

# Dual Master of Science in Pharmacogenomics and Doctor of Pharmacy

## Overview

The College of Pharmacy and Health Sciences offers both the in person and distance learning professional Doctorate of Pharmacy (PharmD and PharmD-DLP) and the Master of Science in Pharmacogenomics in person and hybrid pathways (MSPGx and MSPGx-HP). The intent of a dual degree option combining our Pharmacy and Pharmacogenomics programs is to expand the opportunities available to pharmacy graduates, particularly those pursuing clinical fellowships or residencies with an eventual goal of working in clinical pharmacogenomics-based positions, the pharmaceutical industry, or academics.

This is a dual degree program, where students completing the requirements for each program will receive two separate degrees, the PharmD degree and the MSPGx degree, within four years of entry as a PharmD student. Initially, students admitted by the College's Admissions are only admitted into the PharmD degree portion of the program. Transition into the MSPGx program is not automatic, nor is acceptance into the MSPGx program guaranteed, but requires application and acceptance into the MSPGx program.

PharmD students would be eligible to apply for admission to the MSPGx degree program during their first semester in the PharmD program. Application and acceptance to the MSPGx program must occur by the end of the PY1 year in the PharmD program to be timely enrolled in the dual degree program. Candidates must successfully submit their application materials to be considered for enrollment in the MSPGx portion of the dual degree option. Enrollment in the MSPGx program after completion of the PY1 year of the PharmD program will alter the sequencing of courses and potentially result in awarding of the MSPGx degree after awarding of the PharmD degree.

The PharmD program consists of 146 credits (refer to "Doctor of Pharmacy Major" in this catalogue for details) and the MSPGx program consists of 38 credits (refer to "Master of Science in Pharmacogenomics" in this catalogue for details). The dual degree option was designed to take advantage of courses already part of the PharmD program, so the two programs share 13 required credits (PHAR 513, PHAR 522, PHAR 523, PHAR 526, PHAR 611), 3 MSPGx credits are waived (PHRSC 557), and possibly, 6 MSPGx credits count as PharmD electives (PHRSC 527, PHRSC 551, and PHRSC 553 – 2 of the 3). With required and elective course sharing, taking the 2nd and 3rd year PHAR IPPE courses during the prior summer semesters, and taking the Pharmacogenomics Experience courses during the summer, properly enrolled students can complete the dual degree program in 4 years. As such, timely-enrolled dual degree students are awarded both the PharmD and MSPGx degrees at the same time. Late-enrolled dual degree students will require additional matriculation time beyond the 4 years of the PharmD degree. Accordingly, such students will be awarded the PharmD degree upon its completion, and subsequently after the PharmD degree, will be awarded the MSPGx degree when done.

A dual degree program is predicated upon completion of both degrees, and in the PharmD(-DLP)-MSPGx(-HP) program, the assumption is the two degrees are completed simultaneously, or the PharmD is followed by the MSPGx. Should a student quit or be dismissed from the PharmD program while in the dual degree program, there may be impact on their status in the MSPGx program. If the student does not have a Bachelor's degree, their enrollment in the MSPGx program would be suspended until such degree was completed, at which point they could continue in the MSPGx program. If the student has a Bachelor's degree, then they could remain enrolled in the MSPGx program, assuming they have no academic issues within that program.

## Degree Requirements

The semester-by-semester PharmD-MSPGx dual degree program course listings below only show those courses required in both programs (PHAR-designated courses), those that are required in one program but can count as an elective in the other (PHRSC 527, PHRSC 551, and PHRSC 553 – 2 of the 3), or those specific to the MSPGx (the remaining PHRSC-designated courses).

## Suggested Course Sequence

Credits counting toward both programs = 13 credits + 3 credits waived = 16 credits

MSPGx specific credits = 22 credits

- MSPGx credits that could count as PharmD Electives = 6 credits
- Credits exclusive to the MSPGx = 16 credits

### 1st Year PharmD - Fall Semester

PHAR 513	Biochemistry	3 cr.	<b>Subtotal: 3</b>
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### 1st Year PharmD - Spring Semester

PHAR 522	Pathophysiology	3 cr.
PHAR 526	Pharmacy Outcomes	2 cr.
PHAR 523	Medical Genetics and Pharmacogenomics	2 cr.
<b>Subtotal: 7</b>		

2nd year PharmD/1st Year MSPGx - Summer Semester  
PHAR 642/643 IPPE Community or Health System

2nd Year PharmD/1st Year MSPGx - Fall Semester

PHAR 611/ PHRSC 515	Principles of Pharmacology	3 cr.	
PHRSC 551	Introduction to Genetics and Genetic Counseling	3 cr.	
PHRSC 529	Responsible Conduct of Research	3 cr.	
PHRSC 526	Analytical Techniques Lab	1 cr.	
			<b>Subtotal: 10</b>

2nd Year PharmD/1st Year MSPGx - Spring Semester

PHRSC 553	Genetic Research and Bioinformatics	3 cr.	
			<b>Subtotal: 3</b>

3rd Year PharmD/2nd Year MSPGx - Summer Semester

PHRSC 558	Pharmacogenomics Laboratory Experience	3 cr.	Two full time 3-week blocks offered during 1st summer session*
PHAR 744/745	IPPE Community or Health System		
			<b>Subtotal: 3</b>

\* Blocks will be filled on a first come first served basis.

3rd Year PharmD/2nd Year MSPGx - Fall Semester

PHRSC 527	Data Analysis & Biostatistics	3 cr.	
PHRSC 510	Seminar & Journal Club 1	1 cr.	
			<b>Subtotal: 4</b>

3rd Year PharmD/2nd Year MSPGx - Spring Semester

PHRSC 552	Applied Genetics, Pharmacokinetics, and PGx	2 cr.	
			<b>Subtotal: 2</b>

4th Year PharmD/3rd Year MSPGx – Summer, Fall, or Spring Semesters

PHRSC 559	Pharmacogenomics Clinical Experience	3 cr.	Two full time 3-week blocks offered during 2nd summer session*
			<b>Subtotal: 3</b>

\* Blocks will be filled on a first come first served basis.

#### Courses in MSPGx Curriculum that are waived for PharmD students

PHRSC 557	Mechanisms of Drug Action	3 cr.	Based on completion of 30 credit-hours of required IPC&PM PharmD courses.
			<b>Subtotal: 3</b>

Total Credit Hours: 38

MSPGx Degree completion requirements:

- 1) All courses passed (“C” or better), with no more than two courses with a grade of “C” or “C+” and
- 2) Attain an overall grade point average of 3.0 or higher.