MAT 150
COLLEGE ALGEBRA

<u>Course Description</u>: Includes selected topics in algebra and analytic geometry. Develops manipulative skills and concepts required for further study in mathematics. Includes linear, quadratic, polynomial, rational, exponential, logarithmic and piecewise functions; systems of equations; and an introduction to analytic geometry.

(Students may not receive credit for both MAT 150 and any other College Algebra or Precalculus course. Credit not available on the basis of special exam.)

<u>Text</u>: Instructor-specific book/package

<u>Supplies</u>: Calculator approved by the instructor

<u>Prerequisites</u>: Students must meet one of the following:
1. Math ACT score of 22 or above;
2. Math ACT score of 19 – 21 with concurrent MAT 100 workshop;
3. Successful completion of Intermediate Algebra, MAT 126, or equivalent; or
4. KCTCS placement exam recommendation.

<u>Course Competencies</u>:
1. Recognize functions and specify the domain and the range of a given function.
2. Graph linear, quadratic polynomial, rational, exponential, logarithmic and piecewise functions.
3. Write expressions from data, verbal descriptions or graph.
4. Solve polynomial, rational, exponential and logarithmic equations.
5. Solve application problems using linear, quadratic, exponential, and logarithmic functions.
6. Perform operations with functions and find inverse functions.
7. Solve linear and nonlinear systems of equations.
8. Solve nonlinear inequalities.

<u>General Education Competencies</u>:
Students should prepare for twenty-first century challenges by gaining:
A.   Knowledge of human cultures and the physical and natural worlds through study in the sciences and mathematics, social sciences, humanities, histories, languages, and the arts.
B.   Intellectual and practical skills, including
- inquiry and analysis
- critical and creative thinking
- written and oral communication
- quantitative literacy
- information literacy
- teamwork and problem solving
C.   Personal and social responsibility, including
- Civic knowledge and engagement (local and global)
- Intercultural knowledge and competence
- Ethical reasoning and action
- Foundations and skills for lifelong learning
D.   Integrative and applied learning, including synthesis and advanced accomplishment across general and specialized skills.

<u>End of Course Minimal Competency Exam</u>: A departmental comprehensive minimal competency final exam will be given during finals week and must be taken by all students in order to receive a passing grade. Students should be aware that they are responsible for taking this comprehensive exam at the time designated by their instructor. The student's score on this minimal competency test will represent **30%** of their final grade in the class.

The student may use a scientific calculator on the exam but graphing calculators may only be used with instructor approval (none may be approved that have built-in CAS capability).

<u>Math Tutoring</u>: ACTC has a Learning Lab located on College Drive in the Goodpaster Building room G309 and a Math Lab located on Technology Drive in room 147. These labs offer math tutoring assistance. Please see the signs located across campus for the times tutors are available. It is strongly encouraged that you visit the Learning Lab or the Math Lab as often as possible to get help mastering your math skills.

<u>Disabilities Statement</u>:

Ashland Community and Technical College is committed to ensuring that all students with disabilities have an equal opportunity in the pursuit of their educational objectives. If you have any type of disability and need accommodations, contact the Disabled Student Services Coordinator at 606.326.2051 or in Room 220. You MUST also inform your instructor(s) of your needs at the beginning of the semester.