

PHARMACEUTICAL SCIENCES – TRACK CURRICULUM

- Year 1 Fall Semester:

PSCI 51003	Medicinal Chemistry	3 hrs.
BIOS 50133	Biostatistics I	3 hrs.
PHAR 51171	Scientific Communication and Ethics I	1 hrs.
PSCI5114V	Research	3 hrs.
	TOTAL	10 hrs.

- Year 1 Spring Semester:

PSCI 51033	Pharmaceutics for Graduate Students	3 hrs.
PHAR 51191	Scientific Communication and Ethics II	1 hrs.
	Elective	3 hrs.
PSCI 5114V	Research	3 hrs.
	TOTAL	10 hrs.

- Summer 1:

PSCI 5114V	Research	1 hrs.
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- Year 2 Fall Semester:

PHAR 51073	Pharmacology & Therapeutics	3 hrs.
PHAR 51201	Scientific Communication and Ethics III	1 hrs.
	Elective (as needed)	3 hrs.
PSCI 5114V	Research	3 hrs.
	TOTAL	10 hrs.

- Year 2 Spring Semester:

PHAR 51231	Scientific Communication and Ethics IV	1 hrs.
	Elective (as needed)	3 hrs.
PSCI 5114V	Research	6 hrs.
	TOTAL	10 hrs.

- Summer 2:

PSCI 5114V	Research	1 hrs.
	CANDIDACY EXAM (research proposal submitted to committee followed by oral defense)	

- Year 3 Fall & Spring Semesters

PSCI 6200V	Doctoral Dissertation	10 hrs./sem.
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- Summer 3

PSCI 6200V	Doctoral Dissertation	1 hrs./sem.
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- Year 4 Fall & Spring Semesters

PSCI 6200V	Doctoral Dissertation	10 hrs./sem.
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- Summer 4

PSCI 5114V	Doctoral Dissertation	1 hrs./sem.
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CORE COURSES

PSCI 51003 Medicinal Chemistry (3 hr)

This course is an overview of concepts from organic and medicinal chemistry and pharmacology that are fundamental to understanding the design of drugs, including factors affecting stability, absorption, distribution and metabolism.

PSCI 51033 Pharmaceutics for Graduate Students (3 hr)

The primary objective of this course is to provide an overview of the discipline of pharmaceutics (the study of drug delivery systems) for graduate students. Particular emphasis is placed on the physico-chemical properties of drugs and dosage forms, both *ex vivo* and *in vivo*, that are important for basic research in the fields of the pharmaceutical sciences.

PSCI 51183, 51193, 51203, 51233, 51243 Scientific Communication and Ethics (4 hr)

This course will explore the philosophies, rules, regulations and social structure of a responsible research environment. Emphasis will be on faculty culture, professionalism, federal regulation, ethical use of humans and animals, conflicts of interest, scientific misconduct, and the overall regulatory, normative and cognitive structures of a responsible research environment.

PHAR 51073 Graduate Pharmacology (3 hr)

This course provides coverage of all the categories of pharmacological agents and discusses their mechanisms of action, uses, consequences and potential interactions with other drugs and/or disease-related circumstances.

BIOS 50133 Biostatistics I (3 hr)

Introductory topics in descriptive biostatistics and epidemiology, database principles, basic probability, diagnostic test statistics, tests of hypotheses, sample-size estimation, power of tests, frequency cross-tabulations, correlation, non-parametric tests, regression, randomization, multiple comparisons of means and analysis of variance for one and two-factor experiments. Prerequisite, consent.

PSCI 5114V Research in Pharmaceutical Sciences (1-9)

Prerequisite: graduate standing and consent of major advisor.

PSCI 6200V Doctoral Dissertation

A total of 18 hours is required for the Ph.D. degree at UAMS.