LAKE SUPERIOR
S T A T E   U N I V E R S I T Y

College of Natural and Mathematical Sciences   **Fall 2011**
MATH 102 Intermediate Algebra (4,0)   **4 Credits**

Prerequisites: One year of high-school algebra and a satisfactory score on the mathematics placement exam (17-25), or completion of MATH086 with credit, or a score of 21-22 on the mathematics portion of the ACT exam. This course will not count toward a major or minor in mathematics.

Instructor(s): George Voutsadakis
            CASET Hall, Room 206J
            906-635-2667
            Email: gvoutsad@lssu.edu

Office Hours:

Monday	Tuesday	Wednesday	Thursday	Friday
9:00-10:00	9:00-10:00	1:00-2:00	9:00-10:00	9:00-10:00

Required Texts: Intermediate Algebra, sixth edition, Mark Dugopolski

Recommended Text: None

Course Description: This course is a study of algebra for students who either have not had a second year experience in high school algebra at the intermediate level or need a refresher course in that level of algebra. Topics covered include the following: real numbers and operations, solving and graphing first degree equations and inequalities, solving systems of linear equations and quadratic equations, algebra of polynomials, simplifying and solving radical and rational expressions and equations, and simplifying and solving exponential and logarithmic expressions and equations.

Course Objectives: At the conclusion of MATH102 students should be able to:
1. Perform operations and evaluate expressions using real numbers and variables.
2. Solve linear equations, inequalities and application problems relating to those.
3. Graph linear equations, inequalities and functions, determine slopes of lines and write equations of lines.
4. Solve systems of linear equations.
5. Perform basic operations on polynomial expressions, factor polynomial expressions and solve equations containing polynomials.
6. Perform basic operations on rational algebraic expressions, simplify complex rational expressions and solve rational equations.
7. Simplify expressions containing rational exponents, evaluate radical expressions, perform basic operations on radical expressions and solve radical equations.
8. Solve quadratic equations, inequalities and equations of quadratic form using a variety of techniques, such as completing the square, factoring and using the quadratic formula.
9. Perform algebra of functions, operations on functions and find inverse functions.
10. Graph exponential and logarithmic functions and solve exponential and logarithmic equations using properties of logarithms.

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Grading Scale and Policies:
Point and Percentage Values:

Quizzes	100 points	25%
Exams	200 points	50%
Final Exam	100 points	25%
	Total 400 points	Total 100%

Grading Scale:

94-100	A	70-74	C
90-93	A-	65-69	C-
87-89	B+	60-64	D+
84-86	B	55-59	D
80-83	B-	50-54	D-
75-79	C+	0-49	F

Grading Policies: You will be graded on correct methodology, i.e., if you provide an answer but show no work or your work is incorrect, you will receive no credit. Your solutions must be written in a connected, step-by-step logical fashion and all variables should be clearly defined. If your solution is not written clearly, you will not receive full credit. In many cases, setting up the correct mathematical model and using this model to solve a problem will be just as important as computing a numerical answer.

The homework exercises for each section covered are on the last page of this handout. You should spend a lot of your math study time doing homework. If you are struggling with your homework seek help from your instructor or the tutors in the Learning Center.

The course outline on the next-to-last page is a projection of the general structure and content of the course. It is tentative and subject to change without prior notice.

Ground Rules:
1. **Calculator:** You will need a graphing calculator. The TI-83/84 Plus is the recommended calculator for this course. This is the one your instructor will be using and your instructor may not be able to provide assistance with other models. All other electronic devices, including computers, PDAs and cell phones, must be turned off for all class lecture sessions.
2. **Purpose of Lecture:** Lectures are an opportunity for students to ask questions and seek clarification on material. This implies student preparation has been accomplished prior to class. Lecture is also the opportunity for the instructor to coordinate coverage of the material and present material that is historically or potentially difficult. It does not negate student preparation or study.
3. **Attendance Policy:** Attendance is strongly encouraged. If you miss a class, or are late, you are still responsible for class notes and assignments. Moreover, you will be assigned a 0 score should a quiz take place during that missed lecture.
4. **Make-up Policy:** Each exam should be taken at the designated time. An exam may be taken prior to or after the scheduled date, by agreement with the instructor, provided that the student provides a request with a documented valid excuse well in advance of the scheduled date. If an absence is unexcused, no make-up will be provided, either for exams or for quizzes.

5. **Academic Integrity:** Students are expected to perform all assigned work themselves. Any form of cheating or plagiarism will be handled in accordance with the Academic Integrity Procedures. Violations of the University Academic Integrity Policy may result in an F course grade.

6. **Testing:** Use of head phones, cell phones and hats during exams is prohibited.

University Policies and Statements:

The Americans with Disabilities Act & Accommodations

In compliance with Lake Superior State University policies and equal access laws, disability-related accommodations or services are available to students with documented disabilities.

If you are a student with a disability and you think you may require accommodations you must register with Disability Services (DS), which is located in the KJS Library, Room 130, (906) 635-2355 or x2355 on campus. DS will provide you with a letter of confirmation of your verified disability and authorize recommended accommodations. This authorization must be presented to your instructor before any accommodations can be made.

Students who desire such services should meet with instructors in a timely manner, preferably during the first week of class, to discuss individual disability related needs. Any student who feels that an accommodation is needed – based on the impact of a disability – should meet with instructors privately to discuss specific needs.

IPASS (Individual Plan for Academic Student Success)

If at mid-term your grades reflect that you are at risk for failing some or all of your classes, you will be contacted by a representative of IPASS. The IPASS program is designed to help you gain control over your learning through pro-active communication and goal-setting, the development of intentional learning skills and study habits, and personal accountability. You may contact 635-2887 or email ipass@lssu.edu if you would like to sign up early in the semester or if you have any questions or concerns.

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Tentative Course Outline

Week	Dates	Monday	Tuesday	Thursday	Friday
1	08/29/11	1.2	1.3	1.4	2.1
2	09/05/11	BREAK	BREAK	2.2	2.3
3	09/12/11	2.4	2.5	Review	Exam 1
4	09/19/11	2.6	3.1	3.2	3.3
5	09/26/11	3.4	3.4	4.1	4.2
6	10/03/11	4.3	4.3	Review	Exam 2
7	10/10/11	5.1	5.2	5.3	5.4
8	10/17/11	5.5	5.6	5.7	5.8
9	10/24/11	6.1	6.2	6.3	6.4
10	10/31/11	6.5	6.6	7.1	7.2
11	11/07/11	7.3	7.4	Review	Exam 3
12	11/14/11	7.5	7.5	8.1	8.2
13	11/21/11	8.3	8.3	BREAK	BREAK
14	11/28/11	8.4	8.5	Review	Exam 4
15	12/05/11	10.1	10.2	10.3	10.4

Assignments

Section	Warm-Ups	Exercises
1.2		17,19,21,25-30,67-84 odd, 85-96 odd
1.3	1-10	7,11,12,17,19,21,33,35,37,39,45,47,49,57,59,61,63,69,71,73,75,77,79, 81,83,85,89
1.4	1-10	7,9,11,13,15,17,19,21,23,29-39 odd, 69-75 odd, 93,97,99
2.1	1-10	9,11,15,21,25,29,35,37,43,45,49,51,55,57,59,61,63,69,71,73,75,79,83, 85,95,98
2.2	1-10	7,9,15,19,23,27,31,33,43,45,49,53,57,59,61,65,73,75,79,85
2.3	1-10	7,9,15,17,19,21,28,30,31,33,43,45,51,53,59,63,67,69
2.4	1-10	7-19 odd, 21-28 odd, 39,41,43,47,51,53,55,59,61,67,69,75-81 odd, 87,90
2.5	1-10	7,9,11,13,15,17,21,23,25,27,35,37,39,41,43,45,47,49,51,55,57,59,61, 63,65,73,74,77,79,82,83,84
2.6	1-10	7,9,11,15,17,21,27,29,33,35,37,41-47 odd, 55,57,61,63,65,67,71,75-81 odd, 93,95
3.1	1-10	7,14,16,20,21,25,27,29,31,41,47,51,57,61,65,69,77,79,81,84,85
3.2	1-10	7,9,11,17,19,21,29,33,35,39,41,45,47,51,53,55,61,63,65,69,71
3.3	1-10	7,9,11,17,19,21,25,27,33,35,39,41,47,49,51,55,57,59,63,65,67,71,77,79
3.4	1-10	7,9,11,19,21,23,25,31,33,35,39,41,43,45,47,55,57,65,67,73,75,81,85,97
4.1	1-10	7,9,15,17,35,37,45,53,55,63,65,71,75,79,82,83,87,91
4.2	1-10	7,9,15,19,25,27,29,31,33,41,45,66,69,72
4.3	1-10	7,9,11,15,27,29,35,37,43,47,52
5.1	1-10	7,9,11,13,15,17,19,21,23,25,29,31,33,37,41,45,49,53,55,65,67,69,71,73,7

		7,79,85,87,93,95,97,99
5.2	1-10	7,9,11,15,17,19,21,23,27,31,33,35,41,45,47,49,51,55,57,61,63,65,67,69,71
5.3	1-10	7-21 odd, 23,25,27,29,31,35,37,41,45,51,55,59,63,67,69,71,75,83,85,87
5.4	1-10	9,11,15,17,19,27,29,35,39,41,45,47,49,53,57,59,69,73,77,81,85,107,109
5.5	1-10	9,11,13,17,19,21,25,27,29,31,33,35,39,41,43,47,49,51,55,57,61,63,67, 69,71,75,77,81,85,91,93,99
5.6	1-10	5,9,13,17,19,25,29,31,37,41,43,45,49,61,65,71,77,79,85,91,97,105
5.7	1-10	5,7,9,11,17,19,21,25,29,31,33,35,37,39,41,45,47,53,57,59,61,65,86,91
5.8	1-10	7,11,15,19,23,27,34,37,41,45,47,51,53,59,61,66,79,81,84,91,95
6.1	1-10	7,9,11,17,21,25,29,31,33,37,41,47,49,53,57,65,67,69,71,93,95
6.2	1-10	5,7,11,13,17,23,25,27,31,33,35,39,43,53,57,71,73,77,81
6.3	1-10	7,11,16,17,19,21,23,27,29,31,35,37,41,45,51,55,57,63,67,71,75,83,105
6.4	1-10	3,7,9,11,15,19,23,29,31,39,41,45,49,57,59,65,67
6.5	1-10	7,9,13,15,21,23,25,27,33,35,37,41,45,49,55,57,59,65,69,71,79,81,83,85, 89,91,93,
6.6	1-10	7,9,13,17,21,23,25,31,33,37,45,47,51,57,61,65,75,77,79,85,88,91
7.1	1-10	7-33 odd, 35,39,43,45,47,49,53,57,61,63,67,69,75,77,83,87,91,99,101,103
7.2	1-10	7,9,11,13,15,17,21,23,25,27,29,31,35,39,41,43-59 odd, 61,65,69,71,73,79
7.3	1-10	5,7,9,11,13,17,21,23,25,33,35,37,43,45,47,49,51,53,55,61,63,65,71,73
7.4	1-10	1,3,7,9,11,15,19,23,27,29,33,35,39,45,49,51,53,59,63,67,77,95,99
7.5	1-10	5,9,11,13,15,17,21,27,29,33,35,37,43,45,49,51,55,61,65,67,73,99,101
8.1	1-10	5,9,15,19,25,29,33,37,41,43,47,51,55,57,59,61,63,65,67
8.2	1-10	7,9,13,15,19,23,25,33,35,39,49,51,59,65,77,79,81
8.3	1-10	5,9,11,19,23,25,29,31,33,35,37,43,45,49,51,53,59,61,63,65,83,85,87
8.4	1-10	7,9,13,15,19,21,23,29,31,33,37,39,41,43,45,47,61,63,67
8.5	1-10	5,7,9,11,15,17,19,21,25,27,29,31,35,37,41,43,45,47,85,87
10.1	1-10	7,11,13,17,27,29,31,33,37,39,53-65 odd
10.2	1-10	7,9,11,13,21,25,27,31,35,45,47,49,53,63-73 odd
10.3	1-10	7,9,15,17,19,21,23,25,27,29,31,35,37,39,41,45,47,49,53,57,59,61,64,65,67,69,71,73,75,77,81,85,87,89,91
10.4	1-10	3,5,7,9,11,13,15,17,19,21,23,25,29,31,33,35,37,39,41,43,47,49,51,53,55, 57,59,61,63,65,68,71,74,76,81,83,85,89