MTH 095: Intermediate Algebra

Catalog Description: Addition, subtraction, multiplication, and division of rational expressions, long division of polynomials, solution of fractional equations, applications involving linear equations. Fractional equations, inequalities, literal equations, and variations. Negative and fractional exponents, radicals, solution of quadratic equations, and complex numbers. Cartesian coordinates, graphs of linear equations and inequalities, distance formula, slope, equations of lines, solutions of systems of linear equations in two unknowns and inequalities.

Credits: 3

Terms offered: F, W, S, Su

Enforced Prerequisites: MTH 065 with C- or better, or ALEKS math placement test: 30%, or math placement test: 11, or instructor permission.

Meetings: Three 50-minute lectures weekly

Course Content:
1. Addition, subtraction, multiplication, and division of rational expressions
2. Long division of polynomials
3. Solutions of fractional equations
4. Applications involving linear equations
5. Fractional equations, inequalities, literal equations, and variations.
6. Negative and fractional exponents, radicals, solutions of quadratic equations, and complex numbers.
7. Cartesian coordinates, graphs of linear equations and inequalities, distance formula, slope, equations of lines, solutions of systems of linear equations in two unknowns and inequalities.

MTH 095 Measurable Student Learning Outcomes: A successful student in MTH 095 will be able to:
- Solve linear and rational equations. Solving quadratic equations by factoring, completing the square and the quadratic formula that have real number or complex number solutions.
- Solve systems of linear equations and interpret the solution graphically.
- Simplify monomials expressions using the properties of exponents and radicals.
- Given a linear function, graph the line, and identify the slope and y-intercept.
- Find the equation of a linear function given then slope and a point or two points on the line. Given the graph of a linear function, identify the slope and y-intercept and find the equation of the line.
- Given a linear model interpret the slope and y-intercept in context of the problem.
- Solve linear, quadratic and rational application problems by defining a variable, creating and solving an equation, and interpreting the results.
- Add, subtract, multiply and divide rational expressions, and express solutions in simplest form.

Evaluation of Student Performance: Your grade and measurement of your progress on the course outcomes will be based on weekly online homework, along with 2 written midterms and a final exam. (Approximate percentages given.)
- Online Homework 25%
- 2 Midterms 50%
- Final Exam 25%

Selected portions of the text will be covered as follows.

Chapter 1: 1.2, 1.3, 1.4, 1.6
Chapter 2: 2.1, 2.2, 2.3, 2.4, 2.5
Chapter 3: 3.2, 3.2
Chapter 4: 4.1
Chapter 5: 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8
Chapter 6: 6.1, 6.2, 6.3, 6.8
Chapter 7: 7.1, 7.2, 7.3, 7.4, 7.8
Chapter 8: 8.1, 8.2, 8.3, 8.6

**Students With Disabilities:** Accommodations are collaborative efforts between students, faculty and Disability Access Services (DAS). Students with accommodations approved through DAS are responsible for contacting the faculty member in charge of the course prior to or during the first week of the term to discuss accommodations. Students who believe they are eligible for accommodations but who have not yet obtained approval through DAS should contact DAS immediately at 737-4098.

**Academic Honesty and Student Conduct:** Students are expected to be familiar with the Homework and Exam policies stated in this syllabus, as well as Oregon State University's Student Conduct Code.  