

*This course focuses on the assessment of patient care. Quality improvement (QI) principles are used to provide the best possible care by the adoption of information technology and systems that reward rather than impede quality. Patient safety is an important component of quality pharmacotherapy. The appropriate reactions to adverse drug events and the anticipation of medication errors enable the implementation of systems to prevent and minimize patient risk. Quality assessment and improvement exercises will be introduced to identify and review variation in pharmacotherapy processes and outcomes. Students will use published evidence to identify targets for quality improvement, to formulate strategies to identify high-risk patients to improve patient care, and to define process and outcome measures to evaluate pharmacotherapy outcomes.*

**Course Prerequisites:** Completion of all Year 2 Pharm.D. program coursework including milestones.

**Course Corequisites:** PHA5165L Professional Practice Skills Lab V

Course Faculty and Staff	
Course Director	Instructional Designer
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[Faculty and Staff: Who to Contact and Questions to Ask](#)

**Office Hours:** Please see the Canvas course site for posted office hours.

**Faculty Locations:**

<b>Gainesville</b>	POP: DSIT 5th floor
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Course Objectives and Educational Outcomes	
Course Objectives	Linked Educational Outcome
1. Define questions related to quality medication use and use continuous quality improvement techniques in the medication use process.	Learner
2. Find and evaluate published medical literature for use in clinical decision-making and quality improvement.	Problem-solver
3. Identify opportunities for changes in practice that are feasible and effective for improving patient outcomes.	Problem-solver
4. Describe how to design, implement, and evaluate quality improvement programs.	Steward

5. Describe the role of the pharmacist in the improvement of quality deficits in the medication use system.	Learner
6. Monitor and evaluate the effectiveness and safety of care and implement improvements in collaboration with other health care professionals and the patient/caregiver. The following are continually monitored and evaluated: medication appropriateness, effectiveness, safety, and patient adherence through available data; biometric test results; and patient feedback.	Provider
7. Manage patient healthcare needs using human, financial, technological, data analysis, and physical resources to optimize the safety and efficacy of medication use systems.	Steward
8. Apply methods to improve patient safety.	Steward

### Course Resources and Fees

#### Course Outline

See Appendix A. Please routinely check your Google campus calendar and the Canvas course site for any messages about changes in the schedule including meeting dates/times, deadlines, and room changes.

#### Required Textbooks/Readings

1. Terri L. Warholak, David P. Nau (Editors). *Quality & Safety in Pharmacy Practice*. New York, NY: McGraw-Hill Medical; 2010. ISBN 978-0-07-160385-0. Available via HSC Library – Access Pharmacy with textbook URL: <http://accesspharmacy.mhmedical.com/book.aspx?bookID=452>

Use [UF VPN to access UF Libraries Resources](#) when off-campus. The UF HSC library staff can assist you with questions or issues related to accessing online library materials. For assistance contact your College of Pharmacy librarian or visit the [HSC Library Website](#) at this URL: <http://www.library.health.ufl.edu/>

#### Suggested Textbooks/Readings

Will be posted on Canvas

#### Other Required Learning Resources

None

#### Materials & Supplies Fees

None

### Evaluation and Grading

#### Student Evaluation & Grading

The Canvas® gradebook will be set-up using the percentages below to compute the grade.

Assessment Item	Grade Percentage
iRATs (5 @ 3% each)	15%
tRATS (5 @ 2% each)	10%
Assignment 1: QI Project Introduction and Objectives	25%
Assignment 2: QI Methods and Evaluation	25%
Final Exam	25%
<b>Total</b>	<b>100%</b>

#### Grading Scale

Percentage	Letter Grade	Percentage	Letter Grade	Percentage	Letter Grade
92.50-100%	A	79.50-82.49%	B-	66.50-69.49%	D+
89.50-92.49%	A-	76.50-79.49%	C+	62.50-66.49%	D
86.50-89.49%	B+	72.50-76.49%	C	59.50-62.49%	D-

82.50-86.49%	B	69.50-72.49%	C-	< 59.50%	E
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**Rounding of grades:**

Final grades in Canvas will be rounded to the 2nd decimal place. If the decimal is X.495 or higher, Canvas will round the grade to X.50. The above scale depicts this policy and grades are determined accordingly. Grade assignment is made using this policy and NO EXCEPTIONS will be made in situations where a student's grade is "close."

**University of Florida Honor Pledge and Academic Dishonesty**

UF students are bound by The Honor Pledge which states "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment."

The Conduct Code specifies a number of behaviors that are in violation of this code and the possible sanctions. Expectations for Artificial Intelligence and when use constitutes academic dishonesty is outlined below.

Tendering information (giving your work to another to be copied, giving someone answers to assessment questions, informing another person in a later section about the questions that appear on an assessment that you have taken, or giving or selling a paper to another student), is considered academic dishonesty.

Students are required to report any condition that facilitates academic misconduct to appropriate personnel. Failure to report is also considered academic dishonesty. If you have any questions or concerns, please consult the course's Teaching Partnership Leader/Course Director or Assistant Dean for Curricular Affairs.

See the [UF Conduct Code website](#) for more information. If you have any questions or concerns, please consult with the instructor or TAs in this class.

**Assignment Descriptions**

Assignment 1: Team assignment involving answering 10 questions to propose a quality improvement project relating to Covid vaccines, including identifying a quality deficit, developing a PICOT question, and defining the inclusion/exclusion criteria.

Assignment 2: Team assignment involving answering 10 questions related to the same QI proposal, including defining your measures, describing your intervention and design, and assessing its predicted impact.

**Course-Related Policies****UF Resources and Policies**

University of Florida resources and policies can be found at this URL: <https://go.ufl.edu/syllabuspolicies>

**PharmD Course Policies**

The Policies in the following link apply to this course. Review the General [Pharm.D. Course Policies](#) carefully, at this URL: <http://curriculum.pharmacy.ufl.edu/current-students/course-policies/>

**Attendance Policy**

Attendance is mandatory for active learning sessions such as team-based learning sessions, case discussions, laboratory sessions, and other activities that the instructor designates as required. This course has 5 required sessions (ALS sessions). A student who misses greater than 1 session(s) for this course will receive an incomplete in the course and will retake the course during the next offering, resulting in delayed graduation.

**Makeup Assignments**

Quizzes may be made up on a case-by-case basis if absence was approved by the Academic Coordinator. Makeup assignments may be required for excused absences from Active Learning Sessions. Students will be required to complete

the makeup assignment within one week of the missed session or will receive a zero.

### Late Assignments

Assignments will be posted with explicit due dates and students are responsible for adhering to these deadlines. No late work on the group project will be accepted (will result in a grade of zero). There are no individual assignments in this course.

### Educational Technology Use

The following technology below will be used during the course and the student must have the appropriate technology and software.

1. ExamSoft™ Testing Platform
2. Canvas™ Learning Management System

For technical support, navigate to [Educational Technology and IT Support Contact Information](http://curriculum.pharmacy.ufl.edu/current-students/technical-help/) at this URL:  
<http://curriculum.pharmacy.ufl.edu/current-students/technical-help/>

### Artificial Intelligence (AI) Use for Assessments

**The use of generative AI in assessments is prohibited**, unless explicitly allowed by the course instructor. Assessments include any submitted work, graded or ungraded, that will be evaluated. These include, but are not limited to, quizzes, exams, assignments, writing projects, etc. If a student is uncertain about the use of AI technology, it is the student's responsibility to ask the instructor prior to beginning the assignment or assessment.

When authorized by the course director/course instructors, students may use AI technologies in the completion of an assessment if they acknowledge all use by naming the technology, describing how it was employed, and adhering to any other requirement stipulated in the assessment's instructions. Failure to acknowledge the use of AI technology or disregarding instructions related to the use of AI for assessments is considered academic misconduct. Students must disclose the use of AI and AI-assisted technologies by following the instructions below.

Application of AI technology must be done with human oversight and control, and students should carefully review and edit the result, as AI can generate outputs that can be incorrect, incomplete, or biased. **Students assume full responsibility for all content, including errors and omissions, if AI is employed.** Additionally, privacy is a concern with AI-generated content. Most commercially available AI systems are not compliant with [HIPAA](#) or FERPA protections, inputting patient or student information is prohibited by federal law.

Instructions to acknowledge the use of AI:

Statement: During the preparation of this assignment I/we, [INSERT NAME/S], used [INSERT TOOL / SERVICE] in order to [INSERT REASON OR PURPOSE]. After using this tool/service, I/we reviewed and edited the content as needed and take full responsibility for the content of the submission.

### Penalties for unauthorized use:

**Unauthorized use of AI text generators for assessments is considered evidence of academic dishonesty (see [policy on academic dishonesty](#)).**

### Disability Resource Center

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the Disability Resource Center. See the [Get Started with the DRC webpage](#) on the Disability Resource Center site. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

**Course Evaluation Process**

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online. Students can complete evaluations in three ways:

1. The email they receive from GatorEvals,
2. Their Canvas course menu under GatorEvals, or
3. The central portal at <https://my-ufl.bluera.com>

Guidance on how to provide constructive feedback is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>

## Appendix A: Course Outline

Date / Time	Mod #	Activity	Activity Title	Contact Time (min)	Responsible
	1	Module			
09/05/25	1.1	Lecture Video	Patient Safety and Quality (PSQ) in Pharmacy: Introduction to Course	15	Rachel Reise
09/05/25	1.2	Video Other	The FDA Drug Info Rounds, September 2012: Medication Errors (YouTube)	4	
09/05/25	1.3	Video Other	Medication Errors Frequent for Children (YouTube)	2	
09/05/25		Reading	Chapter 1 – Quality and the Future of Healthcare	12	
09/08/25	1.4	Lecture Video	Medication Misadventures	66	Rachel Reise
09/08/25	1.5	Lecture Video	Root Cause Analysis	57	Amie Goodin
09/08/25	1.6	Lecture Video	Principles of Medication Safety in Ambulatory Care	23	Jorge Valedon (Fellow)
09/08/25		Reading	Chapter 2: Understanding Problems in the Use of Medications	25	
09/08/25	1.7	Lecture Video	The Sebastian Ferrero Case	14	Jorge Valedon (Fellow)
09/09/2025 at 1-2:50pm		Active Learning Session	Active Learning Session 1: Medication Errors and Root Cause Analysis	100	Rachel Reise
09/09/25		Quiz (iRAT/tRAT)	iRAT & tRAT 1		Rachel Reise
	2	Module	Module 2: Quality Improvement		
09/12/25	2.1	Lecture Video	What is Quality Improvement?	44	Rachel Reise
09/12/25	2.2	Lecture Video	Quality Improvement Goals	22	Rachel Reise
09/12/25	2.3	Lecture Video	Quality Improvement Interventions	65	Rachel Reise
09/15/25	2.4	Lecture Video	Quality Improvement Research	38	Rachel Reise
09/15/25	2.5	Lecture Video	Quality Deficits (or Quality "Gaps")	66	Amie Goodin
09/16/25	2.6	Lecture Video	Quality Measures	39	Rachel Reise
09/16/25		Reading	How Chaos at Chain Pharmacies Is Putting Patients at Risk	50	
09/16/25		Reading	Pharmacy Quality Alliance (PQA) Measure Overview	12	
09/16/25		Reading	The Pharmacist's Role in Quality Improvement (pages 1-8)	38	
09/17/2025 at 1-2:50pm		Active Learning Session	Active Learning Session 2: Developing a Measurement Framework for a Quality Improvement Plan	100	Rachel Reise
09/17/25		Quiz (iRAT/tRAT)	iRAT & tRAT 2		Rachel Reise
	3	Module	Module 3: Study Design in Quality Improvement		
09/19/25	3.1	Lecture Video	Cluster Randomized Control Trials	42	Amie Goodin
09/19/25	3.2	Lecture Video	Quasi-Experimental Designs	41	Amie Goodin
09/22/25	3.3	Lecture Video	How to Evaluate Quality Improvement Quasi-Experimental Studies	49	Amie Goodin
09/22/25		Reading	Evidence-based Quality Improvement: The State of the Science	38	

Date / Time	Mod #	Activity	Activity Title	Contact Time (min)	Responsible
09/22/25		Reading	Quasi-Experimental Study on Low-Health Literacy Flashcards & Mobile Video Reinforcement	25	
09/22/25		Reading	Cluster RCT of Decision Support Strategies for Reducing Antibiotic Use in Acute Bronchitis	25	
09/23/2025 at 1-2:50pm		Active Learning Session	Active Learning Session 3: Selecting Effective QI Interventions and Valid Study Designs to Evaluate Interventions	100	Amie Goodin, Rachel Reise
09/23/25		Quiz (iRAT/tRAT)	iRAT & tRAT 3		
	4	Module	Module 04: Practical Applications to Improve Quality		
09/23/25	4.1	Lecture Video	Practical Applications of AI to Improve Quality – Part 1	43	Masoud Rouhizadeh
09/23/25	4.2	Lecture Video	Practical Applications of AI to Improve Quality – Part 2	12	Masoud Rouhizadeh
09/23/25	4.3	Lecture Video	Practical Applications of AI to Improve Quality – Part 3	33	Masoud Rouhizadeh
09/25/25	4.4	Lecture Video	Practical Applications of Quality Improvement in Community Pharmacy	37	Eric Egelund
		Optional/Supplemental	Evaluation of House Bill 21		
09/25/25	4.5	Lecture Video	Data Management & Analysis in Excel for Pharmacy QI	50	Rachel Reise
09/25/25	4.6	Lecture Video	Data Analysis in Excel for QI	36	Jae Choi
09/25/25		Assignment (Graded)	Assignment 1 Due: Project Introduction and Objectives		
09/26/2025 at 1-2:50pm		Active Learning Session	Active Learning Session 4: Data Science Applications	100	Masoud Rouhizadeh, Rachel Reise
09/26/25		Quiz (iRAT/tRAT)	iRAT & tRAT 4		
	5	Module	Data Science in Pharmacy		
09/29/25	5.1	Lecture Video	Pharmacy Data Visualizations for QI - Part 1	70	Amie Goodin
09/29/25	5.2	Lecture Video	Customizing a Data Visualization	32	Jae Choi
		Other	Data Tables for Reference and Practice		Jae Choi
09/29/25	5.3	Lecture Video	Identifying Public Sources of Data and Tools	20	Rachel Reise
09/30/2025 at 1-2:50pm		Active Learning Session	Active Learning Session 5: Creating Pharmacy Data Visualizations	100	Amie Goodin, Rachel Reise
09/30/25		Quiz (iRAT/tRAT)	iRAT & tRAT 5		
09/30/2025 at 2:50pm		Course Evaluation	Course Evaluations		
10/01/25		Assignment (Graded)	Assignment 2 Due: QI Methods and Evaluation		Rachel Reise
10/08/2025 at 2-4pm		Exam	Final Exam		Rachel Reise
			Total Course Contact Hours	32.24	