



School of Pharmacy

COURSE NAME AND NUMBER: PHARMACY 608 Safety and Quality in the Medication Use System

CREDITS: 3 credits

COURSE DESIGNATIONS AND ATTRIBUTES: This course carries the graduate attribute.

MEETING TIME AND LOCATION: Mondays and Wednesdays 1:20-2:10 PM CST via Blackboard Collaborate Ultra (in Canvas)

THE COURSE IS: Required for Doctor of Pharmacy students, elective for Engineering students

INSTRUCTIONAL MODE: Online

HOW THE COURSE MEETS THE CREDIT HOUR POLICY: The credit standard for this course is met by an expectation of a total of 135 hours of student engagement with the course learning activities (at least 45 hours per credit), which include regularly scheduled instructor:student meeting times and other student work as described in the syllabus.

Learning Activity	Hours
Readings (2 hours x 15 weeks)	30
Lecture videos (2 hours x 15 weeks)	30
Class meetings (1 hour x 15 weeks)	15
Assignments (3 hours x 12 weeks)	36
Quizzes (0.5 hour x 12 weeks)	6
Exams (2 hours x 3 exams)	6
Studying (4 hours x 3 exams)	12
Total	135

INSTRUCTORS AND TEACHING ASSISTANTS (TAs)

Office hours will be conducted remotely. Occasional exceptions may be made following physical distancing and health recommendations at the discretion of your instructor/TA.

Instructors	Email
Michelle Chui, PharmD, PhD (<i>Course Coordinator</i>) Pronouns: she/her/hers	michelle.chui@wisc.edu
Kate Rotzenberg, PharmD, MBA, BCPS Pronouns: she/her/hers	katherine.rotzenberg@wisc.edu
Teaching Assistants	Email
Arveen Kaur Pronouns: she/her/hers	akaur7@wisc.edu
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Deepika Rao Pronouns: she/her/hers	dmrao@wisc.edu
Deepthi Jacob Pronouns: she/her/her	djacob2@wisc.edu

OFFICIAL COURSE DESCRIPTION: This course is offered to provide students with the fundamentals of safe medication management regardless of their practice environment and professional discipline. The content addresses the problems of medication errors and quality in health care, problem resolution, methods/techniques of assessment, and quality management.

Requisites: DPH-3 standing for Doctor of Pharmacy Students or consent of instructor

COURSE WEBSITE, LEARNING MANAGEMENT SYSTEM and INSTRUCTIONAL TOOLS

Canvas Course URL: <https://canvas.wisc.edu/courses/219255>

Please take some time to familiarize yourself with Canvas and the other learning technology we plan to use during this course:

- Canvas Student Information (<https://community.canvaslms.com/t5/Student-Guide/tkb-p/student>)
- Blackboard Collaborate Ultra Information (for synchronous class sessions - https://help.blackboard.com/Collaborate/Ultra/Participant/Get_Started)
- WebEx Tutorials (for individual meetings with course staff - <https://it.wisc.edu/learn/guides/getting-started-with-webex-meetings/>)
- Google Suite (<https://it.wisc.edu/services/google-apps/>)

COURSE LEARNING OUTCOMES

Course Learning Outcomes

1. Differentiate human error from system error and give examples of each.
2. Explain the factors that can contribute to medication errors and to adverse drug events.
3. Explain the influence of work systems and human factors on the development of safe processes for improving safety within the medication use system.

4. Explain the purpose of reliable and well-designed error reporting systems and how reporting systems can be used to improve the medication use system.
5. Differentiate and apply various quality improvement and error analysis methodologies such as root cause analysis and failure mode and effects analysis to the development of a safer medication use system.
6. Examine contributing factors and solutions to medication errors as a member of an interprofessional team.
7. Describe the concepts of violations and workarounds, how system and process design can have an influence on them, and how they impact on safety in the medication use system.
8. Compare and contrast the advantages and limitations of various types of technology and automation that are intended to improve safety and efficiency.
9. Conduct and interpret pharmaco-economic analyses

SOP Doctor of Pharmacy Educational Outcomes

10. Practice evaluation. Apply patient- and population-specific data, quality assurance strategies, and evaluation to develop and implement practice-based drug use strategies and public health policies to assure that medication use systems minimize drug misadventuring, optimize patient outcomes, and address public health problems.

GRADING: The final grade in this course will be based on the following:

Assessment	Points
Weekly Quizzes (top 11 scores x 5 points each)	55
Assignments (12 x 15 points each)	180
Exams (3 x 75 points each)	225
Total	460

Letter grades will be assigned by **points** (not percentage) as follows and will not be curved or rounded:

Points	Percentage	Letter Grade
428-460	93%+	A
405-427	88-92%	AB
382-404	83-87%	B
359-381	78-82%	BC
341-358	74-77%	C
322-340	70-73%	D
< 322	< 70%	F

DISCUSSION SESSIONS: Although students are assigned to specific discussion sections, they will not meet with their sections at scheduled times.

LABORATORY SESSIONS: None

REQUIRED TEXTBOOK, SOFTWARE & OTHER COURSE MATERIALS: There is no required textbook for this course; all readings and materials will be posted in Canvas, the online learning platform. Students will use Blackboard Collaborate Ultra for synchronous (real-time) sessions. Examples of required readings include:

- Scanlon MC, Karsh B. Value of human factors to medication and patient safety in the intensive care unit. *Crit Care Med.* 2010;30:S90-S96.
- Reason J. Human error: models and management. *BMJ.* 2000;320:768-770.
- Yip L, Farmer B. High reliability organizations – medication safety. *J Med Toxicol.* 2015;11:257-261.

Campus provides students with [technology guidelines and recommendations](#) for instruction. Students should consult these resources prior to the start of the semester.

HOMEWORK & OTHER ASSIGNMENTS

Assignments: Students will complete weekly assignments individually or in small groups to apply course concepts. Assignments cannot be opened in Canvas until the related lecture materials have been opened. Assignments may be comprised of one or several components (e.g., an online discussion and submission of a group response to a problem) to achieve a weekly total of 15 points. All assignments will be submitted via Canvas and graded according to assignment-specific rubrics. Late discussion posts will not receive credit. Other late assignments (individual or group) will have a point penalty of 20% per day (including weekend days). Assignment grades will be released one week after the due date.

You may wish to review these recommendations for working in groups early as you will be working with your assigned group for the entire semester:

<https://uwmadison.app.box.com/s/gd5lqf3lbng09m3tk9k8ezce2p2e6ttu>

Interprofessional Activity: A required interprofessional activity with the School of Nursing will be held the evening of **12/1/20 – please hold 5:30-8:00 PM on your calendars** for this event, although the event itself will only last approximately 75 minutes.

Completion of all components of the School of Pharmacy's Interprofessional Education (IPE) Program is mandatory for successful completion of the PharmD curriculum. This course contains an activity that is a required component of the IPE Program.

If a *pharmacy* student is absent from an activity that is part of the School's IPE Program, the student is required to make-up that activity. All make-up experiences must be approved by Prof Barnett prior to completion of the activity by the student. If an activity is missed, the student

should contact the course coordinator AND Prof Barnett as soon as possible. *Non-pharmacy* students will not receive credit for an IPE activity that is missed, but are not required to make-up the activity.

EXAMS, QUIZZES, PAPERS & OTHER MAJOR GRADED WORK

Quizzes: There will be 12 online quizzes administered throughout the semester based on assigned readings each week. Each quiz will be worth 5 points. Students will have 30 minutes to complete the quiz once it is opened. Each student's top 11 quiz scores will be included in the final grade. The lowest quiz score will be applied as extra credit.

Each quiz will be available on Friday when the next module of content is released, and will close on Thursday at 11:59PM CST. The quizzes are designed to ensure that students have completed the readings prior to lecture, and thus students will not be able to open the lecture links in Canvas until the quiz has been submitted. Questions will be multiple choice, true/false, or matching. Quiz grades will be released on Friday each week. Quizzes may not be made-up.

Exams: There will be three essay exams in this course, as shown in the course schedule. The last of the three exams will be scheduled during the summary period but will not be cumulative. Exams will be 2 hours in length and open-notes *without* remote proctoring. Detailed information about exam procedures will be posted in Canvas. Students who are unable to take an exam at the scheduled time should contact the course coordinator as soon as possible to determine a make-up plan. Exam grades will be released one week after the exam date.

The following describe consequences for failure to maintain academic integrity in exams and assignments:

- Students whose responses mirror online content or other students' submissions will have their scores for that exam or assignment canceled.
- Students sharing or receiving exam content or responses, or engaging in any plans or efforts to provide or gain an unfair advantage, will be blocked from taking the exam or their exam score will be canceled. This includes communications or assistance in person, via the internet, via social media, or by any other means.

OTHER COURSE INFORMATION

Communication:

Course staff will send an announcement through Canvas every Friday outlining upcoming student responsibilities (such as due dates), the plan for the upcoming week, and suggestions for how you may want to structure your time. This announcement may also periodically request anonymous feedback from students as to how the course and its structure are working. Additional announcements may be sent as needed. It is highly recommended that students turn

on the announcement feature in Canvas to ensure they are receiving this communication via email in a timely manner.

Students can expect email reminders from course staff the day before quizzes and assignments are due, if they have not yet been submitted. We know that life happens, and these reminders are intended to help you stay on track.

Course staff will provide feedback on student assignments via Canvas, either as written and/or recorded verbal comments or as annotations on uploaded files. Please check graded assignments for this feedback!

Student communication is encouraged through the General Course Questions discussion board – this board is monitored by course staff and responses will be posted within 24 hours. For personal concerns, please contact the following course staff as needed via email:

- For questions related to lecture material, contact the specific lecturer
- For questions related to a quiz, assignment, or exam, contact the assigned teaching assistant (posted in Canvas)
- For questions related to make-up assignments or other administrative course issues, contact the course coordinator

Course staff will hold virtual “office” hours every week on Wednesdays from 1:20-2:10PM CST during which students may drop in to ask questions. The link to this session will be posted in Canvas. These sessions will not be recorded or posted. We encourage you to attend and listen, as hearing other students’ questions can also raise new questions of your own.

Course staff are also available to meet virtually by appointment – please email the individual to set up a date and time.

Doctor of Pharmacy Students: Early Warning and Intervention Policy

The UW-Madison School of Pharmacy has instituted an Early Warning and Intervention Policy that applies to required courses. The policy is intended to identify students who may be at risk for earning a final course grade of D or F. The intent of the policy is to help students identify strategies and implement interventions that may improve student performance and prevent a failing grade as determined by course standards. The early warning and intervention policy is not intended for students who wish to raise their grade, but are not in jeopardy of failing a course.

The course coordinator will monitor student performance throughout the course using the following milestones: percentage grade after exam 1 and exam 2. Students who earn a score that represents underperformance on a milestone (<74% of total available points at each time) will be reported to the appropriate class advisor. This report triggers the intervention plan procedures outlined in the [Early Warning and Intervention Policy](#) (see policy).

Students are encouraged to self-report to the course coordinator or student advisor if they are having difficulty with course content and believe that they may be at risk of earning a grade of D or F.

Important: If a student does not comply with the procedures in the Early Warning and Intervention Policy, the student will forfeit the option to remediate the course. (See separate School of Pharmacy course remediation policy)

COURSE SCHEDULE: Students can expect the following course structure each week. Please reserve the Monday and Wednesday “lecture” times on your calendar as these times will be used for a variety of purposes throughout the semester.

Mondays:

- 1:20-2:10 PM CST – drop-in virtual “office hours,” exam reviews, guest lecture Q&A, etc.
- Assignment grades from previous week released

Wednesdays:

- 1:20-2:10 PM CST – drop-in virtual “office hours,” exam reviews, guest lectures, etc.

Thursdays:

- Quizzes due (available for 7 days)

Fridays:

- Weekly course announcement sent out
- All content, quizzes, and assignments for the following week available
- Quiz grades from previous week released

Sundays:

- Assignments due (available for 9 days)

The schedule of lecture topics and graded assessments is as follows (subject to change):

Week	Synchronous Session/Lecture Topics	Assessments
1	<ul style="list-style-type: none"> • Introduction to Jasmine Gant (MC) 	9/4/20 – Quiz #1 9/6/20 – Assignment #1
2	<ul style="list-style-type: none"> • Introduction to Safety (MC) • System vs. Human Error (MC) 	9/10/20 – Quiz #2 9/13/20 – Assignment #2
3	<ul style="list-style-type: none"> • Cognitive Factors (MC) • Introduction to Technology (MC) 	9/17/20 – Quiz #3 9/20/20 – Assignment #3
4	<ul style="list-style-type: none"> • Violations and Workarounds (MC) • Applications of Technology in Pharmacy (guest) 	9/24/20 – Quiz #4 9/27/20 – Assignment #4
5	<ul style="list-style-type: none"> • Root Cause Analysis (RCA) (KR) 	10/1/20 – Quiz #5 10/4/20 – Assignment #5
6	<ul style="list-style-type: none"> • High Reliability Organizations (KR) • Applications of High Reliability (guest) 	10/7/20 – Exam #1 5:30-7:30 PM

7	<ul style="list-style-type: none"> • Failure Mode and Effects Analysis (FMEA)(KR) 	10/15/20 – Quiz #6 10/18/20 – Assignment #6
8	<ul style="list-style-type: none"> • Error Reporting (KR) • Patient Perspective of Safety and Quality (KR) 	10/22/20 – Quiz #7 10/25/20 – Assignment #7
9	<ul style="list-style-type: none"> • Second Victims (KR) • Second Victim Experiences (guest) 	10/29/20 – Quiz #8 11/1/20 – Assignment #8
10	<ul style="list-style-type: none"> • Pharmacoeconomics 1 (MC) 	11/4/20 – Exam #2 5:30-7:30 PM
11	<ul style="list-style-type: none"> • Pharmacoeconomics 2 and 3 (MC) 	11/12/20 – Quiz #9 11/15/20 – Assignment #9
12	<ul style="list-style-type: none"> • Pharmacoeconomics 4 (MC) • Quality in the Health Care System (KR) 	11/19/20 – Quiz #10 11/22/20 – Assignment #10
13	<ul style="list-style-type: none"> • Quality in the Health Care System (KR) 	None!
14	<ul style="list-style-type: none"> • Quality in the Health Care System (KR) 	12/3/20 – Quiz #11 12/6/20 – Assignment #11
15	<ul style="list-style-type: none"> • Medication Safety 15 Years Later (MC) 	12/9/20 – Quiz #12 12/10/20 – Assignment #12
Finals Week		12/14/20 – Exam #3 12:25-2:25 PM

HOW TO SUCCEED IN THIS COURSE

We recommend adding all course due dates to the calendar you use regularly, and scheduling time to work on this course several times throughout the week. Read the weekly announcement carefully every Friday so you can plan out the work that needs to occur for the rest of the week – take special note of group assignments as you may want to meet with group members earlier in the week. We also recommend attending a virtual “office” hours session several times throughout the semester and posting questions in the General Course Questions discussion board.

We understand that it is difficult (or impossible) to be successful in a course when there are other significant challenges to manage, such as food or housing insecurity. Please consider reaching out to the course staff or the resources below if you are experiencing these types of hardship:

- [Wellness@SoP](#)
- [University Health Services](#)
- [Undergraduate Academic Advising and Career Services](#)
- [Office of the Registrar](#)
- [Office of Student Financial Aid](#)
- [Dean of Student Office](#)

STUDENTS' RULES, [RIGHTS & RESPONSIBILITIES](#)

During the global COVID-10 pandemic, we must prioritize our collective health and safety to keep ourselves, our campus, and our community safe. As a university community, we must work together to prevent the spread of the virus and to promote the collective health and welfare of our campus and surrounding community.

UW-Madison [Badger Pledge](#)

UW-Madison [Face Covering Guidelines](#)

While on campus all employees and students are required to [wear appropriate and properly fitting](#) face coverings while present in any campus building unless working alone in a laboratory or office space. ***There is no in-person instruction for this course.***

Quarantine or Isolation Due to COVID-19

Student should continually monitor themselves for COVID-19 [symptoms](#) and get [tested](#) for the virus if they have symptoms or have been in close contact with someone with COVID-19. Student should reach out to instructors as soon as possible if they become ill or need to isolate or quarantine, in order to make alternate plans for how to proceed with the course. Students are strongly encouraged to communicate with their instructor concerning their illness and the anticipated extent of their absence from the course (either in-person or remote). The instructor will work with the student to provide alternative ways to complete the course work.

Course Evaluations

Indicate how students can evaluate the course. For example:

Students will be provided with an opportunity to evaluate this course and your learning experience informally throughout the course (Google polls) and formally at the end of the course (AEFIS evaluation). The AEFIS evaluation is worth 2 extra credit points. Student participation is an integral component of this course, and your feedback is important to me. I strongly encourage you to participate in the course evaluation.

Digital Course Evaluation (AEFIS)

UW-Madison now uses an online course evaluation survey tool, [AEFIS](#). In most instances, you will receive an official email two weeks prior to the end of the semester when your course evaluation is available. You will receive a link to log into the course evaluation with your NetID where you can complete the evaluation and submit it, anonymously. Your participation is an integral component of this course, and your feedback is important to me. I strongly encourage you to participate in the course evaluation.

ACADEMIC CALENDAR & RELIGIOUS OBSERVANCES

- See: <https://secfac.wisc.edu/academic-calendar/#religious-observances>

ACADEMIC INTEGRITY STATEMENT

By virtue of enrollment, each student agrees to uphold the high academic standards of the University of Wisconsin-Madison; academic misconduct is behavior that negatively impacts the integrity of the institution. Cheating, fabrication, plagiarism, unauthorized collaboration, and helping others commit these previously listed acts are examples of misconduct which may result in disciplinary action. Examples of disciplinary action include, but is not limited to, failure on the assignment/course, written reprimand, disciplinary probation, suspension, or expulsion.

PRIVACY OF STUDENT RECORDS and the USAGE of AUDIO RECORDED LECTURES

See information about [privacy of student records and the usage of audio-recorded lectures](#).

Usage of Audio Recorded Lectures Statement

Lecture materials and recordings for [insert class name] are protected intellectual property at UW-Madison. Students in this course may use the materials and recordings for their personal use related to participation in this class. Students may also take notes solely for their personal use. If a lecture is not already recorded, you are not authorized to record my lectures without my permission unless you are considered by the university to be a qualified student with a disability requiring accommodation. [Regent Policy Document 4-1] Students may not copy or have lecture materials and recordings outside of class, including posting on internet sites or selling to commercial entities. Students are also prohibited from providing or selling their personal notes to anyone else or being paid for taking notes by any person or commercial firm without the instructor's express written permission. Unauthorized use of these copyrighted lecture materials and recordings constitutes copyright infringement and may be addressed under the university's policies, UWS Chapters 14 and 17, governing student academic and non-academic misconduct.

ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES STATEMENT

The University of Wisconsin-Madison supports the right of all enrolled students to a full and equal educational opportunity. The Americans with Disabilities Act (ADA), Wisconsin State Statute (36.12), and UW-Madison policy (Faculty Document 1071) require that students with disabilities be reasonably accommodated in instruction and campus life. Reasonable accommodations for students with disabilities is a shared faculty and student responsibility. Students are expected to inform faculty [me] of their need for instructional accommodations by the end of the third week of the semester, or as soon as possible after a disability has been incurred or recognized. Faculty [I], will work either directly with the student [you] or in coordination with the McBurney Center to identify and provide reasonable instructional accommodations. Disability information, including instructional accommodations as part of a student's educational record, is confidential and protected under FERPA. (See: [McBurney Disability Resource Center](#))

DIVERSITY & INCLUSION STATEMENT

[Diversity](#) is a source of strength, creativity, and innovation for UW-Madison. We value the contributions of each person and respect the profound ways their identity, culture, background, experience, status, abilities, and opinion enrich the university community. We commit ourselves to the pursuit of excellence in teaching, research, outreach, and diversity as inextricably linked goals.

The University of Wisconsin-Madison fulfills its public mission by creating a welcoming and inclusive community for people from every background – people who as students, faculty, and staff serve Wisconsin and the world.