**Math 95: Intermediate Algebra**

**Course Description**: Mth 95 is an intermediate algebra course intended to reinforce the basic algebraic skills covered in Mth 60/65 and to further develop the application of those skills to solving a variety of applied, real-world, and theoretical mathematical problems. Emphasis will be placed on integrating the solution of problems using symbolic, graphical, and numerical strategies. An important, required tool introduced in Mth 95 is a graphing calculator. The symbolic, numerical, and graphical representations of the mathematical concept of a function will be introduced and explored.

Mth 95 has the competencies from Mth 60 and Mth 65: Elementary Algebra I and II as prerequisites; the course is not college-transferable. Mth 95 is a 4 credit hour (quarter system) course.

**Performance Based Outcomes in Mathematics**

Students who successfully complete any mathematics course at Central Oregon Community College will be able to:

1. *Work independently to explore mathematical applications and models, and to develop algebraic/symbolic, graphical, numerical, and narrative skills in solving mathematics problems.*

2. *Work as a member of a group/team on projects or activities that are designed to explore mathematical applications and models.*

3. *Use both written and oral skills to communicate about mathematical concepts, processes, complete mathematical solutions and their implications.*

4. *Use a variety of problem solving tools including symbolic/algebraic notation, graphs, tables, and narratives to identify, analyze, and solve mathematical problems.*

5. *Develop mathematical conjectures and use examples and counterexamples to examine the validity and reasonableness of those conjectures.*

6. *Create and analyze mathematical models of real world and theoretical situations, including the implications and limitations of those models.*

7. *Use appropriate technologies to analyze and solve mathematics problems, and verify the appropriateness and reasonableness of the solution(s).*

**Specifically, students who complete Math 95: Intermediate Algebra will be able to:**

• model and solve applied, real-world, and theoretical mathematical problems requiring the solution of linear and quadratic equations; use narrative, symbolic, graphic and numeric strategies and translate among them. 1, 2, 4, 5, 6

• use a graphing calculator to create appropriate graphs that represent mathematical models, determine appropriate viewing windows and accurately interpret and draw inferences regarding the meaning, implications and limitations of the graphical solution to a problem. 4, 5, 6, , 7

• solve equations involving quadratic, polynomial, radical, rational, and absolute value expressions both algebraically and graphically and be able to explain the relationship between the algebraic and graphical methods and solutions.

• examine a variety of relationships stated in narrative, symbolic, graphical, or tabular form and determine which represent functions; determine what the domain and range of functions are; and draw inferences regarding the meaning, implications and limitations of the given functional representation of the problem.

• investigate and solve one-variable linear and absolute value inequalities by coordinate graphing and algebraic means and explain the relationship between the methods and solutions.