

PIKES PEAK COMMUNITY COLLEGE
DIVISION OF MATHEMATICS and LANGUAGE
COURSE SYLLABUS

Course Title: Math 079

Course Sections: 05A, 05B, 05C, 05D, 05E, 05G, 05H, 081, 082, 083, 084

Term: Fall 2012

Credit Hours: 1 credit hour

Contact Hours: 15 hours

Faculty Information: **Name:** Lindsey Small

E-Mail Address: Lindsey.small@ppcc.edu

Office Location **Campus:** CC **Room:** F-242

Office Phone #: 502-3514

Office Hours: 7:30 - 8:00 M - R

Meeting Time and Days: M, T, W, R 8:00 – 9:15 _____

Room: Downtown Studio Campus, N-204

Full Semester:

Last date to drop with a refund: 09/11 **Withdraw without a refund:** 11/26

Late Start:

Drop with a refund: 10/15 **Withdraw without a refund:** 12/03

Third Tri-semester:

Drop with a refund: 11/12 **Withdraw without a refund:** 12/07

Final Exam date: *Final Exams must be taken by the last day of class,*

ALEKS Course ID: UH9Y6 – JPX6P

Division Office Contact Phone: 502-3600 (Main office: F-200, at the Centennial Campus).

Course Description: This course includes as pre-reqs the vocabulary, basic operations, and applications of whole numbers, signed numbers, algebraic expressions, the solution of basic first-degree equations, and word problems. The new course content is fractions.

Prerequisites/Co-Requisites: Students are responsible for having the prerequisite level of academic proficiency for this course.

Math Assessment – No assessment. Math Module 078 with a grade of C or better.

Course Materials: No book is required in this course. An E-book is available online. An 18-Week (Semester) ALEKS code should be purchased from the bookstore for about \$100. This \$100 code fee is eligible for financial aid. Six-week and twelve week codes are also available for those starting after the full semester begins.

ALEKS Options: If your Initial Assessment is 80% or higher, you may elect to go on to the next module, Mat 080. If you score a 90% or better on any Intermediate Objective from the Initial Assessment you may:

- skip the review quizzes for those Intermediate Objective(s) and receiving 80% for them or
- take the quizzes until you get scores you are satisfied with.

Failure To Finish Modules You Have Signed Up For: You are responsible for knowing the drop date of each module you have enrolled in. If it becomes evident that you will not be able to finish any module that you are registered for, you must take the initiative to drop it before the drop date in order to get your money refunded. The late start drop date is Oct 15, 2012 and the third trimester drop date is November 12, 2012. If you fail to drop the class, you still have the opportunity to withdraw from it. If you do neither, you will earn an F for each class you are registered for and don't finish.

COURSE GUIDELINES/EXPECTATIONS:

1. ALEKS ASSESSMENTS:

After every 8 to 10 hours of online effort and at the end of an objective ALEKS will give you an assessment covering all the course material. Please review before taking the assessment. If you forget material you have already mastered, ALEKS will have you repeat the material.

2. ALEKS REPORTS:

The number of concepts you have mastered and the total to be mastered are displayed above "My Pie" in ALEKS. Your goal is to obtain 100% mastery. A bar chart with this percentage is available by clicking on the "Reports" button near the top of the ALEKS page. You'll have to scroll down to the bottom to see the bar chart. The percentage relates to the entire course, not to individual chapters.

3. ATTENDANCE:

Attendance is required. Attendance will be taken at each class. Students are expected to be on time.

4. CALCULATORS:

No calculators may be used for any portion of this course.

5. CLASS STRUCTURE:

- The first day of class, you will learn how ALEKS works and complete the first assessment.
- Next, you will go to ppccConnect to complete the Lecture component for the first current objective (Chapter).
- Next, complete the topics for that objective in your ALEKS pie.
- Then take the quiz in ALEKS, under Assignments, until you reach 80%.
- You will follow this process for each of the three objectives. There will be either an online or a paper exam for each objective.

6. COURSE CONTENT:

The course content is ordered according to Miller/O'Neill/Hyde: PreAlgebra, 1st Ed. (McGraw-Hill, Paperback). This is the e-book you can reference from ALEKS. A hard copy can be found in the math centers, the library, and the file cabinet in your classroom. The topics for your course are:

Topics in My Pie	Miller/O'Neill/Hyde	Exam	Quiz
Pre-Reqs:			
Whole Numbers (56)	Chapter 1	1	1
Integers and Algebraic Expressions(19)	Chapter 2	1	2
Solving Equations (18)	Chapter 3	1	3
New Material:			
Fractions (59)	Chapter 4	Final	1&2

ALEKS uses "Intermediate Objective" to refer to chapters. "Whole Numbers" is Intermediate Objective 1. Integers is Intermediate Objective 2 and so on.

7. DEAN OF MATHEMATICS AND LANGUAGES POLICY:

Attendance and timeliness are especially critical in all Division of Mathematics and Languages courses as student interaction with the instructor and fellow students are fundamental components of learning success and academic inquiry and integrity. Students are responsible to ensure that they meet the scheduled course meeting times throughout the semester as specified in the PPCC schedule, the course syllabus, and by the instructor. As emergency situations arise (medical, family, military deployments, etc.) students have the obligation to contact their instructor via phone or e-mail within 48 hours and subsequently provide documentation. In addition, students choosing or needing to withdraw from a course must comply with the stated PPCC course withdrawal guidelines. Course grade and/or tuition appeals stemming from a lack of attendance, repeated tardiness, and/or failure to comply with withdrawal deadlines are not disputable and subsequent appeals will be denied by the Dean of Mathematics and Languages.

8. EXAMS:

There will be one proctored online exam, which can be retaken once, and a paper final exam, which can be taken only once. The final will be taken in the testing center. The final exam will cover all the objectives in the course. Exams cannot be taken until the corresponding quiz score is 80% or better. If a student **misses no more than 2 classes and has taken every chapter test**, the student's lowest test grade will be replaced with the final exam grade, if the final exam grade is not the lowest grade.

9. FINISHING THE COURSE EARLY:

A student who finishes the course before the semester is done may either stop coming to class or continue on to the next module.

10. FORMATTING IN NOTEBOOK:

Every problem a student solves for the ALEKS program will be entered in a spiral notebook or loose leaf binder. It will follow proper formatting or syntax. Each page will be divided into four columns. You may use the ruled vertical pink line on either side of the page as delimiting two columns. They will be for all your scratch work. By folding the page in half, you can get two more wide columns where your actual step-by-step work will be written. Please write consecutive problems down the two columns.

Syntax of three basic types of problems.

a. Simplifying expressions

- i. These are to be written in a funnel format. (The answer is centered below the original expression.)
- ii. Each new line will start with an equal sign.
- iii. The entire expression will be brought down to the next line, not just the part being manipulated.
- iv. All arithmetic will be done in the column to the left or right of the work.

b. Word problems

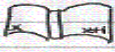
- i. Each variable must be described or defined with words.
- ii. If the word problem uses a formula, it should be written before entering any of the given numbers.
- iii. Please draw pictures whenever possible.
- iv. Units are required as part of the answer in almost every word problem.
- v. Since this is an algebra course, equations must be part of each word problem.

d. Substitutions

- i. Students will copy the original expression or equation.
- ii. They will then recopy it replacing the variables with a set of parentheses.
- iii. Then they will insert the numbers into the parentheses.

- iv. Then the expression or equation can be evaluated.

An example is below. (Ignore the equation portion. That comes in more advanced classes.)

4-COLUMN FORMAT FOR ALEKS NOTEBOOK			
Scratch	Problem	Problem	Scratch
<u>SIMPLIFYING EXPRESSIONS</u>		<u>SOLVING EQUATIONS</u>	
$4^2=16$ $48 \div 16=3$ $-3+3=0$ $4 \cdot 0=0$ $-2+0=-2$	$-2+4[-3+(48 \div 4^2)]$ $= -2+4[-3+(48 \div 16)]$ $= -2+4[-3+3]$ $= -2+4 \cdot 0$ $= -2+0$ $= \boxed{-2}$	$4(x-3)+2=2x+12$ $4x-12+2=2x+12$ $4x-10=2x+12$ $\frac{4x}{-2x} -10 = \frac{2x}{-2x} +12$ $2x-10=12$ $\frac{2x-10}{+10} = \frac{12}{+10}$ $\frac{2x}{2} = \frac{22}{2}$ $\boxed{x=11}$	$4 \cdot -3 = -12$ $-12+2 = -10$ $4x-2x = 2x$ $12+10 = 22$ $22 \div 2 = 11$
<u>WORD PROBLEMS</u>		<u>SUBSTITUTIONS</u>	
<p>The sum of the two facing page numbers in a book is 143. What are the page numbers?</p> <p>$x = \text{left page}$  $x+1 = \text{right page}$</p> <p>The sum of x and $x+1$ is 143. $x+x+1=143$ $2x+1=143$ $\frac{2x+1}{-1} = \frac{143}{-1}$ $2x = 142$ $\frac{2x}{2} = \frac{142}{2}$ $\boxed{x=71} \quad x+1=72$</p>		<p>Evaluate $5x-4y$ for $x=17$ and $y=13$</p> <p>$5x-4y$ $= 5(17)-4(13)$ $= 85-52$ $= \boxed{33}$</p>	
$143-1=142$ $142 \div 2=71$			$\begin{array}{r} 3 \quad 1 \\ 17 \quad 13 \\ \times 5 \quad \times 4 \\ \hline 85 \quad 52 \\ \hline 85 \\ - 52 \\ \hline 33 \end{array}$

11. GOING OVER CHAPTER TESTS WITH YOUR INSTRUCTOR:

Your instructor will review your chapter test with you after you have finished. If you are obviously weak in a certain area, your instructor will bring this to your attention.

12. GRADING:

90% - 100%	A	ALEKS score	140
80% - 89%	B	Mult & Div	15
70% - 79%	C	Tests(1)	267
60% - 69%	D	Quizzes	20
Below 60%	F	Notebook	25
		<u>Final</u>	<u>533</u>
		Total	1000

13. MULTIPLICATION AND DIVISION DRILLS:

Paper and pencil facts drills for 3 – 12 will be given each week. A passing score of 95% within 3 minutes qualifies for 7.5 points toward your final grade. More time may be given students with an OASIS extended time limit.

14. PPCCCONNECT ACCESS:

All students have access to the materials posted on the ppccConnect course website through the Internet. Each student will receive written instructions to allow them to access this website either through the college computer lab access or from home. Any student who is unfamiliar with the Internet should ask for hands-on instruction.

15. PPCC RESOURCES:

Writing Center: Pikes Peak Community College offers students personal instruction in the areas of critical thinking, critical reading, English as a Second Language, and effective writing at our three campus locations. We offer one-to-one conferencing, online tutoring, and computer assisted instruction for students enrolled in any course, not just English Composition. Please drop-in (or call) to make an appointment (Centennial Campus, room A-312, 502-3510; The Downtown Studio, room DT-212, 502-3530; or at Rampart, N-202, 502-3520). You may also e-mail the centers at owl@ppcc.edu. And please do check us out on the world wide web at www.ppcc.edu/StudentServices/WritingCenter.

Math Centers: If a student would like additional assistance or is concerned about his/her grade, contact the instructor. Also, **free instructional help, computer software, and reference texts which may be checked out** are available in the Math Centers. Please check posted hours for the Math Center at your campus. Go to PPCC.edu > Services > Math Centers.

Centennial Campus:	A 316	502-3250
Rampart Range Campus:	N200	502-3260
Downtown Studio Campus	S207	502-3270
Falcon Campus	602	502-3850

Testing Centers:

Centennial Campus:	A-117	502-3370
Rampart Range Campus	S-101	502-3380
Downtown Studio Campus	S-102	502-3390
Falcon Campus		502-3817

16. QUICK TABLES:

The Quick Tables are part of this ALEKS course and can be used to help learn addition, subtraction, multiplication and division facts.

17. QUIZZES:

In ALEKS, one quiz per pre-req objective will be available by clicking on the “Assignment” button. There are two fraction quizzes available: one for multiplication and division of fractions and the other for addition and subtraction of fractions. The quizzes help you prepare for the tests. You may take them as often as you like until you get the grade that satisfies you. A minimum grade of 80% is required to take the corresponding exam.

18. RESOURCES FOR TESTS:

It is the policy of the College Prep Math (CPM) Department that there will be **no books, no notes nor any other supplemental resources used for any exam.** Mat 045 students are not allowed calculators. This includes the online exams and the final. **There will be no extra credit.**

19. SELF-PACED STRUCTURE:

The course is self paced. You should pace yourself wisely. Please plan on a minimum of four hours a week until the course is completed. The expectation is that you will complete this course in five weeks or less. **Tests are limited to one per week. You will use the Student Tracking Form to create a schedule and track your progress.**

20. STUDENT CONTRACT:

Each student is expected to sign a contract stating his willingness to adhere to each of the expectations of the class.

21. STUDENT TRACKING FORM:

Both you and your instructor will keep a running account of your progress on a Student Tracking Form. Each week your instructor will discuss your progress in class or by email.

22. TIME ISSUES ON EXAMS:

No extra time for testing is allowed for **non-OASIS** students due to liability issues to PPCC and the instructor. For paper and pencil exams you are allowed 1 hr and 50 minutes. Online exams are 75 minutes.

23. VOCABULARY SECTION OF NOTEBOOK:

The notebook will also have a section in the back on vocabulary. The chapter tests emphasize vocabulary. Entries are to be made whenever you learn a new term. The term and its meaning will be written out neatly. Learning math has been compared with learning a new language. You must practice daily and you must pick up the vocabulary. The directions on tests often use the new vocabulary of the chapter. Being familiar with the vocabulary helps increase your tests scores.

24. General Course Objectives: (Note: Students are expected to calculate using whole numbers, decimals, and fractions without a calculator.)

Students will be expected to:

I. Demonstrate competency in the usage and application 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 without a calculator.
- 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.”
- g. Apply the correct order of operations to evaluate arithmetic expressions.
- h. Solve word problems involving whole numbers.
- i. Identify numbers as “prime” or “composite.”
- j. Determine the prime factorization of a number using divisibility rules.
- k. Find the square root of a number.

II. Demonstrate knowledge and usage of integers.

- a. Apply the correct order of operations to simplify arithmetic and algebraic expressions.
- b. Evaluate algebraic expressions by substituting a given integer.
- c. Compute the sum, difference, product and quotient of integers.
- d. Identify and use properties of real numbers.

III. Demonstrate knowledge and usage of algebraic expressions.

- a. Simplify algebraic expressions by combining similar terms.
- b. Apply the order of operations to simplify algebraic expressions.
- c. Simplify algebraic expressions involving integer exponents.
- d. Translate English phrases into algebraic expressions.

IV. Demonstrate knowledge and usage of basic first-degree equations.

- a. Solve basic first-degree equations.
- b. Check the solution of first-degree equations.
- c. Define the unknowns when solving a word problem.
- d. Translate word problems into algebraic equations.
- e. Solve word problems.

THIS SYLLABUS MAY BE ADJUSTED DURING THE CLASS AS NECESSAARY.