

**COURSE: INTERMEDIATE ALGEBRA**

**ACSK 0103**

**INSTRUCTOR:** Donald F. Anderson  
needed.

**OFFICE HOURS:** Before class by arrangement and after class as

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**DESCRIPTION:** This developmental algebra course covers a quick beginning algebra review; solving systems of linear equations, inequalities in one variable, and radical, quadratic, rational equations; graphing lines, linear inequalities, and parabolas; working with function notation and radical expressions; and interwoven problem solving. Some graphing calculator lessons are included. Upon successful completion, a student may take MATH 1204, College Algebra or MATH 2043, Survey of College Mathematics.

**PREREQUISITE:** Beginning Algebra (ACSK 0023) with a grade of C or better, or minimum placement score: COMPASS Prealgebra-39 & Algebra 41, ASSET Numerical Skills-40 & Elementary Algebra-43, or ACT Math-17. Beginning algebra background is necessary. If prerequisites have not been met, you need to drop this class or speak to Victoria McClendon, Division Dean.

**CREDIT HOURS:** 3 credit hours, calculated in student overall GPA, but not credited toward any degree requirement.

**TARGET AUDIENCE AND TRANSFER:** This course is intended for college students who have had considerable algebra instruction, and for those students needing a review of high school algebra concepts to strengthen skill in preparation for college algebra study. Current high school students are prevented from enrolling in this course by law. A non-transfer course, Intermediate Algebra, if completed with a "C" or better grade, indicates sufficient skill to attempt a college level mathematics course.

#### **INTELLECTUAL DEVELOPMENT CORE:**

Goals for student thinking that encourage intellectual risk, modeling and problem solving, and independent exploration all lead to the Intermediate Algebra course preparing productive workers and citizens with the following skills:

1. Persistence in independent problem solving and departing from rote procedure.
2. Develop communication skills within the context of real applications.
3. Actively explore solutions graphically to clarify algebraic approaches.
4. Gather, organize and summarize data.
5. Apply a variety of symbolic approaches to problem solving.
6. Allow for problems without unique solutions and judge the reasonableness of results.
7. Use technology for exploring, building ideas and as a natural tool for realistic mathematics problems.

#### **CONTENT CORE:**

A student successfully completing Intermediate Algebra, ACSK 0103, will demonstrate these five primary course competencies:

- 1) Write the equation of a line in slope-intercept form given the y-intercept in point form and another point on the line, or graph a line.
- 2) Solve a consistent system of two equations in two variables.
- 3) Simplify a radical expression.
- 4) Solve a factorable quadratic equation.
- 5) Model linear, rational, Pythagorean, and quadratic problems using algebraic process.
- 6) And, meet all core objectives for Beginning Algebra:
  - a) Find the solution of a linear equation
  - b) Model a linear problem using algebraic process.
  - c) Graph a linear equation in two variables.
  - d) Simplify an exponential expression.
  - e) Factor a second-degree polynomial .
  - f) Meet all core objectives of Prealgebra (see Prealgebra course outline

**ADDITIONAL CONTENT EMPHASIS**—A student successfully completing Intermediate Algebra, ACSK 0103, will also be able to:

- 1) Perform operations on radical expressions.
- 2) Solve a linear inequality in one variable and graph the solution on a real number line.
- 3) Graph any linear equation and inequality in two variables, and radical and quadratic functions.
- 4) Solve quadratic equations via a variety of methods, including those with complex number solutions.

- 5) Work with functions: recognize a function, evaluate and graph functions, find the domain (graph & formula) and range (graphs).
- 6) Work with slope concepts (determine slope given any of: two points, a graph, an equation).

**REQUIRED/OPTIONAL TEXTS AND STUDENT RESOURCES:**

Required: Introductory and Intermediate Algebra: A Combined Approach. Bittinger and Beecher, Addison Wesley Longman, Inc. Reading, MA: 1999.

The student will be required to have a scientific calculator

Other Resources for the publisher, Addison Wesley Longman, Inc.:

1. Introductory and Intermediate Algebra@ A Combined Approach: Student=s Solution Manual. Bittinger, Beecher, and Penna
2. ASteps to Success@ videotapes with comprehensive coverage of text sections. Available for check out at NWACC=s library.
3. AMath Study Skills for Students@ videotape. Available in the reference section and for check out at NWACC=s library.
4. Interact Math Tutorial software program. Examples, guided practice and customized feedback additional to test exercises. Available on computers in NWACC=s Learning Lab, CEF 1109, and copies for home use may be requested.
5. MathMax Multimedia CD\_ROM. Key concepts, summaries, and study skills integrated with text and exercises. Available on computers in NWACC=s Learning Lab.

Additionally for NWACC:

1. Peer and faculty tutors on a free, walk-in basis in NWACC=s Learning Lab and in the new MAT building. Evening and weekend hours. Specific times vary by semester.
2. Supportive web sites, supplemental worksheets, reference materials in the Learning Lab.
3. Math anxiety and time management videos in NWACC=s library.
4. NWACC=s Life Development Center counseling service and programs.
5. Graphing calculators may be rented on a semester basis for a fee.

**METHOD OF INSTRUCTION:** Lecture and demonstration by the instructor with strong emphasis on student participation and application both in and out of class. My rationale is that you learn mathematics skills by doing them, not by listening to lecture. It is important to understand and use the language and notation of mathematics to the point you are comfortable with it. By understanding the underlying principles, you can solve many problems and not rely on a cookbook approach. You can expect both in-class and out of class problems to be assigned. This is to help ensure skills are acquired and you are properly prepared for examinations.

**GRADING:** Your grade will be determined by your test scores, quiz scores, and attendance. There will be four tests that will count 15% each and a final comprehensive examination that will count 20%. There will be a group project that will count 10%. The remaining 10% will be attendance and other graded assignments. Expect quizzes at any time as we proceed through the course. The grading scale will be 90-100.....A, 80-89.....B, 70-79.....C, 60-69.....D, Below 60.....F. I reserve the right to change this if required. Attendance is mandatory and role will be taken each class period

**MAKE-UP POLICY:** NO MAKE-UP TESTS OR QUIZZES WILL BE GIVEN FOR ANY REASON. If you miss a single test, the final will be weighed an additional 10%. If you miss two tests, your grade will be lowered one letter grade. If you miss a quiz, you have lost an opportunity.

**BAD WEATHER POLICY:** NWACC closing will be announced on most local radio and television stations. NOTE that College closings DO NOT correspond to public school closings.

**DROP DATE:** Students may continue to drop classes after the Drop/Add period. Classes dropped after September 10, 2003 will show a grade of AW@ (Withdrawn) on the student=s transcript. The last day to drop a class for the Fall 2003 Semester is November 7, 2003 by 4:00 PM.

**DISABILITY SERVICES:** If you are a student with a documented disability who will be requesting accommodations, you should the Office of Disability Services at the Student Information Center in the Central Education Facility, 619-4237 or 619-4109. The Director of Disability Services will meet you and recommend appropriate accommodations and services after you have submitted the required documentation. Individuals eligible for services include, but are not limited to, those with chronic health, mobility, orthopedic, hearing, vision, speech, traumatic head injury, attention deficit, learning, or psychiatric disabilities.

