Math 123B Elementary and Intermediate Algebra II 4 Units

MTWTh 1:00-2:05

Room: SC 106  Section: 1476  Fall 2014

Instructor: William J. Bucher  Office MSB 207  e-mail bucherw@wlac.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:
Second of three modules for Math 123 covering elementary algebra topics such as addition, subtraction, multiplication and division of polynomials, solutions of second degree equations and radical expressions. Solutions of word problems involving linear equations and inequalities will also be covered

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:
Upon satisfactory completion of the course, a student will be able to:

1a. Factor a wide variety of polynomials using a variety of methods:
   i. GCF(distributive property)
   ii. Trial and error
   iii. Grouping
   iv. Special products
1b. Solve polynomial equations using factoring and the zero product property
1c. Set up and solve a wide variety of application problems involving polynomial
    equations, particularly quadratic equations

2a. Add, subtract, multiply, divide, and simplify rational expressions (algebraic
    fractions) and be aware of the domain restrictions of the simplified expressions
2b. Simplify complex algebra fractions
2c. Solve equation involving rational expressions and be aware of the possibility of
    extraneous roots
2d. Model and solve applications problems involving rational equations and expressions
2e. Solve literal equations and deal with scientific formulae
2f. Solve problems involving proportions and variation

3a. Evaluate simplify, add, subtract, multiply and divide radical expressions
3b. Exploit the connection between radicals and rational exponents to simplify radical
    expressions
3c. Solve equations containing radical expressions
3d. Model and solve applications problems involving radical equations and expressions
3e. Solve quadratic equation by factoring, square roots, completing the square, and the
    quadratic formula
3f. Perform all the standard operations with complex number

4a. Explain the concepts of relation and function
4b. Work with functional notation, f(x), in the context of linear and quadratic functions
4c. Explain what domain and range are in the context of simple relations and functions
Textbook:  *Beginning and Intermediate Algebra*  Lial, Hornsby, McGinnis, 5th 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     33%
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 123B

**Lial & Hornsby**

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<thead>
<tr>
<th>Month</th>
<th>Mon.</th>
<th>Tues.</th>
<th>Wed.</th>
<th>Thu.</th>
<th>Sections Covered</th>
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**Final Examination:** Dec. 18, 2014 1:45-3:45 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