

Math 127 Intermediate Algebra I 5 Units

MTWTh 11:10-12:25

Room: MSA 003

Section: 1492

Fall 2014

Instructor: William J. Bucher

Office MSB 207

e-mail bucherw@wla.edu

Office Hrs: 7:00-8:00 AM MTWTh in room MSB 207 and 2:10-4:00 MTWTh in MSB 207; or by appointment

Office Phone: (310) 287-4211 Note: It is better to e-mail so there is a written record.

Course Description:

General Institutional SLO—Student Learning Objectives

A.) Critical Thinking: Analyze problems by differentiating fact from opinions, using evidence, and using sound reasoning to specify multiple solutions and their consequences.

C.) Quantitative Reasoning: Identify, analyze, and solve problems that are quantitative in nature

F.) Technical Competence: Utilize the appropriate technology effectively for informational, academic, personal, and professional needs.

Math Program SLO—Student Learning Objectives

1.) Apply quantitative thinking processes using basic mathematical operations (addition, subtraction, multiplication, division) to solve common academic, workplace and family problems. (Theme: Mathematical Operations)

3.) Use mathematical tools essential for analyzing quantitative problems and for producing solutions. (Theme: Mathematical Tools)

5.) Select appropriate math strategies for solving and handling real life problems involving finance, economics, and family issues. (Theme: Mathematical Problem-Solving)

Specific Learning Objectives:

- 1.) Simplify a wide variety of numerical expressions using the properties of the real and complex numbers and the order of operations.
- 2.) Know and accurately use a wide variety of formulas pertaining to many application problems.
- 3.) Solve a wide variety of first degree equations and inequalities.
- 4.) Find solution set of inequalities involving absolute values.
- 5.) Know and use the distance and mid-point formulas.
- 6.) Graph linear equations in two variables—lines.
- 7.) Find the slope and x-and y-intercepts of lines.
- 8.) Determine when two lines are parallel, perpendicular or neither.
- 9.) Write an equation for a line given certain essential information about the line.
- 10.) Graph the solution set for linear inequalities in two variables.
- 11.) Distinguish between a function and a relation—understand the concepts of domain and range.
- 12.) Determine the domain and range of a variety of basic functions and sketch their graphs.
- 13.) Use translations and reflections to graph a wide variety of more complicated functions.
- 14.) Solve systems of equations by the graphing, substitution, and addition/elimination methods.
- 15.) Use Gaussian Elimination to solve 2×2 and 3×3 systems.
- 16.) Recognize inconsistent and dependent systems.
- 17.) State the infinite solutions for a dependent system by using parameterization.
- 18.) Use matrix methods, coupled with back substitution, to solve systems of LEQ's.
- 19.) Use determinants and Cramer's Rule to solve systems of LEQ's.
- 20.) Solve a wide variety of application problems using systems of linear equations.
- 21.) Graph the solution set for a system of linear inequalities.
- 22.) Perform the standard operations on polynomials.
- 23.) Factor a wide variety of polynomials.
- 24.) Use factoring to solve higher degree polynomial equations.
- 25.) Perform the standard operations on rational expressions.
- 26.) Use synthetic division when appropriate.
- 27.) Simplify rational expression by extensive use of factoring.
- 28.) Solve a wide variety of equations involving rational expressions.
- 29.) Use proportions and variation to solve a wide variety of application problems.
- 30.) Exploit the connection between radicals and rational exponents to simplify algebraic expressions.
- 31.) Perform the standard operations on radical expressions.
- 32.) Perform all the standard operations with complex numbers.

Textbook: Intermediate Algebra, Lial, Hornsby, McGinnis, 11th edition, Addison-Wesley. There is a softcover available in the bookstore. Students can also find it online at the usual places.

Schedule: See Tentative Schedule page.

**Homework,
Quizzes,
Tests &
Grading:**

1.) Homework assignments from the text and in the form of supplements will be given every day. We shall discuss the assigned problems at the beginning of each class period. This homework will not be collected, but it is absolutely imperative that you do it!

Doing exercises and solving problems outside of class is where you learn the most!

Some effort should be made to keep this “done” homework in an organized fashion. It is very useful when studying for tests and quizzes.

2.) There will be two short quizzes every week, usually Tuesdays and Thursdays. These will really be short, i.e., 10 minute duration, at most 4 questions. The purpose of these quizzes is to guarantee that the student stays current with the class lectures and activities. The problems will be very similar to the assigned homework problems. There will be approximately 25 of these quizzes. I will throw out your 5 worst quizzes in computing your average quiz score. The remaining quizzes will make up 16% of your final course grade. **There will absolutely be no makeup quizzes!**

3.) There will be three tests. These will be of full period duration. See schedule for approximate dates. Makeup examinations will be given only to those students possessing **documented valid excuses. Advanced notice is mandatory.** Don't miss an examination and then show up. Call or write me ahead of time and make an arrangement to take the test. In order to be fair to the students who took the exam as scheduled, makeup examinations will always be substantially more difficult than the original. Each of the three examinations will be worth 17% of your final course grade, making a total of 51% for all three exams.

4.) The final examination will be a departmentally designed, comprehensive examination. This exam will be worth the remaining 33% of your final course grade. This is heavily weighted so it is extremely important that the student do well on this examination in order to do well in the course.

Summary

Quizzes (approx 14, throw out worst 3)	16%
Tests (3 at 17% each)	51%
Final Examination	<u>33%</u>
Total	100%

Note about Attendance: If you miss more than 4 meetings (a week) of the course, the instructor has the option of excluding you from the course. If you are doing failing work, I will utilize this option at the earliest possible date. Once you have been excluded, there will be no reinstatement.

Note about Grading Scale:

I use a straight scale:	100-90% A
	89-80% B
	79-68% C
	67-55% D
	54-00% F

Calculators:

In this and future courses, the use of calculators is permitted and encouraged. I advise you to buy a scientific graphing calculator with statistical capabilities. **You may not use your cell phones as calculators during quizzes or examinations!!! Get a calculator!!**

Cell Phones:

Cell phone use is strictly forbidden in the classroom. If you possess a cell phone, it must be set on silent vibrate mode. If you absolutely must take an emergency call, please exit the classroom quietly and do so outside.

Academic Dishonesty

Cheating or plagiarism will not be tolerated. Any cases of either will be referred to the Dean of Students for disciplinary action. For more on acceptable behavior, read *Standards of Student Conduct* on page 119 of the Schedule of Classes.

Tentative Schedule for Math 127
Lial & Hornsby

Month	Mon.	Tues.	Wed.	Thu.	Sections Covered
Sept.	H	2	3	4	1.1-1.4
	8	9	10	11	2.1-2.4
	15	16	17	18	2.5-2.7
	22	23	24	25	3.1-3.4
Oct.	29	30	1	2	3.5-3.6 Test 1
	6	7	8	9	4.1-4.3
	13	14	15	16	4.4, 5.1-5.4
	20	21	22	23	5.5, 6.1-6.3
Nov.	27	28	29	30	6.4-6.5 Test 2
	3	4	5	6	7.1-7.2
	10	H	12	13	7.3-7.5
	17	18	19	20	7.6, 8.1-8.3
Dec.	24	25	26	H	8.4-8.6
	1	2	3	4	8.7, Review Test 3
	8	9	10	11	Review for Final
		15-21		Finals	

Final Examination: Dec. 18, 2014 11:30-1:30 pm

Last date to drop without a fee—Friday, Sept. 12

Last day to drop without a W—Friday, Sept. 12

Last day to drop with a W—Nov. 21, 2014

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