Print Date: 8/6/14

Course Objectives/Course Outline
Spokane Community College

Course Title: **Mathematics for Pharmacy Technicians**
Prefix and Course Number: **PHARM 115**

Course Learning Outcomes:
By the end of this course, a student should be able to:

- Add, subtract, multiply, and divide fractions, decimals, percents, and ratios.
- Reduce fractions to lowest terms.
- Round a decimal to a given place value.
- Interpret values expressed in ratios.
- Convert among fractions, decimals, percents and ratios.
- Convert metric units to apothecary units and visa versa.
- Translate apothecary to measurable amounts.

Course Outline:

I. Review of Basic Mathematics
   A. Review of fractions
   B. Review of decimals
   C. Solving equations to determine the value of X
   D. Relative value, addition and subtraction of decimals
   E. Introduction to ratio and proportion
   F. Equivalents in decimals, fractions, ratios and percents
   G. Reconstitution of powdered drugs
   H. Introduction to pharmacy applications
   I. Using fractions and decimals in calculating pharmacy dosages and preparations
   J. General processes for calculations

II. Systems of Drug Measure
   A. Metric International (SI) System
   B. Apothecary and Household Systems
   C. Reading oral medication labels
   D. Hypodermic syringe measurement
   E. Measuring insulin dosages
   F. Dosage calculation using ratio and proportion
   G. Dosage calculation using the formula method

III. Medication Administration Records
   A. Types of medication administration records and their use
   B. Medications card administration
   C. Various system examples from acute care and specialty use

IV. Dosage Determination by Body Weight and Body Surface Area
   A. Pediatric and adult dosages based on body weight
   B. Pediatric and adult dosages based on body surface area (BSA)
   C. Pediatric oral and parenteral medications
   D. Pediatric intravenous medications

V. IV Therapy and Calculations
   A. IV flow rate calculation
   B. Reading parenteral medication labels
   C. Calculating total infusion times
   D. Pediatric oral and parenteral medications

E. Calculating heparin infusions
F. Critical care IV calculations