Math M 117 –Intermediate Algebra (3cr.)
General Syllabus-Fall 2015

TEXT:
Lial, Hornsby, McGinnis: Beginning and Intermediate Algebra, Sixth Edition

PREREQUISITE:
Level MA103 on Placement Exam or MATH A100.
The student entering this course is expected to be proficient in the following skills:
1. Solving and graphing linear equations.
2. Solving Linear Inequalities.
4. Adding, subtracting, multiplying, and evaluating polynomial expressions.
5. Factoring monomial and binomial factors from polynomial expressions.

DESCRIPTION:
Designed to introduce nonlinear models and their applications, advanced linear systems, and function foundations. Does not satisfy the College of Arts and Sciences distribution requirements nor general education mathematical reasoning requirement.

EXAMINATIONS
In addition to individual instructor requirements, all M117 students will be given a common midterm and final.

Grades will be assigned according to the following scale:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>A+</td>
<td>97-100%</td>
</tr>
<tr>
<td>A</td>
<td>93-96%</td>
</tr>
<tr>
<td>A-</td>
<td>90-92%</td>
</tr>
<tr>
<td>B+</td>
<td>87-89%</td>
</tr>
<tr>
<td>B</td>
<td>83-86%</td>
</tr>
<tr>
<td>B-</td>
<td>80-82%</td>
</tr>
<tr>
<td>C+</td>
<td>77-79%</td>
</tr>
<tr>
<td>C</td>
<td>73-76%</td>
</tr>
<tr>
<td>F</td>
<td>0-72%</td>
</tr>
</tbody>
</table>

TEXT COVERAGE
The class will proceed according to the following format:

Review of Factoring - Handout
5.4: Special Factoring Techniques (review, cover difference/sum of cubes fully)
5.5: Solving Quadratic Equations Using Zero-Factoring Property (review)
6.1: The Fundamental Property of Rational Expressions
6.2: Multiplying and Dividing of Rational Expressions
6.3: Least Common Denominators (cover briefly, just enough to prepare for 6.4)
6.4: Adding and Subtracting Rational Expressions
6.5: Complex Fractions
6.6: Solving Equations with Rational Expressions
7.5: Solving Systems of Linear Equations by Elimination (review)
7.6: Systems of Linear Equations in Three Variables
7.7: Applications of Systems of Linear Equations (mixture and motion problems are optional)
9.1: Introduction to Relations and Functions (emphasis on domain and range)
9.2: Function Notation and Linear Functions (emphasis on notation and evaluating a function)

This ends the material that must be completed prior to the midterm. The midterm will be administered in 7th or 8th week of the semester and is worth 25% of your final grade. It covers sections 5.4 to 7.4 from the list above.
10.1: Radical Expressions and Graphs
10.2: Rational Exponents
10.3: Simplifying Radicals, the Distance Formula and Circles
10.4: Adding and Subtracting Radical Expressions
10.5: Multiplying and Dividing Radical Expressions
10.6: Solving Equations with Radicals
10.7: Complex Numbers
11.1: Solving Quadratic Equations by the Square Root Property
11.3: Solving Quadratic Equations by the Quadratic Formula
11.4: Solving Equations Quadratic in Form
11.5: Formulas and Further Applications
11.6: Graphs of Quadratic Functions (skip vertical or horizontal translation)
11.7: More about Parabolas and Their Applications (cover vertex and applications, while completing the square is optional)
11.8: Polynomial and Rational Inequalities

This ends the material that must be completed after the midterm. The final exam will be administered during the finals-only week (16th week) and is worth 35% of your final grade. It covers sections 10.1 to 11.8 from the list above.

The remaining 40% of your grade may consist of homework, quizzes, tests, attendance, participation, and/or any other component, and is entirely at your instructor’s discretion.

USE OF CALCULATORS:
Calculators ARE allowed in M117. Strongly recommended calculators are TI-30 (scientific) and TI-83/84 (graphing).

MATH ASSISTANCE CENTER:
IUN provides free math tutoring services on a walk-in basis at HH 436. In order to accommodate students with varying schedules, we offer evening and Saturday hours. For more information, please call the MAC at (219) 981-6979 or check the web page http://www.iun.edu/math/student-resources/Math_Assistance_Center.htm. Before visiting the Math Assistance Center remember to organize your questions in advance, and be prepared to show your own homework attempts.

STUDENTS WITH DISABILITIES:
If you have a documented disability and need assistance, special arrangements can be made to accommodate most needs. Visit Student Support Services at HH 239 (980-6798) or go to the web page http://www.iun.edu/~nwstuden/supportn/ for more information.

ELECTRONIC COURTESY:
So as not to disturb others please make sure all electronic devices are either turned off or in the silent mode when coming into the classroom. Use of cell phones is prohibited during exams.

DEPARTMENT OF MATHEMATICS AND ACTUARIAL SCIENCE WEB PAGE:
To find more about mathematics courses, programs and faculty visit http://www.iun.edu/math/.

IU’s FLAG Early Alert System is used to provide real-time feedback on your performance in this course. Periodically throughout the semester I will be entering data on factors such as your class attendance, participation, and success with coursework, among other things. This information will provide feedback on how you are faring in the course and offer you suggestions on how you might be able to improve your performance. You will be able to access this information in the student center: Onestart > Student Services page > Student Center > My Academics and Grades > My Grades.