

Fundamentals of Mathematics

MAT 030 Spring 2011

Course Number: 31476

Course Credits: 2

Prerequisite: Math Assessment Score

Instructor

Thad Noyes

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Office Hours: McLaughlin 237, by appointment

Course Meeting Times

T TR: 8:00 a.m. – 8:50 a.m.

Rector 21

Course Description

Includes the vocabulary, operations and applications of whole numbers, decimals and basic fractions and mixed numbers.

Required Textbook

Basic College Mathematics: An Applied Approach, 8th Ed., by Aufmann, Barker, and Lockwood

Course Competencies

- 1) Calculate using whole and decimal numbers without a calculator.
- 2) Demonstrate knowledge and usage of whole numbers.
- 3) Demonstrate knowledge and usage of fractions and mixed numbers.
- 4) Demonstrate knowledge and usage of decimals.

Topical Outline

- 1) Demonstrate competency in the usage of whole numbers.
 - a) Describe the structure of our number system.
 - b) Read and write whole numbers through trillions.
 - c) Compute the sum, difference, product, and quotient of whole numbers.
 - d) Round whole numbers to the indicated place.
 - e) Estimate answers to whole number calculations.
 - f) Evaluate numbers written in exponential form and identify “base,” “exponent,” and “factors” of such numbers.
 - g) Determine square and cube roots.
 - h) Apply the correct order of operations to evaluate arithmetic expressions.
 - i) Solve word problems involving whole numbers.
 - j) Identify numbers as “prime” or “composite.”
 - k) Determine the prime factorization of a number using divisibility rules.
- 2) Demonstrate knowledge and usage of fractions and mixed numbers.
 - a) Interpret a fraction as parts of a whole, or as an indicated division.
 - b) Identify and understand the meaning of “numerator” and “denominator”.
 - c) Determine the least common multiple/lowest common denominator of a set of numbers.

- d) Use the identity property to rename fractions.
 - e) Arrange fractions in order, smallest to largest.
 - f) State the reciprocal of any given number.
 - g) Change improper fractions to mixed numbers and vice versa.
 - h) Compute the sum, difference, product and quotient of commonly used fractions and mixed numbers writing the answer in simplest form.
 - i) Use fractions in applications.
- 3) Demonstrate knowledge and usage of decimals.
- a) Read and write decimal numerals to millionths place.
 - b) Write common fractions as equivalent decimals and vice versa.
 - c) Arrange decimal numerals in order, smallest to largest.
 - d) Round decimal numerals to indicated place.
 - e) Compute the sum, difference, product and quotient of decimals.
 - f) Apply the shortcut method of “moving the decimal point” when multiplying or dividing by powers of ten.
 - g) Rewrite standard decimal numerals in scientific notation and vice versa.
 - h) Solve word problems involving decimals.

Objectives

The study of Mathematics enables the student to learn critical thinking processes and problem-solving skills which may be transferable and useful in everyday life. The material presented in this course is designed to give the student sufficient background for success in future math courses, as well as provide the student with an understanding of mathematics necessary for practical application in many technical and business fields. We will cover chapters 1 through 3 in the text.

Materials

Pencils (not pens) with erasers, loose-leaf binder, 3"x 5" note cards, loose leaf paper. A calculator will **NOT** be allowed for competencies and exams, but may be used to check answers on homework. No other electronic devices are allowed.

Attendance

Consistent and prompt attendance is essential to your success in this class. Students are expected to be present and on time for each class period. Excused absences include school-sponsored events (athletics/field trips), illnesses accompanied by a doctor's note, and family emergencies (death, etc.). In order to be excused, you must inform the instructor **prior to the class time you will miss**. Having an absence excused DOES NOT change the due date of an assignment unless a PRIOR arrangement as been made with the instructor. In the event of an unexcused absence, students will not be permitted to turn in late work.

Cell Phones, iPods, etc.

The use of cell phones, iPods, headphones, etc. during class is prohibited. Cell phones must be turned off and put away (you may NOT use them as calculators). If your phone rings or vibrates, or if you send or receive text messages during class (or otherwise use your phone, EVEN AS A CALCULATOR) you will receive a verbal warning. If it happens again, your homework grade will be dropped by one letter grade. Any subsequent offense will result in removal from the class. The same policy applies to other electronic devices.

Cheating

Cheating is not permitted and will be severely penalized. If you are caught cheating, you will receive a double "F" for the assignment. You will also be reported to the Vice President of

Instruction and may face possible suspension or expulsion from the College. Any use of a calculator, cell phone, iPod, etc., during a quiz or test will be treated as cheating.

Records

A record of your work **must** be maintained by the student and presented to the instructor upon request. The record should consist of a copy of all graded materials including worksheets, homework and practice tests, filed neatly within your binder. Grades for un-maintained work may be changed to a zero at the discretion of the instructor.

Class Conduct

Students are expected to conduct themselves in a responsible and respectful manner toward the instructor and fellow students. Talking during class lectures, visiting instead of working, and/or any other behavior the instructor deems rude or disrespectful will not be tolerated and may result in removal from the class.

Textbook Readings

There will be daily reading assignments that are to be completed BEFORE you come to class that day. You are encouraged to work the sample "You Try It" sections in the book before coming to class.

ASSIGNMENTS & GRADING

Attendance / Classwork (10% of Final Grade)

Daily attendance and class assignments are essential for the successful completion of this class. They will account for 10% of your final grade. Class time will be divided into two parts. The first part of class will consist of lecture of that day's material. The second part of class will be a study hall format where the student is expected to work on that day's homework/worksheet and receive tutoring/help from the instructor. Students are expected to stay and make use of the entire class time in order to receive credit. The only way a student may leave early and still receive credit is if that day's homework/worksheet is completed and presented to the instructor.

Homework (10 % of Final Grade)

Homework will be given every day of this class. Homework is due at the BEGINNING of each class period. Remember, if you are absent (even for a school sponsored event) your homework is still due by the beginning of class unless a prior arrangement has been made. All homework should be completed in a neat, legible, and orderly fashion. Your answers must be circled. If I am unable to read your homework, or if I have trouble finding your answers, the homework will be returned to you to do again. Each homework assignment is worth 20 points. You will receive 10 points for completing the assignment and I will grade 10 random problems. Your homework will account for 10% of your final grade.

Competency Quizzes

In order to ensure a sufficient understanding of the topics covered in class, and to build a strong foundation for future math classes, students **MUST PASS** several competency exams/quizzes throughout the semester. You must show all necessary work in addition to the correct answers to receive full credit. Each Competency Quiz must be passed at the indicated level for students to take the final exam required to pass the class. Should you fail a Competency Quiz, (and have completed all the homework for that chapter on time) you may retake the Competency Quiz. Competency quizzes may be taken as many times as required to pass.

Tests (80% of Final Grade)

Tests will be given periodically as shown on the schedule given in class. You may use one 3"x 5" note card containing whatever information from the chapter you think will be useful while taking a test (formulas, axioms, etc.). Missed tests can be made up for full credit only for excused absences when the instructor is notified in advance and in writing. Call me if you cannot attend class the day of a test. Without prior arrangements, 25% will be deducted off your test grade per day late. Save your competency quizzes and homework! There will be a final exam over chapters 1-3. In order to take the final exam (and pass the class) students must have completed **ALL** Competency quizzes with a passing grade.

Late Work

Unless a prior arrangement has been made, no late work will be accepted by the instructor.

ADA Policy

Any student, who believes he/she has a disability, as outlined in the Americans with Disabilities Act, and would like reasonable accommodations, should set up an appointment to discuss this with the instructor.

Early Exit

Some students may gain mastery of the course material at a faster pace than the class is moving as a whole. For others, there may be a deficiency in only one or two areas that can be easily and quickly remedied. If we have identified your area of weakness and both you and the instructor believe you are prepared to "test out" of this class you may attempt to do so. The instructor will work with the student to establish sufficient warrant to believe the student is prepared to take such an exam. To test out of the class you must complete **ALL** Competency Quizzes and pass the final exam.

Grading

<i>Grading Scale</i> A = 90-100 B = 80-89 C = 70-79 D = 60-69 F = 0-59	<i>Percent of Final Grade</i> Attendance / Class Work 10% Homework 10% Final Exam 80%
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*****Important Note: In order to pass this class, you must earn an overall grade of "C" or better AND pass ALL Competency Quizzes.*****

-The instructor reserves the right to make any and all changes to this syllabus and to the course content without prior notice. Changes will be announced in class. If absent, you will still be responsible for knowing the changes. Don't miss class!!!

MAT 030 Course Contract

I, _____, have received, read, understood and agree to abide by
(print your name)

the terms presented in the class syllabus. I have received a handout detailing the homework

assigned in class. I have recorded the email address (thaddeus.noyes@cnc.edu) and phone

number (970.629.3712) of my instructor into my cell phone or other organizational device.

Signed: _____

Dated: _____