PHARMACEUTICAL SCIENCES, M.S.

The Division of Pharmaceutical Sciences (https://pharmacy.wisc.edu/psd) does not currently accept applications for a terminal master's in pharmaceutical sciences. Prospective students may not apply for a master's degree program, and should instead see information about the Ph.D (http://guide.wisc.edu/graduate/pharmacy-school-wide/pharmaceutical-sciences-phd). Occasionally, depending on student needs and corresponding host faculty preferences, Ph.D. students may earn a master's on the way to the Ph.D. degree. Admitted students may inquire with the School of Pharmacy's graduate coordinator for details.

ADMISSIONS

This master's program is offered for work leading to the Ph.D. Students may not apply directly for the master’s, and should instead see the admissions information for the Ph.D. (http://guide.wisc.edu/graduate/pharmacy-school-wide/pharmaceutical-sciences-phd)

FUNDING

Resources to help you afford graduate study might include assistantships, fellowships, traineeships, and financial aid. Further funding information (https://grad.wisc.edu/funding) is available from the Graduate School. Be sure to check with your program for individual policies and processes related to funding.

GRADUATE SCHOOL RESOURCES

Financial support is provided to all PhD students in Pharmaceutical Sciences through a combined mechanism of fellowships, teaching assistantships, research assistantships, and project assistantships. Financial support typically extends for the full duration of a student's graduate study. Funding packages for first-year students in the PhD program are provided by the School of Pharmacy and consist of a mixture of fellowships and/or teaching assistant support. In addition, first-year students typically are provided $1500 in flexible funds to aid in the transition to Madison. After the first academic year, students are supported by their thesis advisor through research or teaching assistantship appointments (some students earn funding via federally supported predoctoral fellowships or campus training grants). All students receive a stipend (the recommended minimum level for students in the division is $26,000 for 2018-19, a figure that is adjusted annually), full tuition remission (waiver), and most of the cost of reasonably priced, comprehensive health insurance for the duration of their PhD studies, if they retain good academic standing and a faculty advisor. For more details, see this program-specific funding page (https://pharmacy.wisc.edu/programs/pharmsci/tuition-financial-aid).

Travel grants are available annually; the program has funding to provide seven graduate students with grants each year. Students who are presenting at scientific conferences are preferred applicants; awards range from $1000–$1500. Most students are additionally supported in scientific conference travel via faculty funds.

REQUIREMENTS

MINIMUM GRADUATE SCHOOL REQUIREMENTS

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

MAJOR REQUIREMENTS

MODE OF INSTRUCTION

Face to Face Evening/Weekend Online Hybrid Accelerated

<table>
<thead>
<tr>
<th>Mode of Instruction Definitions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evening/Weekend: These programs are offered in an evening and/or weekend format to accommodate working schedules. Enjoy the advantages of on-campus courses and personal connections, while keeping your day job. For more information about the meeting schedule of a specific program, contact the program.</td>
</tr>
<tr>
<td>Online: These programs are offered primarily online. Many available online programs can be completed almost entirely online with all online programs offering at least 50 percent or more of the program work online. Some online programs have an on-campus component that is often designed to accommodate working schedules. Take advantage of the convenience of online learning while participating in a rich, interactive learning environment. For more information about the online nature of a specific program, contact the program.</td>
</tr>
<tr>
<td>Hybrid: These programs have innovative curricula that combine on-campus and online formats. Most hybrid programs are completed on-campus with a partial or completely online semester. For more information about the hybrid schedule of a specific program, contact the program.</td>
</tr>
<tr>
<td>Accelerated: These on-campus programs are offered in an accelerated format that allows you to complete your program in a condensed time-frame. Enjoy the advantages of on-campus courses with minimal disruption to your career. For more information about the accelerated nature of a specific program, contact the program.</td>
</tr>
</tbody>
</table>

CURRICULAR REQUIREMENTS

<table>
<thead>
<tr>
<th>Requirements Detail</th>
<th>Minimum Credit Requirement</th>
<th>Minimum Residence Credit Requirement</th>
<th>Minimum Graduate Coursework Requirement</th>
<th>Overall Graduate GPA Requirement</th>
<th>Other Grade Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum</td>
<td>30 credits</td>
<td>16 credits</td>
<td>Half of degree coursework (15 credits out of 30 total credits) must be completed graduate-level coursework; courses with the Graduate Level Coursework attribute are identified and searchable in the university's Course Guide (<a href="https://registrar.wisc.edu/course-guide/">https://registrar.wisc.edu/course-guide/</a>).</td>
<td>3.00 GPA required.</td>
<td>Candidates will 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.</td>
</tr>
</tbody>
</table>

Graduate Residency Requirement:

The Division of Pharmaceutical Sciences has an explicit residency requirement that states that all first-year graduate students must complete at least one-half of their coursework within the first two years of application to the program and program requirements. This requirement is met by establishing that students are enrolled in at least 8 credits of coursework in the first two years of application to the program and program requirements. Students who fail to meet this requirement will be dropped from the program.
The program expects the M.S. candidate to engage in a research project of a scope appropriate to the time devoted to earning the degree. The results of the research must be described in an M.S. thesis. The thesis must be both presented and defended before the student’s M.S. thesis committee.

Language Requirements
No language requirements.

REQUIRED COURSES

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHM SCI 780</td>
<td>Principles of Pharmaceutical Sciences</td>
<td>3</td>
</tr>
</tbody>
</table>

Select at least two of the following core courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHM SCI 768</td>
<td>Pharmacokinetics</td>
<td></td>
</tr>
<tr>
<td>PHM SCI 786</td>
<td>Natural Product Synthesis, Biosynthesis and Drug Discovery</td>
<td></td>
</tr>
<tr>
<td>BIOCHEM/ PHMCOL-M/ ZOOLOGY 630</td>
<td>Cellular Signal Transduction Mechanisms</td>
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</tr>
</tbody>
</table>

Research ethics/responsible conduct of research course 1
At least one additional graduate course in pharmaceutical sciences or in a field related to one’s research (field choice is at the discretion of the thesis advisor)

Complete a Research course (PHM SCI 718-PHM SCI 990) 1-12

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHM SCI 931</td>
<td>Pharmaceutical Sciences Seminar</td>
<td>1</td>
</tr>
<tr>
<td>(required every fall term during enrollment as a graduate student in the program)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHM SCI 932</td>
<td>Pharmaceutical Sciences Seminar</td>
<td>1</td>
</tr>
<tr>
<td>(required every spring during enrollment as a graduate student in the program)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total Credits 10-21

Thesis advisors have the option to require additional courses beyond the minimum requirements listed above.

POLICIES

GRADUATE SCHOOL POLICIES

The Graduate School’s Academic Policies and Procedures (https://grad.wisc.edu/acadpolicy) provide essential information regarding general university policies. Program authority to set degree policies beyond the minimum required by the Graduate School lies with the degree program faculty. Policies set by the academic degree program can be found below.

MAJOR-SPECIFIC POLICIES

GRADUATE PROGRAM HANDBOOK

The Graduate Program Handbook (https://pharmacy.wisc.edu/graduate-handbook-pharmaceutical-sciences) is the repository for all of the program’s policies and requirements.

PRIOR COURSEWORK

Graduate Work from Other Institutions

With program approval, students are allowed to count no more than 9 credits of graduate coursework from other institutions (the student must have graduate student status on the other institution’s transcript at the time the courses were taken). coursework should be presented to the SoP graduate dean in the first semester of enrollment for consideration. Coursework earned five or more years prior to admission to a master’s degree is not allowed to satisfy requirements.

UW–Madison Undergraduate

With program approval, students are allowed to count no more than 7 credits of UW–Madison courses numbered 500 or above (earned as a UW–Madison undergraduate) toward the M.S. degree. coursework should be presented to the SoP graduate dean in the first semester of enrollment for consideration. Coursework earned five or more years prior to admission to a master’s degree is not allowed to satisfy requirements.

UW–Madison University Special

With program approval, students are allowed to count no more than 9 credits of coursework numbered 500 or above taken as a UW–Madison special student. coursework should be presented to the SoP graduate dean in the first semester of enrollment for consideration. Coursework earned five or more years prior to admission to a master’s degree is not allowed to satisfy requirements.

PROBATION

The Graduate School regularly reviews the record of any student who earned grades of BC, C, D, F, or Incomplete in a graduate course (300 or above), or grade of U in research credits. This review could result in academic probation with a hold on future enrollment or in being suspended from the Graduate School.

1. Good standing (progressing according to standards; any funding guarantee remains in place).
2. Probation (not progressing according to standards but permitted to enroll; loss of funding guarantee; specific plan with dates and deadlines in place in regard to removal of probationary status).
3. Unsatisfactory progress (not progressing according to standards; not permitted to enroll, dismissal, leave of absence or change of advisor or program).

 ADVISOR / COMMITTEE

Students are required to maintain a pharmaceutical sciences faculty member as an M.S. advisor through the duration of their studies. Typically a permanent advisor is found by the end of one’s first semester.

An M.S. thesis committee in the Pharmaceutical Sciences Division (PSD) consists of at least three graduate faculty members of the PSD (one of whom is the student’s thesis advisor).

CREDITS PER TERM ALLOWED

15 credits
TIME CONSTRAINTS
Master's degree students who have been absent for five or more consecutive years lose all credits that they have earned before their absence; that coursework may not count toward Graduate School credit requirements.

OTHER
First-year students are typically offered fellowships and School of Pharmacy teaching assistantships in their initial two semesters. Funding as research assistants is assumed by the student's principal investigator/thesis advisor in the first summer. Subsequently (year 2 and beyond), students are funded by RA-ships, TA-ships and via other extramural funding (fellowship) support.

PROFESSIONAL DEVELOPMENT

GRADUATE SCHOOL RESOURCES
Take advantage of the Graduate School's professional development resources (https://grad.wisc.edu/pd) to build skills, thrive academically, and launch your career.

LEARNING OUTCOMES

1. Demonstrate critical knowledge and in-depth understanding of principles in the student's area of expertise.
2. Identify important research questions, formulate testable hypotheses, and design experiments to test those hypotheses.
3. Conduct original research that contributes to the student's field of study.
4. Communicate scientific knowledge and research results effectively to a range of audiences.
5. Demonstrates breadth within their learning experiences.
6. Advances contributions of the field of study to society.
7. Apply ethical principles in conducting scientific research.

PEOPLE

A list of Pharmaceutical Sciences graduate faculty and their respective areas of research specialization is available from the division website (https://pharmacy.wisc.edu/psd/faculty-research) and related links. The Pharmaceutical Sciences Graduate Program has educated generations of scientists for challenging positions in industry, academia, and government.