

PHAR 7201
Pharmaceutical Calculations
Fall 2025

Course Description

This course focuses on quantitative and qualitative principles encompassing calculations performed by pharmacists in various practice settings.

Additional Course Description

In this course, fundamental principles and basic techniques involved in pharmaceutical calculations are presented for students to develop skills in pharmaceutical calculations and problem solving applicable to the practice of pharmacy. Scope primarily includes computations related to prescriptions and medication orders.

Course Credit: 2 credit hours

Pre-Requisites: None

Co-Requisites: None

Class Meeting Days, Time & Location: Thursday: 08:00 AM to 10:00 AM; W.T. Brookshire Hall room # 236

Course Coordinator

Farah Deba, Ph.D.

W.T. Brookshire Hall Room # 345

Phone number: (903) 566-6259

Email: Fdeba@uttyler.edu

Office hours: Tuesday and Thursday, noon to 1 pm.

SI session: Thursday from 10.0 to 11.0 am

Preferred method of contact: Email

Fisch College of Pharmacy (FCOP) and UT Tyler Policies

This is part 1 of the syllabus. Part 2 contains UT Tyler and the FCOP course policies and procedures. These are available as a PDF at <https://www.uttyler.edu/pharmacy/academic-affairs/>. For experiential courses (i.e., IPPE and/or APPE), the Experiential Manual contains additional policies and instructions that supplement the Syllabus Part 1 and 2. Please note, the experiential manual may contain policies with different deadlines and/or instructions. The manual should be followed in these cases.

Required Materials

Most course required materials are available through the Robert R. Muntz Library. These materials are available either online* (<http://library.uttyler.edu/>) or on reserve.

1. Pharmaceutical Calculations, 15th ed. Howard C. Ansel. 2013. ISBN: 978-1451120363. Walter Kluwer.
2. Ansel's Pharmaceutical Dosage Forms and Drug Delivery Systems. 9th ed. Allen LV, Popovich NG, Ansel HC, et.al. Lippincott Williams & Wilkins. (2010) ISBN: 978-0-78-177934-0. (Available via online through the Robert R. Muntz Library)

- Other required materials will be posted on the classes' Canvas site. The site address is: uttyler.edu/canvas.

Recommended Materials

- Complete Math Review, 3rd ed. William A. Hopkins. APhA. 2010. e-ISBN: 1-58212-134-6 (Available via online through the Robert R. Muntz Library)
- Understanding Pharmacy Calculations, 2nd ed. Teresa A. O'Sullivan and Linda S. Albrecht. 2012. ISBN: 1-58212-095-1. (Available via online through the Robert R. Muntz Library)

Course Format

The course may include, but are not limited to, the following activities:

- Independent study of selected readings
- Individual readiness assessment tests (iRATs)

Course Learning Outcomes (CLOs)

CLOs	PLO(s) Assessed for this CLO (1-12)	EPAs (1-13) Only map for Lab, IPPE, APPE. Otherwise N/A	ACPE Appendix 1 (names)	ACCP Didactic Toolkit (names)	NAPLEX (1.A.1 – 5.D)	Assessment Methods (1-13)
1. Demonstrate competence in performing pharmaceutical calculations to ensure accuracy and precision and to minimize the risk for error.	1	7	pharmaceutical calculations	N/A	1C	1,2
2. Interpret and apply common abbreviations and symbols used on prescription and medication orders for correct calculations.	1	7	pharmaceutical calculations	N/A	1C	1,2

Course Summative Assessment Methods

	Assessment/Examination Method
1	Question-based examination (ExamSoft-based)
2	Question-based examination (paper-based)

Grading Policy & Grade Calculation

Grades will be determined based on evaluation of assignments, formative assessments (for learning), and summative assessments (for mastery). For all intents and purposes, final examinations are synonymous with summative assessments. Assessments may consist of, but are not limited to, multiple-choice, true/false, fill in the blank, short-answer, essay, and problem-based questions. They may also include a variety of formats beyond the traditional question-based written examination, as each CLO may require different methods to determine student achievement.

Assignments, formative, and summative assessments may be **cumulative**. Students are responsible for material presented during prior courses. The grading scale for all graded material is below. The final course grade will be assigned according to the calculated percentage and the percentages will not be rounded upward or downward. For additional information, see [Part 2](#) of the syllabus.

During the time the course is in progress, students who obtain less than 75% on any summative assessment or a total course grade of less than 75% during a particular semester will receive an academic alert from the course coordinator and the Office of Academic Affairs and be subject to weekly in-course remediation with the course instructor(s).

Standard Grade Calculation*

Individual Component	100%
Homework	2%
iRATs	10%
Quiz	21%
Midterm Exam	27%
Final Exam (Cumulative)	40%
Total	100%

*The final course letter grade will be as follows:

A	90 - 100 %
B	80 - 89.999 %
C	70 - 79.999 %
D	65.0 - 69.999 %
F	< 65.0 %

If you are delayed entering the classroom by 5 minutes, you are not allowed to take iRAT, other quizzes and Exams. If a student misses the exam or any graded activity with an unexcused absence from the class, their exam or grade activity score will be 0.

Appropriate Use of Artificial Intelligence

AI is not permitted in this course at all.

a. Example 1: I expect all work students submit for this course to be their own. I have carefully designed all assignments and class activities to support your learning. Doing your own work, without human or artificial intelligence assistance, is best for your efforts in mastering course learning objectives. For this course, I expressly forbid using ChatGPT or any other artificial intelligence (AI) tools for any stages of the work process, including brainstorming. Deviations from these guidelines will be considered a violation of UT Tyler's Honor Code and academic honesty values.

b. Example 2: To best support your learning, you must complete all graded assignments by yourself to assist in your learning. This exclusion of other resources to help complete assignments includes artificial intelligence (AI). Refrain from using AI tools to generate any course context (e.g., text, video, audio, images, code, etc.) for an assignment or classroom assignment.

c. Example 3: The work submitted by students in this course will be generated by themselves. This includes all process work, drafts, brainstorming artifacts, editing, and final products. This extends to group assignments where students must create collaboratively create the project. Any instance of the following constitutes a violation of UT Tyler's Honor Code: a student has another person/entity do any portion of a graded assignment, which includes purchasing work from a company, hiring a person or company to complete an assignment or exam, using a previously submitted assignment and/or using AI tools (such as Chat ChatGPT).

PHAR 7201: Pharmaceutical Calculations Schedule (Fall 2025)

WEEK	DAY	TOPIC	Instructor	CLO	WSOP Category
1	08/28	Fundamentals of Pharmaceutical Calculations Pharmaceutical measurement and Temperature Conversion	Dr. Deba	1	S20.99
2	09/04	Interpreting Drug and Medication Orders*	Dr. Deba	1,2	S20.99
3	09/11	Ratio and Proportion and Density and specific gravity*	Dr. Deba	1,2	S20.99
4	09/18	Concentrations and Dilutions; Percentage Calculations' Reducing and Enlarging Formulas *	Dr. Deba	1,2	S20.99
5	09/25	Quiz 1	Dr. Deba	1, 2	S20.99
6	10/02	Calculation of Doses: General Considerations and Patient Parameters*	Dr. Deba	1, 2	S20.99
7	10/09	Calculations involving units of activity and other measures of potency,	Dr. Deba	1, 2	S20.99
8	10/16	Midterm Exam			
9	10/23	Isotonic and Buffer Solutions*	Dr. Deba	1, 2	S20.99
10	10/30	Electrolyte Solutions 1 and 2*	Dr. Deba	1,2	S20.99
11	11/06	Quiz 2	Dr. Deba	1, 2	S20.99
12	11/13	Selected Clinical Calculations and Calculations *	Dr. Deba	1, 2	S20.99
14	11/20	Intravenous Infusions, Parenteral Admixtures, Rate-of-Flow Calculations *	Dr. Deba	1, 2	S20.99
15		Thanksgiving Holiday:			
16	12/04	Quiz 3	Dr. Deba	1, 2	S20.99
17	12/08/2025 Final Exams (Comprehensive) -9am -noon				

* iRATs & Quiz

Please note that dates, topics, and assignments are subject to change. In the event of a change, you will be given ample notification of the change.

