PHARMACY, DOCTOR OF (PHARM.D.)/PHARMACEUTICAL SCIENCES, DOCTOR OF PHILOSOPHY (PH.D.) [DUAL DEGREE]

The VCU School of Pharmacy offers a Pharm.D./Ph.D. dual degree program for outstanding Pharm.D. students to obtain both a Pharm.D. and a Ph.D. in Pharmaceutical Sciences. The dual degree program provides curricular efficiencies in both the Pharm.D. and Ph.D. programs, opportunities for summer research and elective advanced pharmacy practice experiences, which allow dual degree students to graduate with their Pharm.D. after four years and with efficiencies to complete the Ph.D. degree after approximately two to three additional years.

Student learning outcomes

The student learning outcomes described on the individual Ph.D. concentration pages also apply to Pharm.D.-Ph.D. students.

- Ph.D. with a concentration in medicinal chemistry (https://bulletin.vcu.edu/graduate/school-pharmacy/pharmaceutical-sciences-phd-medicinal-chemistry/)
- Ph.D. with a concentration in pharmaceutics (https://bulletin.vcu.edu/graduate/school-pharmacy/pharmaceutical-sciences-phd-pharmaceutics/)
- Ph.D. with a concentration in pharmacoeconomics and health outcomes (https://bulletin.vcu.edu/graduate/school-pharmacy/pharmaceutical-sciences-phd-pharmacoeconomics-health-outcomes/)
- Ph.D. with a concentration in pharmacotherapy (https://bulletin.vcu.edu/graduate/school-pharmacy/pharmaceutical-sciences-phd-pharmacotherapy/)

The educational outcomes of the Pharm.D. program (https://pharmacy.vcu.edu/about-us/educational-outcomes/) can be viewed on the School of Pharmacy website.

Admission requirements

The program is designed for VCU School of Pharmacy Pharm.D. students to apply during their P-2 year, but applications from P-3 students will be considered. Applicants will be evaluated according to the following criteria:

- Pharm.D. GPA: >/= 3.0 (required)
- Personal statement/essay
- Personal interview by two Pharm.D.-Ph.D subcommittee members
- Research experience (Summer Research Fellowship or equivalent)
- Three letters of recommendation
- Research experience/interests compatible with research of SOP graduate faculty

Degree requirements

Students will take 148.5 credit hours of courses required for the Pharm.D. (which includes six didactic credits and 10 APPE/directed research credits that may also be applied toward the Ph.D. degree) and a minimum of 30 didactic credit hours and 30 directed research credit hours to be eligible for the Ph.D.

Curriculum requirements for the dual degree

Course	Title	Hours
Pharm.D. requirements		
IPEC 501	Foundations of Interprofessional Practice	1
IPEC 502	Interprofessional Quality Improvement and Patient Safety	1
IPEC 560	Interprofessional Collaborative Care for Older Adults	1
MEDC 527	Basic Pharmaceutical Principles for the Practicing Pharmacist	3
MEDC 533	Pharmacognosy	1
MEDC 542	Biotechnology-derived Therapeutic Agents	1
MEDC 553	Concepts in the Medicinal Chemistry of Therapeutics Agents	1
PCEU 507	Pharmaceutics and Biopharmaceutics I	2.5
PCEU 508	Pharmacokinetics	3
PCEU 509	Pharmaceutics and Biopharmaceutics II	3
PCEU 601	Applied Pharmacokinetics and Pharmacogenomics	2.5
PHAR 501	Pharmaceutical Calculations	1
PHAR 502	Introduction to Pharmacoeconomics	1
PHAR 503	Ethics and Equity	1.5
PHAR 505	Pathophysiology and Patient Assessment Skills	3
PHAR 506	Nonprescription Medications and Self-care	2
PHAR 507	Introduction to Health Informatics	1
PHAR 508	Evidence-based Pharmacy I	2
PHAR 511	Evidence-based Pharmacy II	2
PHAR 515	Continuous Professional Development I	1
PHAR 523	Foundations I	2
PHAR 524	Foundations II	1.5
PHAR 530	Introductory Pharmacy Practice Experience: Community Practice	4
PHAR 532	Introductory Pharmacy Practice Experience: Hospital Practice	3
PHAR 533	Introductory Pharmacy Practice Experience: Patient Care	.5
PHAR 534	Foundations III	1.5
PHAR 535	Foundations IV	1.5
PHAR 544	Clinical Therapeutics Module: Cardiovascular	4.5
PHAR 545	The U.S. Health Care System	1.5
PHAR 546	Pharmacy-based Immunization Delivery	1.5
PHAR 551	Pharmacy-based Point of Care Testing	1.5
PHAR 555	Clinical Therapeutics Module: Endocrinology	2.5
PHAR 556	Clinical Therapeutics Module: Neurology	3.5

PHAR 602	Clinical Therapeutics Module: Psychiatry	3
PHAR 603	Clinical Therapeutics Module: Respiratory/Immunology	2.5
PHAR 604	Clinical Therapeutics Module: Infectious Diseases	4
PHAR 605	Clinical Therapeutics Module: Hematology/Oncology	2.5
PHAR 606	Clinical Therapeutics Module: Nephrology/Urology	2
PHAR 609	Clinical Therapeutics Module: Reproductive Health, Dermatology, EENT, Bone and Joint	3.5
PHAR 615	Continuous Professional Development II	1
PHAR 618	Clinical Therapeutics Module: Gastrointestinal/Nutrition	2.5
PHAR 640	Foundations V	1.5
PHAR 645	Foundations VI	1.5
PHAR 652	Health Promotion and Communication in Pharmacy Practice	2
PHAR 702	Pharmacy Practice Management	2.5
PHAR 703	Clinical Therapeutics Module: Complex Patient Cases and Critical Care	3.5
PHAR 715	Continuous Professional Development III	1
PHAR 724	Pharmacy Law	2.5
PHAR 730	Continuous Professional Development IV	.5
PHAR 760	Acute Care Pharmacy Practice I	5
PHAR 761	Advanced Hospital Pharmacy Practice	5
PHAR 763	Ambulatory Care Pharmacy Practice	5
PHAR 765	Elective I (satisfies directed research in Ph.D.)	5
PHAR 766	Elective II (satisfies directed research in Ph.D.)	5
PHAR 767	Clinical Selective I	5
PHAR 768	Advanced Community Pharmacy Practice	5
PHAR 773	Acute Care Pharmacy Practice II	5
PHTX 606	Introduction to Pharmacology of Therapeutic Agents	1
Electives (satisfies six credits of Ph.D. electives)		8
Ph.D. requirements		
• Ph.D. core requirements		
OVPR 601	Scientific Integrity	1
or OVPR 602	Responsible Scientific Conduct	
or OVPR 603	Responsible Conduct of Research	
PSCI 607	Introduction to Pharmaceutical Sciences From Bench to Shelf	2
PSCI 614	Research Techniques	1
PSCI 690	Seminars in the Pharmaceutical Sciences (one credit per semester)	4
• Concentration and electives requirements (select one concentration)		22
Medicinal chemistry concentration (13 credits)		
CHEM 504	Advanced Organic Chemistry I	
IBMS 600	Laboratory Safety	
MEDC 555	Fundamentals of Drug Discovery I	
MEDC 556	Fundamentals of Drug Discovery II	
or MEDC 541	Survey of Molecular Modeling Methods	
MEDC 601	Advanced Medicinal Chemistry I	
Concentration electives (six of nine credits satisfied by Pharm.D. electives) [1]		
Pharmaceutics concentration (14 credits)		
BIOS 543	Graduate Research Methods I	
or STAT 543	Statistical Methods I	
PCEU 612	Advanced Physical Pharmacy and Biopharmaceutics	
PCEU 625	Pharmaceutical Analysis	
PCEU 690	Pharmaceutics Research Seminar (one credit per semester)	
Concentration electives (six of eight credits satisfied by Pharm.D. electives [1]		
Pharmacoeconomics and health outcomes concentration (12 credits)		
BIOS 544	Graduate Research Methods II	
or STAT 544	Statistical Methods II	
PHAR 637	Introduction to Research Methods in Pharmaceutical Sciences	
PHAR 638	Pharmaceutical Benefit Management	
PHAR 671	Applied Pharmacoeconomics and Outcomes Research	
Concentration electives (six of 10 credits satisfied by Pharm.D. electives [1]		
Pharmacotherapy concentration (nine credits)		
BIOS 544	Graduate Research Methods II	
or STAT 544	Statistical Methods II	
PHAR 626	Advanced Pharmacotherapy Research Methods	
PHAR 637	Introduction to Research Methods in Pharmaceutical Sciences	
Concentration electives (six of 13 credits satisfied by Pharm.D. electives [1]		
• Directed research (minimum) [2]		30
Select directed research course appropriate to concentration; 10 credits satisfied by PHAR 765 and PHAR 766 in Pharm.D.		
Total Hours		**192.5**

The minimum number of credit hours required for this dual degree is 192.5.

1 The elective courses taken will generally be selected from a list identified by the major adviser and will be agreed upon by the major adviser and student. These electives may include courses outside the department.

2

Students will select MEDC 697, PCEU 697 or PHAR 697, as appropriate for the concentration.

Plan of study

Students in the dual degree program spend the first two years (P1-P2) in the professional Pharm.D. curriculum. Years three and four (P3/G1-P4/G2) students continue in the Pharm.D. professional curriculum and begin graduate course work by taking core or elective graduate courses as Pharm.D. electives (applied toward six credits of didactic Ph.D. credits) and two elective APPEs (applied toward 10 credits of their Ph.D. research credits). The Pharm.D. degree is conferred in year four when Pharm.D. requirements are completed. Years five and beyond (G3-G5), students engage in graduate course work and Ph.D. research to complete the Ph.D. degree requirements.

Contact

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Program website: pharmacy.vcu.edu/programs/pharmd/dual-degrees/pharmdphd/ (https://pharmacy.vcu.edu/programs/pharmd/dual-degrees/pharmdphd/)