**BARTON COMMUNITY COLLEGE**

**COURSE SYLLABUS**

1. **GENERAL COURSE INFORMATION**

Course Number: PHRM 1002

Course Title: Pharmacy Calculations

Credit Hours: 3

Prerequisites: MATH1821 with a grade of C or better OR students must assess above the Basic Algebra level (Five CPM modules) in order to take Pharmacy Calculations course.

Division/Discipline: Workforce Training and Community Education/Pharmacy Tech

Course Description: This course teaches students the basic terminology, abbreviations, and units needed to perform pharmaceutical calculations. Apothecary, avoirdupois, and metric systems are an essential component of the course. Students will review calculations dealing with ratio and proportion, percentages, ratio strength, reducing and enlarging formulas, and dilution and concentration problems.

1. **INSTRUCTOR INFORMATION**
2. **COLLEGE POLICIES**

Students and faculty of Barton Community College constitute a special community engaged in the process of education. The College assumes that its students and faculty will demonstrate a code of personal honor that is based upon courtesy, integrity, common sense, and respect for others both within and outside the classroom.

Plagiarism on any academic endeavors at Barton Community College will not be tolerated. The student is responsible for learning the rules of, and avoiding instances of, intentional or unintentional plagiarism. Information about academic integrity is located in the Student Handbook.

The College reserves the right to suspend a student for conduct that is determined to be detrimental to the College educational endeavors as outlined in the College Catalog, Student Handbook, and College Policy & Procedure Manual. (Most up-to-date documents are available on the College webpage.)

Any student seeking an accommodation under the provisions of the Americans with Disability Act (ADA) is to notify Student Support Services via email at disabilityservices@bartonccc.edu.

1. **COURSE AS VIEWED IN THE TOTAL CURRICULUM**

This course will provide the student with information pertinent to pharmaceutical calculations that are required of a pharmacy technician.

This course is one in a series of vocational courses designed to prepare students for an entry level position. Students planning to transfer credit for a baccalaureate degree will be granted transfer credit only as determined by the four-year institution. The transferability of all college courses will vary among institutions, and perhaps even among departments, colleges, or programs within an institution. Institutional requirements may also change without prior notification. Students are responsible to obtain relevant information from intended transfer institutions to insure that the courses the student enrolls in are the most appropriate set of courses for the transfer program.

1. **ASSESSMENT OF STUDENT LEARNING**

Barton Community College is committed to the assessment of student learning and to quality education. Assessment activities provide a means to develop an understanding of how students learn, what they know, and what they can do with their knowledge. Results from these various activities guide Barton, as a learning college, in finding ways to improve student learning.

Course Outcomes, Competencies, and Supplemental Competencies:

1. Explain the subdivision of numbers, number systems, estimating and

accuracy

1. Work with fractions

2. Use roman numerals, Arabic number system and scientific notation

3. Read, write and work with decimals

4. Check estimating products, quotients and drug doses

5. Calibrate significant figures and measurement accuracy

B. Use ratios, percent, and proportions

 1. Calculate numerical ratios

 2.  Convert ratio to percent, percent to ratio and percent to decimal

 3.  Judge proportions

 4.  Analyze percentage of error

 C.  Develop basic pharmacy skills

 1.  Define elements of the prescription order: patient information, prescriber information,

drug designation and quantity to dispense

 2.  Write prescription directions

 D.  Apply metric measurements and calculate doses

 1.   Utilize basic metric units

 2.   Compute conversions within the metric system

 3.   Utilize problem solving techniques in the pharmacy

 4.   Calculate customized doses

E.  Use household measures in pharmacy calculations

 1.   Convert household volume measures, converting to metric system

 2.   Calculate dose amount to dispense

 3.   Define temperature measurement system

 F. Calculate injectable medications

 1. Calculate the volume and quantity and ratio strength

 2. Calculate other units of measure

3. Reconstitute powders with appropriate solutions

 G. Calculate intravenous medications

 1. Calculate percentage and ratio strength

 2. Calculate IV flow rates

 3. Calculate drop sets and infusion rates

 4. Calculate IV piggybacks

 H. Use special calculations in compounding

1. Calculate concentrations and dilutions

2. Calculate compound formulas

3. Differentiate between lease weighable quantity and aliquot

 measurements

 I. Use business math in the pharmacy environment

1. Utilize calculations related to business such as: overhead, net profit,

 gross profit and discount

2. Prepare insurance reimbursements for prescriptions

3. Analyze inventory applications

 J. Define the apothecary system

1. Break down apothecary volume and weight equivalences

2. Convert between apothecary and metric systems

1. **INSTRUCTOR'S EXPECTATIONS OF STUDENTS IN CLASS**
2. **TEXTBOOKS AND OTHER REQUIRED MATERIALS**
3. **REFERENCES**
4. **METHODS OF INSTRUCTION AND EVALUATION**
5. **ATTENDANCE REQUIREMENTS**

**XI. COURSE OUTLINE**