

PHARMACY, DOCTOR OF (PHARM.D.)/AGING STUDIES, CERTIFICATE IN (GRADUATE CERTIFICATE) [DUAL DEGREE AND CERTIFICATE]

Advanced study in pharmacy and aging studies is available through a dual degree and certificate program co-sponsored by the School of Pharmacy and the Department of Gerontology in the College of Health Professions.

The program allows students to earn a Doctor of Pharmacy and a Certificate in Aging Studies with a minimum of 167 credits rather than the 170 credits necessary if the two degrees were pursued separately. This efficiency lowers the overall cost of tuition while also reducing time to earning both degrees.

Program goals

The objectives of this dual degree and certificate program are to:

- Prepare graduates to address the complex needs of a diverse aging population using holistic knowledge of the biopsychosocial aging process
- Provide graduates with an understanding of empirically and theoretically based components contributing to optimal aging using evidence-based, best-practice approaches
- Prepare graduates to develop skills in comprehensive geriatric care to promote well-being among older adults
- Prepare graduates with an understanding of the interrelationship between pharmacology and social issues and aging (e.g., family, cultural, community, housing, access to care, policy issues)

Among the many benefits offered by participation in the dual degree and certificate program is the following:

- Students holding these degrees will be more competitive in obtaining a pharmacy residency or employment caring for older adults in the community, ambulatory care or hospital settings.

The diplomas for this dual degree and certificate program may be awarded simultaneously. Students must complete a separate graduation check out for each program.

Student learning outcomes

See the individual program pages for student learning outcomes.

Advising

The student is assigned an adviser from each program to develop a plan of study. Advisers from each program will provide guidance on course requirements for their respective programs.

Admission requirements

Students must meet the admission requirements for each program. Admission into one program does not guarantee admission into the other.

The Certificate in Aging Studies program is open to qualified students who have earned a baccalaureate degree from an accredited college or university or the equivalent and who have met all **general admission requirements of the VCU Graduate School**.

The admission requirements for the Pharm.D. (<https://bulletin.vcu.edu/professional-studies/pharmacy/pharmacy-pharmd/#admissionrequirements>) can be found on the program page.

Application procedure

Applicants may apply after completion of their first or second professional year. Applications are made through the Graduate School and are due by May 15.

Students do not need to take any additional tests as part of the application process. There is a fee associated with applying to the VCU Graduate School.

Dual degree and certificate requirements

As standalone programs, the Pharm.D. comprises 148.5 credits while the certificate requires 15 credits. The dual degree and certificate program allows students to share three credits, therefore decreasing total credits to completion from 163.5 to 160.5.

Students are advised that based on the equivalent knowledge acquired by successfully completing PHAR 670 and PHAR 691 (with appropriate topic) as electives in the Pharm.D. program, the elective requirement is satisfied in the certificate curriculum.

Curriculum requirements

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 765	Elective I	5
PHAR 508	Evidence-based Pharmacy I	2	PHAR 766	Elective II	5
PHAR 511	Evidence-based Pharmacy II	2	PHAR 767	Clinical Selective I	5
PHAR 515	Continuous Professional Development I	1	PHAR 768	Advanced Community Pharmacy Practice	5
PHAR 523	Foundations I	2	PHAR 773	Acute Care Pharmacy Practice II	5
PHAR 524	Foundations II	1.5	PHTX 606	Introduction to Pharmacology of Therapeutic Agents	1
PHAR 530	Introductory Pharmacy Practice Experience: Community Practice	4	Electives (three credits will satisfy certificate electives)		8
PHAR 532	Introductory Pharmacy Practice Experience: Hospital Practice	3	Certificate requirements		
PHAR 533	Introductory Pharmacy Practice Experience: Patient Care	.5	GRTY 601	Biological and Physiological Aging	3
PHAR 534	Foundations III	1.5	GRTY 602	Psychology of Aging	3
PHAR 535	Foundations IV	1.5	GRTY 603	Social Gerontology	3
PHAR 544	Clinical Therapeutics Module: Cardiovascular	4.5	GRTY 606	Aging and Human Values	3
PHAR 545	The U.S. Health Care System	1.5	Restricted elective (satisfied by PHAR 670 and PHAR 691 Pharm.D. electives)		3
PHAR 546	Pharmacy-based Immunization Delivery	1.5	Total Hours		160.5
PHAR 551	Pharmacy-based Point of Care Testing	1.5	The minimum number of credit hours required for this dual program is 160.5.		
PHAR 555	Clinical Therapeutics Module: Endocrinology	2.5	Sample plan of study		
PHAR 556	Clinical Therapeutics Module: Neurology	3.5	P1 year		
PHAR 602	Clinical Therapeutics Module: Psychiatry	3	Fall		
PHAR 603	Clinical Therapeutics Module: Respiratory/Immunology	2.5	IPEC 501	Foundations of Interprofessional Practice	1
PHAR 604	Clinical Therapeutics Module: Infectious Diseases	4	MEDC 527	Basic Pharmaceutical Principles for the Practicing Pharmacist	3
PHAR 605	Clinical Therapeutics Module: Hematology/Oncology	2.5	MEDC 533	Pharmacognosy	1
PHAR 606	Clinical Therapeutics Module: Nephrology/Urology	2	PCEU 507	Pharmaceutics and Biopharmaceutics I	2.5
PHAR 609	Clinical Therapeutics Module: Reproductive Health, Dermatology, EENT, Bone and Joint	3.5	PHAR 501	Pharmaceutical Calculations	1
PHAR 615	Continuous Professional Development II	1	PHAR 505	Pathophysiology and Patient Assessment Skills	3
PHAR 618	Clinical Therapeutics Module: Gastrointestinal/Nutrition	2.5	PHAR 515	Continuous Professional Development I (continues)	1
PHAR 640	Foundations V	1.5	PHAR 523	Foundations I	2
PHAR 645	Foundations VI	1.5	PHAR 545	The U.S. Health Care System	1.5
PHAR 652	Health Promotion and Communication in Pharmacy Practice	2	PHAR 652	Health Promotion and Communication in Pharmacy Practice	2
PHAR 702	Pharmacy Practice Management	2.5	Term Hours:		17
PHAR 703	Clinical Therapeutics Module: Complex Patient Cases and Critical Care	3.5	Spring		
PHAR 715	Continuous Professional Development III	1	MEDC 553	Concepts in the Medicinal Chemistry of Therapeutics Agents ¹	1
PHAR 724	Pharmacy Law	2.5	PCEU 508	Pharmacokinetics	3
PHAR 730	Continuous Professional Development IV	.5	PCEU 509	Pharmaceutics and Biopharmaceutics II	3
PHAR 760	Acute Care Pharmacy Practice I	5	PHAR 506	Nonprescription Medications and Self-care	2
PHAR 761	Advanced Hospital Pharmacy Practice	5	PHAR 515	Continuous Professional Development I	1
PHAR 763	Ambulatory Care Pharmacy Practice	5	PHAR 524	Foundations II	1.5
			PHAR 530	Introductory Pharmacy Practice Experience: Community Practice	4
			PHAR 544	Clinical Therapeutics Module: Cardiovascular ¹	4.5
			PHTX 606	Introduction to Pharmacology of Therapeutic Agents ¹	1
			Term Hours:		21

P2 year
Fall

MEDC 542	Biotechnology-derived Therapeutic Agents	1
GRTY 602	Psychology of Aging	3
PCEU 601	Applied Pharmacokinetics and Pharmacogenomics	2.5
PHAR 508	Evidence-based Pharmacy I	2
PHAR 534	Foundations III	1.5
PHAR 546	Pharmacy-based Immunization Delivery ¹	1.5
PHAR 555	Clinical Therapeutics Module: Endocrinology ¹	2.5
PHAR 603	Clinical Therapeutics Module: Respiratory/ Immunology ¹	2.5
PHAR 615	Continuous Professional Development II (continues)	1
PHAR 618	Clinical Therapeutics Module: Gastrointestinal/Nutrition	2.5
Elective ²		2

Term Hours: 21

Spring

GRTY 601	Biological and Physiological Aging	3
IPEC 502	Interprofessional Quality Improvement and Patient Safety	1
PHAR 502	Introduction to Pharmacoeconomics	1
PHAR 503	Ethics and Equity	1.5
PHAR 511	Evidence-based Pharmacy II	2
PHAR 532	Introductory Pharmacy Practice Experience: Hospital Practice	3
PHAR 535	Foundations IV	1.5
PHAR 604	Clinical Therapeutics Module: Infectious Diseases ¹	4
PHAR 606	Clinical Therapeutics Module: Nephrology/ Urology ¹	2
PHAR 615	Continuous Professional Development II	1
Elective ²		2

Term Hours: 22

P3 year
Fall

GRTY 603	Social Gerontology	3
PHAR 507	Introduction to Health Informatics	1
PHAR 551	Pharmacy-based Point of Care Testing	1.5
PHAR 556	Clinical Therapeutics Module: Neurology ¹	3.5
PHAR 602	Clinical Therapeutics Module: Psychiatry ¹	3
PHAR 605	Clinical Therapeutics Module: Hematology/ Oncology ¹	2.5
PHAR 640	Foundations V	1.5
PHAR 670	Geriatrics – Demystifying a Population	2
PHAR 715	Continuous Professional Development III (continues)	1

Term Hours: 18

Spring

GRTY 606	Aging and Human Values	3
----------	------------------------	---

IPEC 560	Interprofessional Collaborative Care for Older Adults	1
PHAR 533	Introductory Pharmacy Practice Experience: Patient Care	0.5
PHAR 609	Clinical Therapeutics Module: Reproductive Health, Dermatology, EENT, Bone and Joint	3.5
PHAR 645	Foundations VI	1.5
PHAR 691	Special Topics in Pharmacy	1
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
Electives		1

Term Hours: 21

P4 year (over 45 weeks)

PHAR 730	Continuous Professional Development IV	0.5
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	5
PHAR 766	Elective II	5
PHAR 767	Clinical Selective I	5
PHAR 768	Advanced Community Pharmacy Practice	5
PHAR 773	Acute Care Pharmacy Practice II	5

Term Hours: 40.5

Total Hours: 160.5

¹

Course will be taught as a module.

²

Students will complete four total credits of electives over the course of the year.

The minimum number of credit hours required for this dual program is 160.5.

Contact

Jennifer Pryor
 Program director, Department of Gerontology
 pryorjm@vcu.edu
 (804) 828-1565

Additional contact

Krista L. Donohoe, Pharm.D., BCPS, BCGP
 Associate professor, Department of Pharmacotherapy and Outcomes Science
 kldonohoe@vcu.edu
 (804) 628-4551