College Algebra (MATH111)

Spring Term 2017
MWF 9:00-9:50, Hirt 209

Professor: Patrick M. Kelly

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Office Hours:

Mondays:	10:00-11:00
	4:00-6:30
Wednesdays:	10:00-11:00
Thursdays:	8:00-9:00
Fridays:	10:00-11:00

Meeting times by appointment may be arranged as well.

Other Information:

This course is registered on *Blackboard*, an academic software package set up on one of Mercyhurst's servers. You may access information about the course via *Blackboard* at any time from any computer. Please check that the e-mail address listed for you on *Blackboard* (most likely your Mercyhurst account) is the account that you use regularly; please change it on *Blackboard* if this is not the case.

Prerequisite:

A minimum score of 46 on the ALEKS placement exam is required for this course.
(This is currently only in effect for freshmen.)

Text:

Intermediate Algebra for College Students (7 Edition) by Robert Blitzer
ISBN-13: 978-0321758927 Publisher: Pearson
ISBN-10: 0321758927

Calculator:

Take it under advisement that you will not be permitted to use a calculator (or other electronic device) on any quizzes or exams. You are strongly encouraged to avoid using a calculator while working on homework so that it doesn't become a crutch for you.

Course Content:

This is a course in algebra, similar to high school courses in algebra except that the pace will be faster. We will begin with some review of real-number concepts, and proceed into linear equations in one variable, mathematical modeling, polynomials, rational expressions, functions, lines, exponents, radicals, equations, inequalities, and polynomial and rational functions.

Student Learning Objectives:

By the end of this course, the student will have acquired many mathematical tools, including the ability to:

- identify, distinguish, perform algebraic operations and find solutions to equations using the integer, rational, real and complex number systems;
- use common algebraic methods to solve linear, quadratic, polynomial, radical, and absolute value equations and inequalities;
- translate the written problem and create algebraic models to solve real-life problems;
- use and create algebraic functions; and
- demonstrate your understanding of introductory language of mathematics through the use of proper mathematics notation.

Statement of Support for the Mercy Mission

This course supports the Mercy Mission by creating students who are intellectually creative. This is achieved through fostering critical habits of the mind, which support the aspirations for excellence manifested within the academic community. In particular, the student will achieve this by being able to communicate and defend position/conclusions by setting up correct algebraic models and solving the model.

Grading:

Your final course grade will be compiled from several factors. Homework assignments, quizzes, four in-class exams, and the cumulative final exam will be considered for the course grade calculation. The breakdown for each component is as follows:

five hand-in homework assignments, 10 points each = 50 points
eight quizzes, 20 points each = 140 points (lowest score dropped)
four exams, 100 points each = 400 points
final exam, 160 points
total: 750 points

Course grades will be determined using the following scale:

A	702-750 points (94-100%)	B+	672-701 points (90-93%)
B	627-671 points (84-89%)	C+	582-626 points (78-83%)
C	522-581 points (70-77%)	D	447-521 points (60-69%)
F	0-446 points (below 60%)		

Homework:

Homework in a mathematics class is a must! Selected problems from each section lectured on in class will be assigned as suggested exercises. I will not be checking these problems, they are your responsibility to do and understand (I *am* available for even the most trivial of questions. . . .). Note: Anytime a particular section is covered in class—and exercises are assigned from that section—an implied homework assignment is to read that section. You will gain insight on the topic covered in class by reading the author's explanation and looking through his examples.

Five Hand-in Homework assignments will be given throughout the term as well, each worth 10 points toward your final course score.

Quizzes:

Quizzes will be used as an assessment of your understanding of the material and your progress in the course. Quizzes will be held eight times during the term, as (mostly) slated on the course schedule on the last pages of this syllabus.

Six quizzes are included in the schedule on this syllabus; the other two will be unannounced. If you are absent on the day of an unannounced quiz, you will receive a zero for that quiz—there are no make-up opportunities for these quizzes.

At the end of the semester, your lowest quiz score will be dropped.

Exams:

There are four in-class exams scheduled for the course. Be sure to note the scheduled dates as detailed on the last couple of pages of this syllabus.

All exams are cumulative; each exam will include some material from the previous exams. Mathematics is a cumulative effort, and mastering each topic is only possible if you have mastered earlier concepts.

A Few Policies:

- You are responsible for all that is covered (including announcements) in class even if you are absent.
- If you miss a quiz or an exam, a make-up is only considered when (a) notice is given (when possible) prior to the missed assessment, (b) there is a valid reason for missing, and (c) **the make-up assessment is completed prior to the next class session**.
- Office hours are not for reteaching lessons or catching you up on something you missed.
- You are responsible for all the material in a given section unless told otherwise. Use the course schedule and suggested homework as a guide.
- A prerequisite for additional help outside the classroom is regular class attendance.

Cell Phones:

Before each class session begins, please try to remember to turn your phones off so as not to cause a disruption during class (and do realize that even the sound of a vibrating phone can be disruptive). Furthermore, cell phones are not permitted at all during exam situations (quizzes and tests).

Services:

Tutoring

Free tutoring sessions for several different mathematics courses—including College Algebra—are available to you. These sessions adhere to the following schedule:

Day	Time	Room
Monday	6:00-8:00	Zurn 213
Tuesday	6:00-8:00	Zurn 213
Thursday	6:00-8:00	Zurn 213

No appointment is necessary; just walk on in! Below is a link to their website:

http://math.mercyhurst.edu/~griff/courses/Tutoring/
You are strongly encouraged to utilize this tutoring service if you find yourself in need of some extra assistance.

Learning Differences
In keeping with college policy, any student with a disability who needs academic accommodations must call Learning Differences at 824-3017 or stop by Old Main room 314, to arrange a confidential appointment with the Disability Services Director during the first week of classes.

(Tentative) Course Schedule:

Day	Section	Material
Wednesday, 1/18	§1.1	Algebraic Expressions, Real Numbers, and Interval Notation
Friday, 1/20	§1.2	Operations with Real Numbers
Monday, 1/23	§1.3	Graphing Equations
Wed., 1/25	§1.4	Solving Linear Equations
Friday, 1/27	§1.5	Problem Solving and Using Formulas
Monday, 1/30	§1.6	Properties of Integral Exponents
Wed., 2/1 ***Quiz***	§2.1; §2.2	Introduction to Functions; Graphs of Functions
Friday, 2/3	§2.3	The Algebra of Functions
Monday, 2/6		Review/Catch-Up
Wednesday, 2/8	***Exam #1***	
Friday, 2/10	§2.4; §2.5	Linear Functions and Slope; Point-Slope Form of the Equation of a Line
Monday, 2/13	§3.1	Systems of Linear Equations in Two Variables
Wed., 2/15 ***Quiz***	§4.1	Solving Linear Inequalities
Friday, 2/17	§4.2	Compound Inequalities
Monday, 2/20	§4.3	Equations and Inequalities Involving Absolute Value
Wednesday, 2/22	§5.1	Introduction to Polynomials and Polynomial Functions
Friday, 2/24 ***Quiz***	§5.2	Multiplication of Polynomials
Monday, 2/27		Review
Wednesday, 3/1	***Exam #2***	
Friday, 3/3	§5.3	Greatest Common Factors and Factoring by Grouping
Monday, 3/6	*Spring Break—no classes!*	
Wednesday, 3/8		
Friday, 3/10		
Monday, 3/13	§5.4	Factoring Trinomials
Wednesday, 3/15	§5.5	Factoring Special Forms
Friday, 3/17	§5.6	A General Factoring Strategy
Monday, 3/20 ***Quiz***	§5.7	Polynomial Equations and Their Applications
Wednesday, 3/22	§6.1	Rational Expressions and Functions
Friday, 3/24	§6.2	Adding and Subtracting Rational Expressions
Monday, 3/27	§6.3	Complex Rational Expressions
Wed., 3/29 ***Quiz***	§6.4	Division of Polynomials
Friday, 3/31		Review/Catch Up
Monday, 4/3	***Exam #3***	
Wednesday, 4/5	§6.6	Rational Equations
Friday, 4/7	§7.1	Radical Expressions and Functions
Monday, 4/10	§7.2	Rational Exponents
Wednesday, 4/12	§7.3	Multiplying and Simplifying Radical Expressions

Friday, 4/14	*Easter Break—no classes!*	
Monday, 4/17		
Wednesday, 4/19	§7.4	Adding, Subtracting, and Dividing Radical Expressions
Friday, 4/21	§7.4	Adding, Subtracting, and Dividing Radical Expressions
Monday, 4/24 ***Quiz***	§7.5	Multiplying with More than One Term
Wednesday, 4/26	§7.6	Radical Equations
Friday, 4/28	§7.7	Complex Numbers
Monday, 5/1		Review/Catch Up
Wednesday, 5/3	***Exam #4***	
Friday, 5/5		Review
Monday, 5/8	*Reading Day—no classes!*	
Friday, 5/12 at **8:00**	***Final Exam***	