

Division of Science and Mathematics

Course: MATH 0013 PREALGEBRA

Departmental Contacts: 479-986-6906, Developmental Mathematics Coordinator;
479-986-6900, Secretary-Mathematics, Physics, & Engineering Department**REQUIRED TEXT AND MATERIALS:****-Prealgebra-An Integrated Approach.** Lial. Pearson Education, Boston, MA (Addison-Wesley): 2007.**-MathXL access code – required for Computer Assisted/Hybrid sections: Free with new text (or order the code separately).**

Required Section Coverage: Appendix A, 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 2.1, 2.2, 2.3, 2.4, 2.5, 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6 (Obj 1 & 2), 4.8, 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.8, 5.10, 6.1, 6.2, 6.3, 6.4, 6.6 (Obj 3, 4, & 5), 7.1, 7.2, 7.3, 7.4, 8.1, 8.2, 8.3, 8.4, 9.1, 9.2 (emphasise Obj 3), 9.3, 9.4 (emphasize Obj 1)
+ at least one Calculator Tip from this list: p 61 & 62, p 87, p 347, p 355 & 357, p 374, p 389 & 391, p 510-511

Optional Sections: 4.6 (Obj 3), 4.7, 5.7, 5.9, 6.5 (Obj 2, 4, 5), 6.5 (Obj's 1, 3, 6, 7, 8), 7.5, 8.5, 9.5, Ch R, Appendix B

Catalogue Description: This course builds a strong number sense by emphasizing integers, decimals, percent, fractions, ratio and proportion. It also prepares a student to move forward with confidence into a first developmental algebra course by introducing variables, evaluating variable expressions and solving first degree equations. Elementary geometry, reading graphs, critical thinking, and problem solving skills support the AMATYC and NCTM standards. Some calculator use is incorporated. Upon successful completion, a student may take Beginning Algebra.

Prerequisite: No prerequisite. **Exit Criteria:** A student needs a final grade of A, B or C to proceed to Beginning Algebra.

Credit/Contact/Load Hours: 3 credit hours count toward student's g. p. a., none counting toward any degree requirements.

Target Audience and Transfer: This course precedes a first full semester algebra course and is intended for college students who have had little or no algebra instruction and need a review of arithmetic and basic geometry concepts. PreAlgebra is a non-transferable course.

Developmental Education Program:

Through placement and advisement, developmental education courses may be required prior to taking college-level courses at NWACC. The program goal is to enable learners to acquire competencies needed for success in mainstream college courses and to attain career and life goals.

Developmental Education Performance Reports indicate that students who are successful at Intermediate Algebra succeed in College Algebra at a rate comparable to students placed directly into that course.

Goals for student thinking encourage intellectual risk-taking, mental math, organization of data, modeling and problem solving to help prepare the PreAlgebra student as a productive worker and citizen.

CORE COURSE OBJECTIVES - CONTENT:

A student successfully completing PreAlgebra, MATH 0013, will demonstrate these primary competencies:

- 1) Perform operations on integers using the order of operations.
- 2) Simplify and evaluate variable expressions.
- 3) Solve a one variable first degree modeling problem situation.
- 4) Perform operations on fractions and decimals.
- 5) Solve percent and proportion problems.
- 6) Strengthen core entry skills, which are:
 - a) Perform the four basic operations with whole numbers, and
 - b) Demonstrate decimal numerical sense, which includes being able to:
 - i) Use estimation, ii) Multiply/divide by powers of 10, iii) Compare magnitudes of whole numbers.

COURSE OBJECTIVES - ADDITIONAL CONTENT EMPHASIS– A student successfully completing Prealgebra, MATH 0013, will also be able to:

- 1) Find the perimeter and area of rectangles.
- 2) Construct various graphs.
- 3) Solve and check equations in one variable using integers.
- 4) Recognize number sets: compare magnitudes, graph on the real number line.
- 5) Simplify square roots of perfect squares and approximate square roots of non-squares using a calculator.
- 6) State ratios and rates and find unit rates.
- 7) Convert units of measure (includes American and Metric systems).

STUDENT RESOURCES: MATH 0013 PREALGEBRA

Digital Video Tutor, NWACC Library or NWACC Bookstore, Pearson Education, Digitized video lectures.

MathXL, NWACC Bookstore or at www.mathxl.com, Pearson Education, has homework on-line with examples and guided solutions (required use in computer-assisted/hybrid sections, may be available in non-computer sections - ask your instructor).

InterAct Math, www.interactmath.com, Pearson Education (free), has homework on-line with guided solutions (available for use in any non-computer-assisted sections).

Student Solutions Manual, NWACC Bookstore, Pearson Education, has step by step solutions to odd-numbered exercises. More publisher supports listed pg x of Preface: Computer tutorials, multimedia and web supports. Access to some of these in NWACC Learning Lab BH 1109 or Math Café SC 314, Addison Wesley/ Pearson Education.

Tutors, NWACC Learning Lab BH 1109 and Math Café SC 314, discuss specific homework questions, help prepare for exams. See Learning Lab Web Site: <http://www.nwacc.edu/labs/learninglab/index.php> for Schedule and details.

Texas-Instruments 82 or 83 or 84 Graphing Calculator (or plus models): To rent a TI-82 for the semester: Go to Cashier's window in SC, then bring receipt and photo ID to Math Dept Secretary, SC 351, permits home practice with the graphing calculator.

Computer Labs, Math Dept Lab (SC 338A), Math Café (SC 314), Learning Lab (BH 1109), BH 2416, BH 1222, free computer and internet access, MathXL and InterAct Math downloads already installed

Electronic access to this document:

http://www.nwacc.edu/academics/mathphysics/math_0013_prealgebra.htm

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