

# Pharmacy, PhD

## Academic Plans

### Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Pharmacy, PhD

- Drug Discovery and Experimental Therapeutics Subprogram [p. 1]
- Health Services Research Subprogram [p. 1]
- Pharmaceutics Subprogram [p. 3]

### Drug Discovery and Experimental Therapeutics Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
BIOS:4120	Introduction to Biostatistics	3
PHAR:5510	Pharmaceutical Sciences and Experimental Therapeutics Seminar	1 - 2
PHAR:6820	Drug Discovery and Experimental Therapeutics Research	3
<b>Hours</b>		<b>7-8</b>
<b>Spring</b>		
PHAR:5545	Current Medicinal Chemistry	3
PHAR:6515	Perspectives in Drug Discovery	2
PHAR:6820	Drug Discovery and Experimental Therapeutics Research	3
<b>Hours</b>		<b>8</b>
<b>Second Year</b>		
<b>Fall</b>		
PHAR:7101	Principles of Experimental Therapeutics	3
PHAR:6820	Drug Discovery and Experimental Therapeutics Research	3
Interdisciplinary Elective <sup>b</sup>		2
<b>Hours</b>		<b>8</b>
<b>Spring</b>		
PHAR:6820	Drug Discovery and Experimental Therapeutics Research	6
Interdisciplinary Elective <sup>b</sup>		3
<b>Hours</b>		<b>9</b>

### Third Year

#### Any Semester

Exam: Doctoral Comprehensive Exam<sup>c</sup>

		Hours	0
<b>Fall</b>			
PHAR:6820	Drug Discovery and Experimental Therapeutics Research		3
Interdisciplinary Elective <sup>b</sup>			3
<b>Hours</b>			<b>6</b>

#### Spring

PHAR:6820	Drug Discovery and Experimental Therapeutics Research		3
Interdisciplinary Elective <sup>b</sup>			2
<b>Hours</b>			<b>5</b>

### Fourth Year

#### Fall

PHAR:6820	Drug Discovery and Experimental Therapeutics Research		6
Elective course <sup>b</sup>			3
<b>Hours</b>			<b>9</b>

#### Spring

PHAR:6820	Drug Discovery and Experimental Therapeutics Research		6
<b>Hours</b>			<b>6</b>

### Fifth Year

#### Fall

PHAR:6820	Drug Discovery and Experimental Therapeutics Research		7
<b>Hours</b>			<b>7</b>

#### Spring

PHAR:6820	Drug Discovery and Experimental Therapeutics Research		7
<b>Hours</b>			<b>7</b>

Exam: Doctoral Final Exam<sup>d</sup>

<b>Hours</b>			<b>7</b>
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**Total Hours 72-73**

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Work with faculty advisor to determine appropriate graduate coursework and sequence; see General Catalog and department website for specifics.

c Faculty advisor to determine when this exam will be, but typically by the end of third year.

d Dissertation defense.

### Health Services Research Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
74 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
BIOS:4120	Introduction to Biostatistics	3

HMP:4000	Introduction to the U.S. Health Care System <sup>b, c</sup>	3
PHAR:5310	Health Services Research Seminar <sup>d</sup>	1
PHAR:5350	Introduction to Research Methods <sup>c, e</sup>	3
PHAR:6320	Health Services Research	2
<b>Hours</b>		<b>12</b>
<b>Spring</b>		
BIOS:5120	Regression Modeling and ANOVA in the Health Sciences	3
PHAR:5310	Health Services Research Seminar <sup>d</sup>	1
PHAR:5360	Applied Research Methods: Primary Data	2
PHAR:5365	Applied Research Methods: Secondary Data	2
PHAR:6320	Health Services Research	1
	Research Methods and Statistics Elective <sup>c, f, g</sup>	3
<b>Hours</b>		<b>12</b>
<b>Second Year</b>		
<b>Fall</b>		
BMED:7270	Scholarly Integrity/Responsible Conduct of Research I	0
PHAR:5310	Health Services Research Seminar <sup>d</sup>	1
PHAR:6320	Health Services Research	2
PHAR:6330	Models of Patient Behavior and Choice <sup>c, e</sup>	3
	Research Methods and Statistics Elective <sup>c, f, g</sup>	3
	Specialty Area Elective <sup>f</sup>	3
<b>Hours</b>		<b>12</b>
<b>Spring</b>		
BMED:7271	Scholarly Integrity/Responsible Conduct of Research II	0
PHAR:5310	Health Services Research Seminar <sup>d</sup>	1
PHAR:6320	Health Services Research	2
PHAR:6331	Models of Provider Behavior and Choice <sup>c, e</sup>	3
	Specialty Area Elective <sup>f</sup>	3
	Specialty Area Elective <sup>f</sup>	3
<b>Hours</b>		<b>12</b>
<b>Third Year</b>		
<b>Any Semester</b>		
	Specialty Qualifying Exam <sup>h</sup>	
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
PHAR:5310	Health Services Research Seminar <sup>d</sup>	1
PHAR:6320	Health Services Research	1
	Specialty Area Elective <sup>f</sup>	3
	Specialty Area Elective <sup>f</sup>	3
	Specialty Area Elective <sup>f</sup>	3
<b>Hours</b>		<b>11</b>
<b>Spring</b>		
PHAR:5310	Health Services Research Seminar <sup>d</sup>	1
PHAR:6320	Health Services Research	2

	Specialty Area Elective <sup>f</sup>	3
	Specialty Area Elective <sup>f</sup>	3
<b>Hours</b>		<b>9</b>
<b>Fourth Year</b>		
<b>Any Semester</b>		
	Exam: Doctoral Comprehensive Exam <sup>i</sup>	
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
PHAR:5310	Health Services Research Seminar <sup>d</sup>	1
PHAR:6320	Health Services Research	1
<b>Hours</b>		<b>2</b>
<b>Spring</b>		
PHAR:5310	Health Services Research Seminar <sup>d</sup>	1
PHAR:6320	Health Services Research	1
<b>Hours</b>		<b>2</b>
<b>Fifth Year</b>		
<b>Fall</b>		
PHAR:5310	Health Services Research Seminar <sup>d</sup>	1-2
PHAR:6320	Health Services Research	1
<b>Hours</b>		<b>2-3</b>
<b>Spring</b>		
PHAR:5310	Health Services Research Seminar <sup>d</sup>	1-2
PHAR:6320	Health Services Research	1
	Exam: Doctoral Final Exam <sup>j</sup>	
<b>Hours</b>		<b>2-3</b>
<b>Total Hours</b>		<b>76-78</b>

- a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- b May be waived for students who have had equivalent coursework.
- c Must complete before taking the Core Competency Qualifying Exam.
- d Registration required every semester; optional after fourth year.
- e Offered every other year; work with faculty advisor to select appropriate first year classes if entering the program on a year when not taught.
- f Work with faculty advisor to determine appropriate graduate coursework and sequence; see General Catalog and department website for specifics.
- g May be taken in biostatistics, economics, education, psychology, mathematics, or sociobiology.
- h Faculty advisor to determine when this exam will be, but typically by the end of third year.
- i A required Core Competency Qualifying Exam; work with faculty advisor to determine when this exam may be completed (typically during fourth year).
- j Dissertation defense.

## Pharmaceutics Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
The degree requires 30 s.h. in didactic coursework, including a minimum of 15 s.h. in divisional courses and 15 s.h. of pharmacy or elective coursework; the remaining 42 s.h. can be fulfilled with research or electives.		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
MATH:3600 or MATH:2560	Introduction to Ordinary Differential Equations <sup>b</sup> or Engineering Differential Equations	3
CHEM:4430 or CHEM:4431	Principles of Physical Chemistry <sup>b</sup> or Chemical Thermodynamics	3
PHAR:4736	Properties of Dosage Forms I <sup>b</sup>	3
PHAR:6710	Pharmaceutics Graduate Seminar <sup>c</sup>	1
Elective course <sup>d</sup>		2
<b>Hours</b>		<b>12</b>
<b>Spring</b>		
PHAR:4800	Chemical and Biophysical Properties of Drugs	2
PHAR:6706	Equilibria Processes	3
PHAR:6710	Pharmaceutics Graduate Seminar <sup>c</sup>	1
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>12</b>
<b>Second Year</b>		
<b>Fall</b>		
PHAR:4146	Drug Disposition and Pharmacokinetics	2
BMED:7270	Scholarly Integrity/Responsible Conduct of Research I	0
PHAR:6720	Pharmaceutics Research	2
PHAR:6710	Pharmaceutics Graduate Seminar <sup>c</sup>	1
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>11</b>
<b>Spring</b>		
PHAR:5745	Advanced Biopharmaceutics and Drug Delivery	3
PHAR:6700	Advanced Pharmacokinetics and Pharmacodynamics	3
BMED:7271	Scholarly Integrity/Responsible Conduct of Research II	0
PHAR:6720	Pharmaceutics Research	2
PHAR:6710	Pharmaceutics Graduate Seminar <sup>c</sup>	1
Elective course <sup>d</sup>		2
<b>Hours</b>		<b>11</b>

## Third Year

### Any Semester

Exam: Doctoral Comprehensive Exam<sup>e</sup>

<b>Hours</b>		<b>0</b>
<b>Fall</b>		
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
PHAR:6720	Pharmaceutics Research	3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
PHAR:6720	Pharmaceutics Research	3
<b>Hours</b>		<b>9</b>
<b>Summer</b>		
Internship (optional)		
<b>Hours</b>		<b>0</b>
<b>Fourth Year</b>		
<b>Fall</b>		
PHAR:6720	Pharmaceutics Research	2
<b>Hours</b>		<b>2</b>
<b>Spring</b>		
PHAR:6720	Pharmaceutics Research	2
<b>Hours</b>		<b>2</b>
<b>Summer</b>		
Internship (optional)		
<b>Hours</b>		<b>0</b>
<b>Fifth Year</b>		
<b>Fall</b>		
PHAR:6720	Pharmaceutics Research	2
<b>Hours</b>		<b>2</b>
<b>Spring</b>		
PHAR:6720	Pharmaceutics Research	2
Exam: Doctoral Final Exam <sup>f</sup>		
<b>Hours</b>		<b>2</b>
<b>Total Hours</b>		<b>72</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b If equivalent course not taken previously; otherwise work with faculty advisor to select relevant elective in Pharmaceutics or outside the department.

c Enrollment required each semester until completion of comprehensive exam.

d Work with faculty advisor to determine appropriate graduate coursework and sequence.

e Written research proposal and oral exam; typically completed by the end of third year.

f Dissertation defense.