Course Information Sheet

Course: Math 085-08 - Computational Skills II - 4 Credit/Contact Hours - Fall 2013
IAI Code: None
Delivery Mode: Face-to-face
Meeting Time: TTh 8:00am-9:40am
Meeting Place: Room 3285

Instructor: Steve Kifowit, Rm 2305, Ph. (708) 709-3954
Email: skifowit@prairiestate.edu
Web: http://stevekifowit.com
Office Hours: MW 1pm-2:30pm, TTh 1:15pm-2:15pm, or by appointment

Text: *Prealgebra*, 6th edition (2012); Bittinger, Ellenbogen, and Johnson

Course Description: This course provides a background in mathematics for students who do not feel confident in the mastery of skills at the prealgebra level. Topics covered include operations on integers, fractions, and decimals; percents; ratio and proportion; and measurement. Emphasis is placed on the development of algebraic skills.

Course Prerequisite: Math 080 (Computational Skills I) with a C or better or a qualifying score on the math placement test.

Course Goals/Objectives (detailed objectives are attached):
1.) Perform operations on whole numbers, integers, rational numbers, and decimals.
2.) Solve equations involving whole numbers, integers, rational numbers, and decimals.
3.) Solve application problems involving whole numbers, integers, rational numbers, decimals, and percents.
4.) Simplify and/or evaluate expressions using the order of operations and/or combining like terms.
5.) Convert among decimal, fraction, and percent notation.
6.) Estimate square roots and use the Pythagorean Theorem to find the missing side of a right triangle.

Attendance Policy: Regular class attendance is an essential component of successful learning. Students are responsible for prompt attendance and participation in all class meetings. If you miss class, you might not be allowed to make up any tests, quizzes, or assignments that you may have missed. All material covered in class is the student's responsibility.

Grading: Your grade will be based on your performance on five 50-point tests, a 100-point comprehensive final exam, approximately twenty 5-point daily quizzes, and miscellaneous homework problems (0-50 points). Very roughly, tests count for about 55% of your grade, the final exam counts for about 22%, and quizzes count for about 22%. The grading scale is as follows:

A --- 90% and above
B --- 80% - 89%
C --- 70% - 79%
D --- 60% - 69%
F --- below 60%

You may estimate your current grade at any time during the semester by computing the following percentage: 100% * (Total points accumulated) / (Total points possible). Please feel free to discuss your grade with me at any time during the semester. Throughout the semester, grades will be posted online at http://www.engrade.com/skifowit. An FW grade will be assigned at the end of the semester to students who do not attend class yet who fail to officially withdraw.

Homework: Homework problems will be assigned on a daily basis. Your work will not normally be collected, but we will often discuss homework problems in class. Keep up to date on your homework! Homework problems will often show up on tests and quizzes.

Tests/Exams: Test problems will be similar to class examples, quiz problems, and homework problems. Some of the test problems may be multiple choice or writing problems, but you should mostly expect computational problems. Partial credit may be awarded on any type of problem, but only for correct work. Tests **will** have portions on which calculators are not allowed. You must work individually on all tests. No make-up tests will be given. At the end of the semester, your lowest test score will be replaced by one-half of your final exam score (if this helps you).

Quizzes: Be prepared for a 5-point quiz at the beginning of each class period (unless a test is scheduled for that day). Each student will be allowed to make up two (and only two) missed quizzes. All quiz work is to be done on an individual basis unless otherwise stated. At the end of the semester, your 2 lowest quiz scores will be dropped.

Final Exam: The final exam is comprehensive and will be worth 100 points toward your final grade. See the lecture pace for the date of the final exam.

Calculators: The TI-30XS MultiView Calculator (or equivalent) is required for this course. We will use calculators on a daily basis. At times, however, use of calculators will not be allowed.

Disability Statement: Any student needing to arrange reasonable accommodations for a documented disability (learning, physical, psychological, or other) should contact the Disability Services Office (Room 1192).

Religious Observance Accommodation: Prairie State College is required to excuse students who need to be absent from class, examinations, study, or work requirements because of their religious beliefs, and provide students with a make-up opportunity, unless to do so would unreasonably burden the institution. Students must notify their instructor well in advance of any absense for religious reasons. If you require special accommodations for observance of a religious holiday, please notify me during the first week of the term.

Misc. information:
1.) The last day to withdraw from the course is November 8. For refund information, refer to the fall schedule book. If you wish to withdraw from the course, it is your responsibility to do so. Any student who does not come to class, yet fails to withdraw, will be given the FW grade.
2.) You are expected to spend roughly 12 hours per week on coursework - 4 hours in class and 8 hours out of class. If you cannot make this commitment, you may want to reconsider taking this course.
3.) The grading scale will be strictly adhered to! Final percentages will be rounded to the nearest whole number.
4.) This is a fast-paced course! We will cover much material in little time. You are responsible for thoroughly reading the textbook and keeping up with the assigned material.

Course information, including tests, quizzes, and answer keys, can be found at http://stevekifowit.com/classes/m085.htm

Tentative Lecture Pace

Math 085, Computational Skills II, Sections 08 & 09

Week 1	Aug 20 & Aug 22	Course information; Sections 1.4, 1.5, 1.6	Multiplication, Division, Estimating
Week 2	Aug 27 & Aug 29	Sections 1.7, 1.8, 1.9, 2.1	Solving equations, Applications, Order of operations, Integers
Week 3	Sep 3 & Sep 5	Sections 2.2, 2.3; Review; **Test 1**	Addition & subtraction of integers
Week 4	Sep 10 & Sep 12	Sections 2.4, 2.5, 2.6, 2.7, 2.8	Multiplication & division of integers, Expressions & equations
Week 5	Sep 17 & Sep 19	Sections 3.1, 3.2, 3.3, 3.4	Factorizations, Fractions, Fraction multiplication
Week 6	Sep 24 & Sep 26	Sections 3.5, 3.6, 3.7; Review; **Test 2**	Simplifying fractions, Fraction division
Week 7	Oct 1 & Oct 3	Sections 3.8, 4.1, 4.2, 4.3	Equations, LCM/GCF, Addition & subtraction of fractions
Week 8	Oct 8 & Oct 10	Sections 4.4, 4.5, 4.6, 4.7, 4.8	Equations, Operations on mixed numbers
Week 9	Oct 15 & Oct 17	Review/Catch-up; **Test 3**	
Week 10	Oct 22 & Oct 24	Sections 5.1, 5.2, 5.3, 5.4	Intro to decimal numbers, Operations on decimals
Week 11	Oct 29 & Oct 31	Sections 5.5, 5.6, 5.7, 5.8	Fraction/Decimal conversion, Equations involving decimals
Week 12	Nov 5 & Nov 7	Sections 6.5, 7.1, 7.2, 7.3	Mean/Median/Mode, Ratio & proportion
Week 13	Nov 12 & Nov 14	Sections 7.4, 7.5, 8.1, 8.2, 8.3; **Test 4**	Applications of proportional reasoning, Percent
Week 14	Nov 19 & Nov 21	Sections 8.4, 8.5, 8.6, 8.7	Applications of percent
Week 15	Nov 26	Sections 9.1, 9.2, 9.3, 9.5, 9.6	Perimeter, Area, Square roots, Pythag Thm
Week 16	Dec 3 & Dec 5	**Test 5**; Review/Catch-up	
********	Monday, Dec 9	**Final Exam** --- 1pm-2:50pm	

***** November 8 is the last day to withdraw *****

Suggested Homework Problems
Math 085 - Computational Skills II - Sections 08 & 09
(Subject to changes)

Problems sets marked NC should be done without calculators.

Section 1.4 (NC) 1-20(odd),37,38,39
Section 1.5 (NC) 1-40(odd)
Section 1.6 (NC) 25-35(odd),41-55(odd),67,69
Section 1.7 (NC) 2,3,4,13-27(odd),35,39,49
Section 1.7 (Calculator) 41,47,51,53,55,56,57,58
Section 1.8 (Calculator) 5,7,9,13,17,25,27,29,33,37,47,49,59
Section 1.9 (NC) 1-61(odd),65,71,75,77,83

Section 2.1 (NC) 1-61(odd)
Section 2.2 (NC) 1-65(every other odd)
Section 2.3 (NC) 1-77(every other odd)
Section 2.4 (NC) 1-27(odd),29,33,35,37,41-55(odd); (Calculator) 71-83(odd)
Section 2.5 (NC) 1-27(odd),29,35,37,43,45,51,55,59,69,75,81; (Calculator) 93-99(odd)
Section 2.6 (NC) 3-31(odd),45-53(odd),55,65,75,77,79
Section 2.7 (NC) 1-49(every other odd)
Section 2.8 (NC) 13-77(every other odd), (Calculator) 89-103(odd)

Section 3.1 #'s (NC) 1-37(odd),39-50
Section 3.2 #'s (NC)1-57(odd)
Section 3.3 #'s (NC) 1-65(odd),73-80
Section 3.4 #'s (NC)1-73(every other odd)
Section 3.5 #'s (NC) 1-11,25-45,61,71(odd), (Calculator) 15,51,53,75,87,89,91
Section 3.6 #'s (NC) 1-73(every other odd)
Section 3.7 #'s (NC) 1-53(every other odd), (Calculator) 65-73(odd)
Section 3.8 #'s (NC) 1-53(every other odd)

Section 4.1 #'s (NC) 1-37(every other odd)
Section 4.2 #'s (NC) 1-65(every other odd), 67,71,73,75, (Calculator) 96,97,98
Section 4.3 #'s (NC) 1-53(every other odd), 57,61,67
Section 4.4 #'s (NC) 1-37(every other odd), (Calculator) 49,50,51
Section 4.5 #'s (NC) 1-45(every other odd), (Calculator) 59-63
Section 4.6 #'s 1-41(every other odd), 43,47,51,57
Section 4.7 #'s 1-53(every other odd), 65, 67
Section 4.8 #'s 1-25(every other odd), (Calculator) 65,66

Section 5.1 #'s 15-87(every other odd)
Section 5.2 #'s 1-85(every other odd)
Section 5.3 #'s 1-61(every other odd)
Section 5.4 #'s 1-69(every other odd)
Section 5.5 #'s 1-57(every other odd), (Calculator) 67,71,75,79,83
Section 5.7 #'s 1-45(every other odd), 47,49
Section 5.8 #'s 1-21(every other odd)

Section 7.1 #'s 1-41(every other odd)
Section 7.3 #'s 1-57(every other odd)
Section 7.4 #'s 3,9,11,13,19,23,29
Section 7.5 #'s 1,3,5,7,9,11,13,17,19

Section 8.1 #'s 1-121(every other odd)
Section 8.2 #'s 1-33(every other odd)
Section 8.4 #'s 1-17(every other odd)
Section 8.5 #'s 1-17(every other odd)

Section 9.6 #'s 1-37(every other odd)

Math 085 Course Objectives

1. Use the rules of signed number arithmetic to perform operations on integers. These operations include, but are not limited to, addition, subtraction, multiplication, division, exponentiation (raising numbers to powers), negation (finding additive inverses or opposites), ordering, and evaluating absolute values.

2. Translate words or problem situations to algebraic expressions.

3. Perform operations on rational numbers. These operations include, but are not limited to, addition, subtraction, multiplication, division, simplification, finding multiplicative inverses (reciprocals), evaluating expressions, finding equivalent fractions, and converting between improper fractions and mixed numbers. The rational numbers involved may include proper fractions, improper fractions, or mixed numbers.

4. Solve one or two-step linear equations involving integers and fractions.

5. Find prime factorizations for whole numbers, determine whether a given number is prime, and sketch the prime factorization trees for whole numbers.

6. Find multiples and factors of numbers. Find the least common multiple (LCM) and the greatest common factor (GCF) of two or three numbers.

7. Perform operations on decimal numbers. These operations include, but are not limited to, addition, subtraction, multiplication, division, and ordering.

8. Solve two or three-step linear equations involving decimal numbers. These may involve combining like terms.

9. Solve application problems. These may involve arithmetic, finding averages (means), rounding, or setting up and solving linear equations.

10. Find and simplify ratios corresponding to given situations. Solve proportions arising from applications, including those involving similar figures and unit rates/prices.

11. Round whole numbers and decimal numbers to a given place value.

12. Convert among fractional, decimal, and percent notation.

13. Solve application problems involving percents. These may involve finding percent increase or decrease. They may also involve setting up and solving linear equations.

14. Find the perimeter (or circumference) and area of polygons and circles. [Problems may involve complicated regions such as circles inside rectangles.]

15. Evaluate algebraic expressions given specific values for the variables. [Problems may involve using the order of operations.]

16. Use the order of operations to simplify arithmetic expressions. The expressions may involve integers, fractions, or decimal numbers.

17. Collect and combine like terms to simplify algebraic expressions. The coefficients in the expressions may be integers, fractions, or decimal numbers.

18. Without a calculator, find square roots of perfect squares and approximate square roots of numbers that are not perfect squares.

19. Given the lengths of two sides of a right triangle, use the Pythagorean Theorem to find the length of the unknown side. [In cases involving numbers that are not perfect squares, students should be prepared to estimate.]

Prairie State College, Department of Mathematics
August 17, 2009

Do not use obsolete objectives!