Empire College
Business – Law – Technology – Medical

CLASS NUMBER AND NAME:	**RX 141A—BASIC HEALTHCARE MATH**
TOTAL HOURS/ UNITS:	25 HOURS/2.5 UNITS
PREREQUISITES:	MD161A—Medical Terminology I & BM141—Math Review
TEXTS AND MATERIALS:	*Pharmacology: Principles and Applications.* Second Edition. Saunders 2009. Study guides provided by the instructor.
CLASS DESCRIPTION:	This course is designed for students to become proficient in pharmacological and medical measurement systems with their equivalency. This will include ratios and proportions, converting between measurement systems, calculating dosages by weight, pediatric dosage calculations, and dosage calculation for nonparenteral medications and parenteral medications and for diluting solutions.
CLASS OBJECTIVES:	The student will be able to convert units of measurement between systems and 12- and 24-hour time. Correct calculations of dosages of medication are also covered.
CLASS FORMAT OVERVIEW:	The class is conducted in lecture and instructor demonstrations, opportunity will be given for questions-and-answer discussion as well as tactile learning experiences.
METHOD OF INSTRUCTION:	Each topic will be discussed thoroughly and will be supplemented with written materials. Class work and homework will give the student experiential opportunities.
ATTENDANCE:	It is expected that each student will be in class <u>when class begins.</u> Should the student arrive more than <u>five minutes late</u> they should notify the instructor of their presence, it will be up to the instructor to decide if the student has arrived in time to be counted as present- the instructor's decision is final. **<u>80% attendance is mandatory</u>** **<u>90% or above is mandatory for those who are in a full program and qualify for the externship</u>** It will be the student's responsibility to learn of any assignments given in class when absent. Students out of uniform will be counted as absent.
TESTING:	Four quizzes will be given throughout the mod as well as a cumulative final exam. All quizzes, examinations, exercises and homework must be satisfactorily completed with a passing grade of

60% or better in order to pass the course.

A quiz or test may be retaken if the score is 69% or below. The highest grade for retakes will be a low C.

LATE TESTING: A late test will result in a 10% penalty (Tests start with a B). All retakes and late tests must be scheduled with the instructor in a timely manner.

GRADING POLICIES: The student will Pass the four chapter tests with a minimum grade of 70%

Complete all homework assignments with at least 70% accuracy.

The students will participate in a minimum of 90% of in-class group assignments.

The final grade is computed on:

1. Quizzes	40%
2. Homework	40%
3. Attendance and participation	20%

90-100%	A
80-89%	B
70-79%	C
60-69%	D
0-59%	F

ANTICIPATED LEARNING OUTCOMES: Upon completing this course, the student will be able to:

1. Demonstrate an ability to identify specific vocabulary relevant to the subject.
2. Understand and define the basic units of measurement in the metric, apothecary, and household measurements systems.
3. Demonstrate the ability to identify symbols use to write milliequivalents and units.
4. Demonstrate the ability to read the time of day on the international standard 24-hour clock and convert to the 12-hour clock.
5. Demonstrate the ability to convert from one length, volume, weight unit to another within and between the apothecary, metric, and household measurement systems.

6. Differentiate between the term proportion and ratio.

7. Determine the correct amount of medications to be administered given a dose, a drug order, or scenario.

8. Demonstrate the ability to calculate doses of non-parenteral drugs administered in solid or liquid form.

9. Determine the ability to calculate pediatric and geriatric doses based on body surface area and body weight based on kg.

10. Demonstrate the ability to calculate dosages of parenteral drugs administered in 1-cc, 3-cc syringes.

RX 141 - Basic Healthcare Math—Day 5 Week Schedule

	Monday	Tuesday	Wednesday	Thursday	Friday
1	**Chapter 7** Introduce Metric System pg. 130-133 HW: Check Your Understanding (CYU) 7-1	**Chapter 7** Metric Length, Volume, & Weight pg. 133-138 HW: CYU 7-2, 7-3, 7-4	**Chapter 7** Apothecary & Household Systems pg. 138-142 HW: CYU 7-5, Worksheet	**Chapter 7** Review pg. 142-144 HW: Review Questions	**Chapter 7** Test
2	**Chapter 8** Time and Temperature pg. 145-150 HW: CYU 8-1, 8-2, 8-3	**Chapter 8** Ratio and Proportion, Volume Conversions pg. 152-154 HW: CYU 8-4, 8-5	**Chapter 8** Length and Weight Conversions pg. 154-160 HW: CYU 8-6, 8-7	**Chapter 8** Review pg. 162-163 HW: Critical Thinking & Review Questions	**Chapter 8** Test
3	**Chapter 9** Nonparenteral Doses pg. 165-170 HW: CYU 9-1, 9-2	**Chapter 9** Formula Method pg. 171-173 HW: CYU 9-3	**Chapter 9** Dimensional Analysis pg. 174-176 HW: CYU 9-4, 9-5	**Chapter 9** Reconstitution pg. 177-178 HW: CYU 9-6	**Chapter 9** Body Surface Area (BSA) pg. 179-181 HW: CYU 9-7, 9-8
4	**Chapter 9** Mg/kg pg. 182 HW: CYU 9-9	**Chapter 9** Summarizing pg. 183-185 HW: Critical Thinking & Calculation Review	**Chapter 9** Review pg. 185-187 HW: Review Questions #1-25	**Chapter 9** Review pg. 187-188 HW: Review Questions #26-50	**Chapter 9** Test
5	**Chapter 10** Parenteral Doses pg. 190-195 HW: CYU 10-1, 10-2, 10-3	**Chapter 10** Units pg. 196-201 HW: CYU 10-4, 10-5	**Chapter 10** Review pg. 202-204 HW: Critical Thinking & Review Questions	**Chapter 10** Test	**Grades Available**

RX 141 - Basic Healthcare Math—Evening Schedule

6 Week	Mon. or Tue. (for 6 week schedule)	Wed. or Thu. (for 6 week schedule)	
	6:00 - 8:00 (for 3 week schedule)	**8:00 - 10:00 (for 3 week schedule)**	**3 Week**
1	**Chapter 7** The Metric System Read pages 130-137 Check Your Understanding (CYU): 7-1, 7-2, 7-3, 7-4	**Chapter 7** The Household System The Apothecary System Review Read pages 138-142 CYU 7-5 and Review Questions	Week 1 Mon. or Tue.
2	**Chapter 7** Test **Chapter 8** Time and Temperature Read pages 146-150 CYU: 8-1, 8-2, 8-3	**Chapter 8** Using Ratio and Proportion Read pages 150-160 CYU: 8-4, 8-5, 8-6, 8-7	Week 1 Wed. or Thu.
3	**Chapter 8** Review Read page 161 Critical Thinking Exercises & Review Questions	**Chapter 8** Test **Chapter 9** Nonparenteral Doses: Measuring and Ratios Read Pages 165-169 CYU: 9-1, 9-2	Week 2 Mon. or Tue.
4	**Chapter 9** Nonparenteral Doses: Three Methods Read pages 169-174 CYU: 9-3, 9-4, 9-5	**Chapter 9** Reconstitution, BSA, and mg/Kg Read pages 175-182 CYU: 9-6, 9-7, 9-8, 9-9	Week 2 Wed. or Thu.
5	**Chapter 9** Mg/Kg and Review Read page 183 Critical Thinking Exercises & Review Questions	**Chapter 9** Test **Chapter 10** Parenteral Doses Read pages 190-200 CYU: 10-1, 10-2, 10-3, 10-4, 10-5	Week 3 Mon. or Tue.
6	**Chapter 10** Review Critical Thinking Exercises & Review Questions	**Chapter 10** Test	Week 3 Wed. or Thu.