s): Appropriate placement score or C or better in ASC 92

Delivery Method: In class

Course Objectives/Student Outcomes

The students will

- Analyze and solve various types of intermediate algebra problems
- Utilize a graphing calculator for solving algebra problems
- Be prepared for college Algebra: Math 103

Instructor: Connie Blair

Office: Admin RM 159

Office Hours: 8:00-9:00 Monday—Friday

Email: connie.blair@minotstateu.edu

Class Schedule: 9:00-9:50 MTuWTh

Textbook: *Beginning and Intermediate Algebra by Tobey, Slater, Blair, and Crawford 4th edition*
Pearson

Other Materials: Graphing Calculator (TI-83 or TI-84)

Course Requirements

Learning algebra is an **investment of time**. Algebra is learned best by practicing, reflecting, and practicing some more. While understanding examples provided by the instructor and textbook is a good first step, to truly master the material you should be able to look at a problem, know how to proceed and be able to carry out the steps **WITHOUT ASSISTANCE**. The independent practice (including homework and practice tests) in MyMathLab provides opportunities for you to get to that point. Passing grades on chapter tests demonstrate that you have indeed mastered the skills taught.

Evaluation

Homework—10%

Homework will be submitted in MyMathLab unless stated otherwise and can be found under the homework tab in MyMathLab. You may work ahead, but each homework assignment must be completed by the due date listed otherwise there will be a 30% penalty. Grades of 80% or higher are required to proceed to the subsequent homework assignment. There is no limit to the number of times you can complete a homework assignment.

Quizzes—20%

These mid-chapter quizzes will be taken in a proctored setting on the computer unless otherwise stated. *Missed quizzes must be made up within three business days.*

Tests—70%

There will be five tests throughout the semester. Your final exam may replace your lowest test score. **There will be no make-ups.**

Based on North Dakota state policy, students must earn a grade of C or higher to be promoted to the next level of college mathematics. Letter grades are assigned using the following scale.

- A 89.50%-100%**
- B 79.50%-89.49%**
- C 69.50%-79.49%**
- D 59.50%-69.49%**
- F 59.49% or lower**

Course Outline (subject to change)

specific dates for your course can be found in the course calendar in MyMathLab

Chapter 3: Graphing and Functions

- 3.1: The Rectangular Coordinate System
- 3.2: Graphing Linear Equations
- 3.3: The Slope of a Line
- Quiz #1: Sections 3.1-3.3**
- 3.4: Writing the Equation of a Line
- 3.5: Graphing Linear Inequalities (calculator activity)
- 3.6: Functions
- Quiz #2: Sections 3.4-3.6**

Chapter 4: Systems of Linear Equations and Inequalities

- 4.1: Systems of Linear Equations in Two Variables
- 4.2: System of Linear Equations in Three Variables (calculator activity)
- 4.3: Applications of Systems of Linear equations

Chapter 3 and Chapter 4 Test

Chapter 6: Factoring

- 6.1: Removing a Common Factor
- 6.2: Factoring by Grouping
- 6.3: Factoring Trinomials of the Form $x^2 + bx + c$
- 6.4: Factoring Trinomials of the Form $ax^2 + bx + c$
- Quiz #3: Sections 6.1-6.4**
- 6.5: Special Cases of Factoring
- 6.6: A Brief Review of Factoring
- 6.7: Solving Quadratic Equations by Factoring (calculator activity)

Chapter 6 Test

Chapter 7: Rational Expressions and Equations

- 7.1: Simplifying Rational Expressions
- 7.2: Multiplying and Dividing Rational Expressions
- 7.3: Adding and Subtracting Rational Expressions
- Quiz #4: Sections 7.1-7.3**
- 7.4: Simplifying Complex Rational Expressions
- 7.5: Solving Equations Involving Rational Expressions (calculator activity)
- 7.6: Ratio, Proportion, and Other Applied Problems

Chapter 7 Test

Chapter 8: Rational Exponents and Radicals

- 8.1: Rational Exponents
- 8.2: Radical Expressions and Functions
- 8.3: Simplifying, Adding, and Subtracting Radicals
- Quiz #5: Sections 8.1-8.3**
- 8.4: Multiplying and Dividing Radicals
- 8.5: Radical Equations
- 8.6: Complex Numbers

Chapter 8 Test

Chapter 9: Quadratic Equations and Inequalities

9.1: Quadratic Equations

9.2: The Quadratic Formula and Solutions to the Quadratic Equations

9.3: Equations That Can Be Transformed into Quadratic Form

Quiz #6: Sections 9.1-9.3

9.4: Formulas and Applications

9.5: Quadratic Functions

9.6: Compound and Quadratic Inequalities

9.7: Absolute Value Equations and Inequalities

Chapter 9 Test

General Education Goals/Objectives

Goal 3: Demonstrates the ability to convert, calculate, and analyze a variety of mathematical problems

Objective 1: Utilizes mathematical equations to solve problems

Skill 1: Solves equations and problems using the appropriate method

Objective 2: Applies practical application of mathematics to everyday life

Skill 2: Defines and demonstrates the use of decimals, percentages, and fractions

Skill 3: Solves word problems

Relationship to Campus Theme

The student will begin to see applications of algebra in nature, business, health, construction, etc. As they use the graphing calculator, they can solve real life problems with large numbers. These problems will require critical thinking and interaction with other students.

Classroom Policies

- **ATTENDANCE:** The sequential nature of mathematics deems it necessary for students to attend class and *participate* on a regular basis, therefore one of the course requirements is regular attendance. If you cannot attend class for whatever reason, please notify the instructor immediately.
- **ASSIGNMENTS:** Students may work ahead; however, each assignment must be completed on or before the due date to receive full credit.
- **ELECTRONIC DEVICES:** Turn off or mute (not vibrate) cell phones, pagers, and other electronic devices. There is absolutely no cell phone or iPod use during class.

Academic Integrity

The academic community is operated on the basis of honesty, integrity and fair play. It is the expectation that all students, as members of the college community, adhere to the highest levels of academic integrity. This means that

- Students are responsible for submitting their own work. Student work must not be plagiarized.
- Students must not cooperate on oral or written examinations or work together on evaluated assignments without authorization

Violations of academic principles such as cheating, plagiarism or other academic improprieties will be handled using the guidelines outlined in the Student Handbook.

Disabilities and Special Needs

If you have a disability for which you need accommodation, please see me immediately. If you have already met with Student Developmental personnel, please provide me with the information regarding your needs so that I can make the appropriate accommodations.