

# PHARMACEUTICAL SCIENCES, PH.D.

## REQUIREMENTS

### MINIMUM GRADUATE SCHOOL REQUIREMENTS

Review the Graduate School minimum academic progress and degree requirements (<http://guide.wisc.edu/graduate/#policiesandrequirements>), in addition to the program requirements listed below.

### MAJOR REQUIREMENTS

#### MODE OF INSTRUCTION

| Face to Face | Evening/Weekend | Online | Hybrid | Accelerated |
|--------------|-----------------|--------|--------|-------------|
| Yes          | No              | No     | No     | No          |

#### Mode of Instruction Definitions

**Accelerated:** Accelerated programs are offered at a fast pace that condenses the time to completion. Students typically take enough credits aimed at completing the program in a year or two.

**Evening/Weekend:** Courses meet on the UW-Madison campus only in evenings and/or on weekends to accommodate typical business schedules. Students have the advantages of face-to-face courses with the flexibility to keep work and other life commitments.

**Face-to-Face:** Courses typically meet during weekdays on the UW-Madison Campus.

**Hybrid:** These programs combine face-to-face and online learning formats. Contact the program for more specific information.

**Online:** These programs are offered 100% online. Some programs may require an on-campus orientation or residency experience, but the courses will be facilitated in an online format.

### CURRICULAR REQUIREMENTS

#### Requirement Detail

|   |  |
|---|--|
| Minimum Credit Requirement              | 51 credits   |
| Minimum Residence Credit Requirement    | 32 credits   |
| Minimum Graduate Coursework Requirement | 26 credits must be graduate-level coursework. Details can be found in the Graduate School's Minimum Graduate Coursework (50%) policy ( <a href="https://policy.wisc.edu/library/UW-1244">https://policy.wisc.edu/library/UW-1244</a> ( <a href="https://policy.wisc.edu/library/UW-1244/">https://policy.wisc.edu/library/UW-1244/</a> )). |
| Overall Graduate GPA Requirement        | 3.00 GPA required. This program follows the Graduate School's policy: <a href="https://policy.wisc.edu/library/UW-1203">https://policy.wisc.edu/library/UW-1203</a> ( <a href="https://policy.wisc.edu/library/UW-1203/">https://policy.wisc.edu/library/UW-1203/</a> ).   |

**Other Grade Requirements** Candidates may be dropped from the program if they receive more than 7 credits of grades at the BC level or lower. This applies to formal courses and research credits.

**Assessments and Examinations** The preliminary examination is expected to be completed before the beginning of the third year of graduate study. For specifics regarding the preliminary examination's structure and requirements, see Preliminary Examination in the PSD Student Handbook (<https://students.pharmacy.wisc.edu/pharmsci-handbook/o-preliminary-exam> (<https://students.pharmacy.wisc.edu/pharmsci-handbook/o-preliminary-exam/>)).

A final oral defense of the dissertation is required; for more on the dissertation defense, see Ph.D. Thesis Defense in the PSD Student Handbook (<https://students.pharmacy.wisc.edu/pharmsci-handbook/q-phd-thesis-defense> (<https://students.pharmacy.wisc.edu/pharmsci-handbook/q-phd-thesis-defense/>)).

**Language Requirements** There are no language requirements in the Pharmaceutical Sciences Ph.D. program.

**Graduate School Breadth Requirement** A doctoral minor or graduate/professional certificate is not required.

### REQUIRED COURSES

| Code   | Title  | Credits   |
|--|--|-----------|
| <b>Foundational Content</b>                            |  |           |
| PHM SCI 780  | Principles of Pharmaceutical Sciences  | 3         |
| <b>Select 6 credits from two Core Areas:</b>           |  | <b>6</b>  |
| <i>Drug Discovery Core:</i>                            |  |           |
| PHM SCI 786  | Natural Product Synthesis, Biosynthesis and Drug Discovery   |           |
| <i>Drug Action Core:</i>                               |  |           |
| PATH 750   | Cellular and Molecular Biology/Pathology   |           |
| PHM COL-M 781  | Molecular and Cellular Principles in Pharmacology  |           |
| BIOCHEM/PHM COL-M/ ZOOLOGY 630                         | Cellular Signal Transduction Mechanisms  |           |
| <i>Drug Delivery Core:</i>                             |  |           |
| PHM SCI/ CHEM 766                                      | Molecular Recognition  |           |
| PHM SCI 773  | Molecular Solids   |           |
| PHM SCI 775  | Polymeric Drug Delivery  |           |
| <b>Research ethics/Responsible conduct of research</b> |  |           |
| PHARMACY 800   | Research Ethics: Scientific Integrity and the Responsible Conduct of Research  | 2         |
| <b>Seminar &amp; Research</b>                          |  | <b>37</b> |
| PHM SCI 931  | Pharmaceutical Sciences Seminar (required every fall term during enrollment as a graduate student in the program) <sup>1</sup> |           |

|             |  |
|-------------|--|
| PHM SCI 932 | Pharmaceutical Sciences Seminar<br>(required every spring during enrollment as a graduate student in the program) <sup>1</sup> |
|-------------|--|

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|-------------|-----------------------|
| PHM SCI 990 | Research <sup>2</sup> |
|-------------|-----------------------|

|             |   |
|-------------|---|
| PHM SCI 999 | Advanced Independent Study <sup>3</sup> |
|-------------|---|

**Three additional credits from the Drug Action, Drug Delivery, or Drug Discovery electives. 3**

Courses with the graduate attribute in the following subject listings can count toward this requirement: ANATOMY, ANAT&PHYS, BIOCHEM, BSE, BIOLOGY, BME, BMOLCHEM, BMI, BOTANY, CRB, CBE, CHEM, COMP BIO, COMP SCI, ECE, EP, FAM MED, FOOD SCI, GENETICS, H ONCOL, ISY E, MS & E, MATH, MD GENET, M M&I, MED PHYS, MED SC-M, MED SC-V, MEDICINE, MICROBIO, M&ENVTOX, MOL BIOL, NEUROL, NEURODPT, NTP, NURSING, NUTR, SCI, ONCOLOGY, PATH-BIO, PATH, PHM SCI, PHMCOL-M, PHS, PHYSICS, PL PATH, PSYCH, RADIOL, SOIL SCI, SURGERY, SURG SCI, ZOOLOGY. A list of popular elective courses at this level taken by recent Pharmaceutical Sciences graduate students is maintained at <https://pharmacy.wisc.edu/programs/pharmsci/curriculum/electives> (<https://pharmacy.wisc.edu/programs/pharmsci/curriculum/electives/>).

**Total Credits 51**

**1**

Seminar is required every fall and spring semester during enrollment as a graduate student in the program.

**2**

Research credits are typically taken every semester in the program, beginning in the second semester. Credits will vary.

**3**

Research rotations in first semester of first year. At least one credit required.

To enhance a required core curriculum, an individualized course of study is planned with a faculty advisor. Faculty advisors have the option to require additional courses beyond the minimum requirements listed above.