



Course Syllabus

College of Natural Sciences
 MTH/209 Version 6
 College Mathematics II

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Course Description

This course continues the demonstration and examination of various algebra concepts that was begun in MTH/208: College Mathematics I. It assists in building skills for performing more complex mathematical operations and problem solving than in earlier courses. These concepts and skills should serve as a foundation for subsequent quantitative business coursework. Applications to real-world problems are emphasized throughout the course.

Policies

Faculty and students will be held responsible for understanding and adhering to all policies contained within the following two documents:

- University [policies](#): You must be logged into the student website to view this document.
- Instructor policies: This document is posted in the **Course Materials** forum.

University policies are subject to change. Be sure to read the policies at the beginning of each class. Policies may be slightly different depending on the modality in which you attend class. If you have recently changed modalities, read the policies governing your current class modality.

Course Materials

Rockswold, G. K., & Krieger, T. A. (2013). *Beginning and intermediate algebra with applications and visualization*. (3rd ed.). Boston, MA: Addison-Wesley.

All electronic materials are available on the student website.

Week One: Polynomials			
	Details	Due	Points
Objectives	1.1 Simplify polynomials. 1.2 Use the distribution property with polynomials. 1.3 Perform polynomial operations. 1.4 Use polynomials in real-world applications.		
Reading	Read Ch. 5, sections 5.2–5.4 and 5.6 of Ch. 5 of <i>Beginning and Intermediate Algebra With Applications and Visualization</i> .		
Reading	Read the University of Phoenix Material: MyMathLab [®] Study Plan.		
Participation	Participate in class discussion.		2
Discussion	Respond to weekly discussion questions.		2

Questions			
Nongraded Activities and Preparation MyMathLab® Orientation	Resource: University of Phoenix Material: Using MyMathLab® Log on to MyMathLab® on the student website. Complete the MyMathLab® Orientation exercise.		
Nongraded Activities and Preparation Introduction to Math in Technology	Watch the “Introduction to Math in Technology” video located on the student website.		
Nongraded Activities and Preparation Adding and Subtracting Polynomials 1	Watch the Khan Academy’s “Adding and Subtracting Polynomials 1” video located on the student website.		
Nongraded Activities and Preparation Multiplying Polynomials 1	Watch the Khan Academy’s “Multiplying Polynomials 1” video located on the student website.		
Nongraded Activities and Preparation Adding and Subtracting Polynomials 2	Watch the Khan Academy’s “Adding and Subtracting Polynomials 2” video located on the student website.		
Nongraded Activities and Preparation Order of Operations 2	Watch the Khan Academy’s “Order of Operations 1” video located on the student website.		
Learning Team Instructions Learning Team Charter	Resource: Learning Team Toolkit Complete the Learning Team Charter.		
Individual MyMathLab® Exercises	Complete the Week One assignment in MyMathLab®.		6
Individual Week One	Review your Study Plan in MyMathLab® after completing the homework assignment for the week.		1

Study Plan	Select topics from this week's materials in your study plan that have been highlighted for review. Continue working on these topics until you add a minimum of five new correct topics to your Study Plan report.		
Individual Week One Self-Check	Complete the Week One self-check in MyMathLab [®] .		2

Week Two: Factoring			
	Details	Due	Points
Objectives	2.1 Factor polynomials using the Greatest Common Factor. 2.2 Factor trinomial expressions of the form $x^2 + bx + c$. 2.3 Factor trinomial expressions of the form $ax^2 + bx + c$. 2.4 Factor polynomial expressions using special products.		
Reading	Read Ch. 6, sections 6.1–6.4 of <i>Beginning and Intermediate Algebra With Applications and Visualization</i> .		
Participation	Participate in class discussion.		2
Discussion Questions	Respond to weekly discussion questions.		2
Nongraded Activities and Preparation Understanding Calculators	Watch the “Understanding Calculators” video located on the student website.		
Nongraded Activities and Preparation Factoring Trinomials by Grouping 1	Watch the Khan Academy’s “Factoring Trinomials by Grouping 1” video located on the student website.		
Nongraded Activities and Preparation Factoring Quadratic Expressions	Watch the Khan Academy’s “Factoring Quadratic Expressions” video located on the student website.		
Nongraded Activities and Preparation Factoring Special Products	Watch the Khan Academy’s “Factoring Special Products” video located on the student website.		

Individual MyMathLab® Exercises	Complete the Week Two assignment in MyMathLab®.		5
Individual Week Two Study Plan	Review your Study Plan in MyMathLab® after completing the homework assignment for the week. Select topics from this week's materials in your study plan that have been highlighted for review. Continue working on these topics until you add a minimum of five new correct topics to your Study Plan report.		1
Individual Week Two Self- Check	Complete the Week Two self-check in MyMathLab®.		2
Learning Team Weekly Summary	Post your team's compilation of the four most difficult problems you completed this week. Answer these questions about the problems: <ul style="list-style-type: none"> • Why do you think they were more difficult than others? • What did you do to overcome this difficulty? • How did you arrive at a solution? 		5

Week Three: Rational and Radical Expressions

	<i>Details</i>	<i>Due</i>	<i>Points</i>
Objectives	3.1 Perform operations on rational expressions. 3.2 Solve rational equations and formulas. 3.3 Solve proportion and variation problems. 3.4 Simplify radical expressions. 3.5 Solve problems involving radical expressions.		
Reading	Read Ch. 7, sections 7.1–7.4 and 7.6–7.7 of <i>Beginning and Intermediate Algebra With Applications and Visualization</i> .		
Reading	Read Ch. 10, sections 10.1–10.3 of <i>Beginning and Intermediate Algebra With Applications and Visualization</i> .		
Participation	Participate in class discussion.		2
Discussion Questions	Respond to weekly discussion questions.		2
Nongraded Activities and Preparation Understanding Ratio and Proportion	Watch the “Understanding Ratio and Proportion” video located on the student website.		

<p>Nongraded Activities and Preparation Simplifying Radical Expressions 1</p>	<p>Watch the Khan Academy’s “Simplifying Radical Expressions 1” video located on the student website.</p>		
<p>Nongraded Activities and Preparation Simplifying Radical Expressions 2</p>	<p>Watch the Khan Academy’s “Simplifying Radical Expressions 2” video located on the student website.</p>		
<p>Nongraded Activities and Preparation Simplifying Radical Expressions 3</p>	<p>Watch the Khan Academy’s “Simplifying Radical Expressions 3” video located on the student website.</p>		
<p>Nongraded Activities and Preparation Simplifying Rational Expressions Introduction</p>	<p>Watch the Khan Academy’s “Simplifying Rational Expressions Introduction” video located on the student website.</p>		
<p>Nongraded Activities and Preparation More Simplifying Radical Expressions</p>	<p>Watch the Khan Academy’s “More Simplifying Radical Expressions” video located on the student website.</p>		
<p>Nongraded Activities and Preparation Multiplying and Dividing Rational Expressions</p>	<p>Watch the Khan Academy’s “Multiplying and Dividing Rational Expressions” video located on the student website.</p>		
<p>Nongraded Activities and Preparation Adding Rational Expressions Example 1</p>	<p>Watch the Khan Academy’s “Adding Rational Expressions Example 1” video located on the student website.</p>		
<p>Nongraded Activities and Preparation Ratio and</p>	<p>Watch the Khan Academy’s “Ratio and Proportion” video located on the student website.</p>		

Proportion			
Nongraded Activities and Preparation Solving Rational Equations	Watch the Khan Academy’s “Solving Rational Equations” video located on the student website.		
Nongraded Activities and Preparation Two More Examples of Solving Rational Equations	Watch the Khan Academy’s “Two More Examples of Solving Rational Equations” video located on the student website.		
Individual MyMathLab® Exercises	Complete the Week Three assignment in MyMathLab®.		5
Individual Week Three Study Plan	Review your Study Plan in MyMathLab® after completing the homework assignment for the week. Select topics from this week’s materials in your study plan that have been highlighted for review. Continue working on these topics until you add a minimum of five new correct topics to your Study Plan report.		1
Individual Week Three Self-Check	Complete the Week Three self-check in MyMathLab®.		2
Learning Team Weekly Summary	Post your team’s compilation of the four most difficult problems you completed this week. Answer these questions about the problems: <ul style="list-style-type: none"> • Why do you think they were more difficult than others? • What did you do to overcome this difficulty? • How did you arrive at a solution? 		5

Week Four: Quadratic Equations and Functions

	Details	Due	Points
Objectives	4.1 Identify polynomial, rational, radical, and quadratic functions. 4.2 Identify the domain and range of a function. 4.3 Perform operations on functions. 4.4 Solve quadratic equations. 4.5 Apply nonlinear equations to real-world problems.		
Reading	Read Ch. 6, section 6.6 of <i>Beginning and Intermediate Algebra With Applications and Visualization</i> .		

Reading	Read Ch. 8, section 8.4 of <i>Beginning and Intermediate Algebra With Applications and Visualization</i> .		
Reading	Read Ch. 11, sections 11.1–11.5 of <i>Beginning and Intermediate Algebra With Applications and Visualization</i> .		
Participation	Participate in class discussion.		2
Discussion Questions	Respond to weekly discussion questions.		2
Nongraded Activities and Preparation Quadratic Functions	Watch the “Quadratic Functions” video located on the student website.		
Nongraded Activities and Preparation Solving Quadratic Equations by Factoring 2	Watch the Khan Academy’s “Solving Quadratic by Factoring 2” video located on the student website.		
Nongraded Activities and Preparation Solving Quadratic Equations by Graphing	Watch the Khan Academy’s “Solving Quadratic Equations by Graphing” video located on the student website.		
Nongraded Activities and Preparation Quadratic Equations in Standard Form	Watch the Khan Academy’s “Quadratic Equations in Standard Form” video located on the student website.		
Nongraded Activities and Preparation Using the Quadratic Formula	Watch the Khan Academy’s “Using the Quadratic Formula” video located on the student website.		
Individual MyMathLab® Exercises	Complete the Week Four assignment in MyMathLab®.		5
Individual Week Four	Review your Study Plan in MyMathLab® after completing the homework assignment for the week.		1

Study Plan	<p>Select topics from this week's materials in your study plan that have been highlighted for review.</p> <p>Continue working on these topics until you add a minimum of five new correct topics to your Study Plan report.</p>		
Individual Week Four Self-Check	Complete the Week Four self-check in MyMathLab®.		2
Learning Team Weekly Summary	<p>Post your team's compilation of the four most difficult problems you completed this week. Answer these questions about the problems:</p> <ul style="list-style-type: none"> • Why do you think they were more difficult than others? • What did you do to overcome this difficulty? • How did you arrive at a solution? 		5

Week Five: Nonlinear Functions, Sequences, and Series			
	Details	Due	Points
Objectives	<p>5.1 Use composite functions.</p> <p>5.2 Use inverse functions.</p> <p>5.3 Use logarithmic functions.</p> <p>5.4 Use arithmetic and geometric sequences and series.</p>		
Reading	Read Ch. 12, sections 12.1 and 12.3 of <i>Beginning and Intermediate Algebra With Applications and Visualization</i> .		
Reading	Read Ch. 14, sections 14.1–14.3 of <i>Beginning and Intermediate Algebra With Applications and Visualization</i> .		
Participation	Participate in class discussion.		2
Discussion Questions	Respond to weekly discussion questions.		2
Nongraded Activities and Preparation The Frontiers of Space: Mathematics During the Scientific Revolution	Watch the “The Frontiers of Space: Mathematics During the Scientific Revolution” video located on the student website.		
Nongraded Activities and Preparation Introduction to	Watch the Khan Academy’s “Introduction to Functions” video located on the student website.		

Functions			
Nongraded Activities and Preparation Functions Part 2	Watch the Khan Academy’s “Functions Part 2” video located on the student website.		
Nongraded Activities and Preparation Functions (Part III)	Watch the Khan Academy’s “Functions (Part III)” video located on the student website.		
Nongraded Activities and Preparation Functions (part 4)	Watch the Khan Academy’s “Functions (part 4)” video located on the student website.		
Nongraded Activities and Preparation Function Inverse Example 1	Watch the Khan Academy’s “Function Inverse Example 1” video located on the student website.		
Nongraded Activities and Preparation Function Inverses Example 2	Watch the Khan Academy’s “Function Inverses Example 2” video located on the student website.		
Nongraded Activities and Preparation Function Inverses Example 3	Watch the Khan Academy’s “Function Inverses Example 3” video located on the student website.		
Nongraded Activities and Preparation Patterns in Sequences 1	Watch the Khan Academy’s “Patterns in Sequences 1” video located on the student website.		
Nongraded Activities and Preparation Patterns in Sequences 2	Watch the Khan Academy’s “Patterns in Sequences 2” video located on the student website.		
Nongraded Activities and	Watch the Khan Academy’s “Geometric Sequences (Introduction)” video located on the student website.		

Preparation Geometric Sequences (Introduction)			
Nongraded Activities and Preparation Week Five Self-Check	Complete the Week Five self-check in MyMathLab [®] .		
Individual MyMathLab [®] Exercises	Complete the Week Five assignment in MyMathLab [®] .		6
Individual Week Five Study Plan	Review your Study Plan in MyMathLab [®] after completing the homework assignment for the week. Select topics from this week's materials in your study plan that have been highlighted for review. Continue working on these topics until you add a minimum of five new correct topics to your Study Plan report.		1
Individual Final Examination	Complete the final examination in MyMathLab [®] .		20
Learning Team Weekly Summary	Post your team's compilation of the four most difficult problems you completed this week. Answer these questions about the problems: <ul style="list-style-type: none"> • Why do you think they were more difficult than others? • What did you do to overcome this difficulty? • How did you arrive at a solution? 		5