

SYLLABUS FOR M122 - 6342 : College Algebra

Spring 2007

Prerequisite: M117 Intermediate Algebra or placement from testing.

Class Schedule: Tuesdays (required): 9:30 – 10:45 a.m. in CV 208

Thursdays (optional): 9:30 – 10:30 a.m. in the Virtual Classroom (CourseCompass)

Textbook: College Algebra in Context by Harshbarger and Yocco, 2nd edition

CourseCompass: (Required) : an online homework, tutorial, and assessment system. An access code is bundled with new textbooks purchased from the bookstore or can be purchased separately online for \$49.95 at <https://register.pearsoncmg.com/reg/buy/coursebuy.jsp>.

Go to <http://www.coursecompass> to register and login.

Course ID: miller57042 **School ZIP:** 47150

Calculator: (Required) : TI-82, 83, or 84 preferred. TI-89 or similar not allowed.

Instructor: Phillip Miller

Office: LF 106 **Office Phone:** 812-941-2405

Office Hours: 12:00 – 12:30 p.m. and 1:15 – 2:30 p.m. Mon., Wed.;

11:00 a.m. – 12:30 p.m. Tues

other times by appointment or chance

My Math Lab Hours (LF 101): 11:00 a.m. – noon, Mondays & Wednesdays

Email: pmiller@ius.edu **Webpage:** www.ius.edu/pmiller

Course Objectives: By the end of this course, students should be able to:

- Analyze and interpret functions and graphs.
- Solve linear, quadratic, radical, exponential, logarithmic, polynomial and rational equations and inequalities
- Use algebra to solve real life applications from business and economics, life and social sciences.
- Model data using linear, quadratic, power, exponential, logarithmic, logistic, cubic, and quartic functions.
- Use graphing calculator technology to solve problems and model data.

M122 will help meet the following General Education goals:

Essential Skills: Quantitative reasoning

- Interpret mathematical models such as formulas, graphs, tables and schematics and draw inferences from them.
- Represent mathematical information symbolically, visually, numerically and verbally.
- Solve problems involving basic geometrical concepts such as distance, area, volume, angle, and rectangular coordinates.
- Make logical inferences and identify logical errors and fallacies.
- Use basic algebra to solve equations.

Students with Disabilities: If you have specific physical, psychological or learning disabilities and require accommodations, please let me know early in the semester so that your learning needs may be appropriately met. You will need to provide documentation of your disability to the Coordinator of Disability Services located in University Center South Room 006, 941-2243. Additional information about the Office of Services for Students with Disabilities may be obtained at:

<http://www.ius.edu/ASC/DisabilityServices/>

Grading:

<u>Assessment Category</u>	<u>Weight</u>
3 Exams	50%
CourseCompass homework	10%
In-class activities and other assignments	10%
Project	5%
Final Exam	25% *

<u>Scale:</u>	90 – 100%	A (-/+) *
	80 – 89%	B (-/+) *
	70 – 79%	C (-/+) *
	60 – 69%	D (-/+) *
	0 – 59%	F

+ / - will be assigned to upper and lower 2%

*Students who score below 60% on the final can not receive a grade higher than C

CourseCompass homework: For each section from the schedule, complete the online homework assignment. Each assignment must be completed within 2 weeks of the date the section was presented. You may repeat assignments to improve your score up to the due date.

In-class activities and other assignments: These will be completed in class on Tuesdays and/or assigned as homework due the following week.

Project: Due on or before Tuesday, – April, 17, 2007

Go to CourseCompass: Course Documents tab

Turn in a report with neatly drawn graphs and tables and all questions answered in complete sentences. Up to 5 points extra credit can be earned for typing and computer graphics (using Excel, TI-Interactive, TI-connect, etc.)

Final Exam

The Final Exam is a comprehensive departmental exam. A set of review exercises is posted on my webpage: www.ius.edu/pmiller and CourseCompass.

The Final Exam percent can replace one low or missing exam score .

Makeup Policy:

CourseCompass homework assignments are not available after the due date. In-class activities and other assignments that are late are worth half credit. If you must miss an exam, you need to let me know as soon as possible. You can make it up in the **Math Lab**: LF 101 (check the schedule and go there any time that a tutor is available to give the test to you). You must take the test **before the next class** except for unusual circumstances. If you don't have a valid written excuse for missing an exam, **partial credit will not be given** when the makeup is graded.

Help Outside of Class:

- **Math Lab:** Location: Life Sciences, Room 101; 941-2670. Students may walk in and use the facilities at any time (free of charge) without an appointment. Tutor schedule is online at <http://www.ius.edu/mathlab/> and the bulletin board by the lab. “CourseCompass” can be used on the computers in the lab. *Note:* The Virtual Classroom is available in LF 105 instead.
- **Addison-Wesley Tutor Center:** Addison-Wesley's [Math Tutor Center](#) is staffed by college-level math instructors who can help you with what you're learning by phone, fax, email, or interactive web. Visit the Tutor Center's [registration page](#) to sign up for tutoring. When asked for a registration number, simply provide your CourseCompass course ID or student access code. <http://www.aw-bc.com/tutorcenter/registration.html>
- **Private Tutors:** Please visit the Student Development Center, Knobview Hall, Room 233, to sign-up for a tutor. Most students get a tutor within 24 hours. The cost is \$5.00 per hour (non-refundable) and must be paid for in advance. For more information go to: <http://www.ius.edu/sdc/main/assist1.htm>

Bad Weather Policy: When there is bad weather in the area, a decision is made about whether the campus should be closed or open on a delayed schedule as soon as possible. The decision is independent of the decisions of school corporations and the other colleges in the area. Off-campus classes do not meet if campus is closed or if the school building in which they are held is closed.

Delay Schedule:

Monday through Friday classes:

8 a.m. classes meet from 10 a.m. until 10:55 a.m.

9:30 a.m. classes meet from 11 a.m. until 11:55 a.m.

11 a.m. classes meet from 12 noon until 12:55 p.m.

Other classes meet at regular times.

Saturday Classes:

Morning classes meet from 10:30 a.m. until 12 noon.

Afternoon classes meet at regular times.

Tentative Schedule

Week	Textbook Sections / CourseCompass Homework	Graphing Calculator Tutorials
Jan. 9, 11	Chapter 1 Algebra Toolbox 1.1: Functions and Models 1.3: Linear Functions 1.4: Equations of Lines	Getting Started (all) The Basics: 1 st 3 topics
Jan. 16, 18	1.2: Graphs of Functions 1.5: Algebraic and Graphical Solutions of Linear Equations 1.7: Systems of Linear Equations in Two Variables	Graphing: Topics 1 – 6; 10 – 13 Making a table: (all) Basic Statistics: Making a scatterplot
Jan. 23, 25	1.6: Fitting Lines to Data Points; Modeling Linear Functions 1.8: Solutions of Linear Inequalities	Basic Statistics: Finding the line of best fit
Jan. 30, Feb. 1	Chapter 2 Algebra Toolbox 2.1: Quadratic Functions; Parabolas 2.3: A Library of Functions	Graphing: Graphing quadratic Graphing piecewise
Feb. 6, 8	Feb. 6: Exam 1: 1.1 – 1.8 2.2: Solving Quadratic Equations (skip “completing the square” and complex solutions) 2.5: Quadratic and Power Models	
Feb. 13, 15	2.4: Transformations of Graphs and Symmetry 2.6: Combining Functions; Composite Functions	
Feb. 20, 22	2.7: Inverse Functions 2.8: Additional Equations and Inequalities (skip Absolute value equations and inequalities)	
Feb. 27, Mar. 1	4.3: Solutions of Polynomial Equations 4.5: Rational Functions and Rational Equations	Graphing: Finding the Maximum or minimum
Mar. 6, 8	Mar. 6: Exam 2: 2.1 – 2.8 Chapter 4 Algebra Toolbox 4.1: Higher-Degree Polynomial Functions	
Mar. 13, 15	Chapter 3 Algebra Toolbox 3.1: Exponential Functions 3.2: Logarithmic Functions	Graphing: Graphing exponential
Mar. 20, 22	3.3: Exponential and Logarithmic Equations; Properties of Logarithms 3.5: Exponential Functions and Investing	
Mar. 27, 29	Spring Break	
Apr. 3, 5	Review Exponential and Logarithmic Equations 3.4: Exponential and Logarithmic Models 3.7: Logistic Functions (skip Gompertz functions)	
Apr. 10, 12	Apr. 10: Exam 3: 3.1 – 3.5, 3.7 4.2: Modeling Cubic and Quartic Functions	Basic statistics: Finding a non-linear function
Apr. 17, 19	4.6: Polynomial and Rational Inequalities Review for Final Exam	
Thursday, Apr. 26	Final Exam: 9:30 – 11:20	