Pre-Pharmacy

Nature of the Program

The primary objective of the Doctor of Pharmacy (Pharm.D.) program is to educate practitioners for current and future roles in the profession of pharmacy. The Pharm.D. program comprises four years of professional study preceded by a minimum of two years of pre-pharmacy coursework in a U.S. or foreign accredited college/university of arts and sciences. To prepare for the professional curriculum, students must complete a pre-pharmacy curriculum that emphasizes the biological and chemical sciences. In addition, pre-pharmacy students must complete a variety of courses of their choosing in the arts, humanities, and social sciences. Students enter a competitive application process in the year prior to intended matriculation to the four year professional curriculum. Details regarding the pre-pharmacy course requirements are found on the major tab.

Pharm.D. Admissions

Admissions are competitive. Criteria used to evaluate candidates include academic performance, as measured by the grade point averages (GPA) for all the above-noted prerequisite courses and the cumulative GPA achieved in all prior college-level coursework, Pharmacy College Admissions Test (PCAT) scores (including a written essay), a personal interview, and letters of recommendation. Prerequisite courses may be taken at an accredited U.S. or foreign institution of higher education and completed with a grade of C or better. Careful consideration is given to those personal qualifications which bear upon the fitness of applicants for the study and practice of the profession of pharmacy.

All applicants must first file an initial electronic application with the Pharmacy College Application Service (PharmCAS). Instructions for completing the application are found on the PharmCAS website: http://www.pharmcas.org/. Application deadlines are subject to change; check PharmCAS, the School of Pharmacy website at http://pharmacy.hsc.wvu.edu or contact the School to verify current deadlines.

Each applicant recommended for acceptance is required to pay a deposit of $500 before his or her name is added to the official list of those accepted by the School of Pharmacy. If the applicant enrolls, this sum is applied to the first-semester tuition. If the applicant fails to enroll, this deposit is forfeited.

With enrollment in the School of Pharmacy, all students must comply with the immunization and diagnostic procedures required by the WVU Board of Governors, WVU, the WVU Health Sciences Center, and the School of Pharmacy.

Complete information may be obtained from:

School of Pharmacy Office of Student Services
WVU Health Sciences Center
P.O. Box 9500
Morgantown, WV 26506-9500

Pharmacy College Admission Test

Completion of the Pharmacy College Admission Test is a requirement for admission to the School. It is recommended that the student take this test in the summer or fall before making application for admission. Information concerning time and place of the test can be obtained from NCS Pearson, Inc.

PCAT Customer Relations
19500 Bulverde Road
San Antonio, TX 78259
1-800-622-3231 or (210) 339-8710
Fax 1-800-727-0811 or 1-800-999-5941
or http://www.PCATweb.info

Personal Interview

The Admissions Committee requires a personal interview with selected candidates. Interviews are held during the fall and spring semester at the WVU Health Sciences Center in Morgantown.

Letters of Recommendation

A total of three recommendations are required. Two academic recommendations are required and must be provided by course instructors in any two of the pre-pharmacy course requirements. The third recommendation may be provided by a variety of individuals. Please refer to the PharmCAS website for more detailed information.

Early Decision

The Early Decision program is a binding option for applicants who decide West Virginia University is the degree program of their first choice and that they will enroll if accepted. As an Early Decision applicant, you may apply to only one pharmacy degree program.
The Early Decision application deadline is typically the first of September. In addition to completing the PharmCAS application, you must arrange for PharmCAS to receive all of your official transcripts and fee by the September deadline. If your application, transcripts, or fee arrives after the deadline, PharmCAS will automatically change your file from early decision status to regular status.

You may be offered early admission, denied admission, or deferred to regular applicant status. If you are offered admission as an Early Decision applicant, you are obligated to accept the offer and you will not be permitted to apply to other PharmCAS institutions. If, however, you are denied admission as an Early Decision applicant, you may apply to other PharmCAS institutions for an additional fee. Refer to the PharmCAS application fee schedule to determine the cost to apply to each additional program. PharmCAS institutions will make admission decisions on early decision applicants by mid October.

**Admission to Advanced Standing for Transfer Students**

If space is available, students from other accredited schools of pharmacy may be admitted, provided they meet the prerequisite course requirements of the WVU School of Pharmacy, have at least a 2.5 professional grade point average, are in good academic and professional standing at the school of origin, and are eligible for continuation toward a degree in pharmacy at the school initially attended. Grades of D in professional courses cannot be transferred.

**Provisional Admission**

An applicant accepted into the first year, or an advanced standing transfer student, is expected to have met all entrance requirements and satisfactorily completed all pre-pharmacy coursework in progress prior to matriculation. A satisfactory performance in the completion of such coursework is defined as one that is consistent with the student’s previous academic record and must include no grades of D or lower in prerequisite courses. While it is preferred that all prerequisite coursework be completed by the end of the spring term prior to matriculation, it is possible to complete up to two non-sequential prerequisite courses before the start of pharmacy student orientation in the fall semester of matriculation. Failure to do so will result in revocation of the acceptance by the Admissions Committee.

Admitted students must remain free of any violations of local, state, or federal law that would prohibit their ability to obtain an intern license from the West Virginia Board of Pharmacy.

Furnishing or causing to furnish false or incorrect information for the purpose of gaining admission to the School of Pharmacy constitutes grounds for disciplinary action including, but not limited to, expulsion or revocation of acceptance.

Students in the School of Pharmacy agree to abide by the provisions of the Student Code of Academic and Professional Integrity. Upon admission, each student is required to return a signed statement to the Office of Student Services indicating the student has read and understands the Policy on Academic and Professional Standards and the Student Code of Academic and Professional Integrity of the West Virginia University School of Pharmacy. The code and copies of the statement are available in the Office of Student Services in the School of Pharmacy, and on the School of Pharmacy website.

**Academic and Technical Standards and Policies**

http://pharmacy.hsc.wvu.edu/student-services/pharmd-program/

**General Education Foundations**

Please use this link to view a list of courses that meet each GEF requirement. (http://registrar.wvu.edu/gef)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

**General Education Foundations**

<table>
<thead>
<tr>
<th>F1 - Composition &amp; Rhetoric</th>
<th>3-6</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 101</td>
<td></td>
</tr>
<tr>
<td>&amp; ENGL 102</td>
<td></td>
</tr>
<tr>
<td>or ENGL 103</td>
<td></td>
</tr>
<tr>
<td>Introduction to Composition and Rhetoric</td>
<td></td>
</tr>
<tr>
<td>and Composition, Rhetoric, and Research</td>
<td></td>
</tr>
<tr>
<td>Accelerated Academic Writing</td>
<td></td>
</tr>
<tr>
<td>F2A/F2B - Science &amp; Technology</td>
<td>4-6</td>
</tr>
<tr>
<td>F3 - Math &amp; Quantitative Reasoning</td>
<td>3-4</td>
</tr>
<tr>
<td>F4 - Society &amp; Connections</td>
<td>3</td>
</tr>
<tr>
<td>F5 - Human Inquiry &amp; the Past</td>
<td>3</td>
</tr>
<tr>
<td>F6 - The Arts &amp; Creativity</td>
<td>3</td>
</tr>
<tr>
<td>F7 - Global Studies &amp; Diversity</td>
<td>3</td>
</tr>
<tr>
<td>F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)</td>
<td>9</td>
</tr>
</tbody>
</table>

Total Hours: 31-37
Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

**Pre-Pharmacy Curriculum Requirements**

### Biochemistry Requirement
Select one of the following:
- AGBI 410 Introductory Biochemistry
- BIOC 339 Introduction to Biochemistry

### Biology Requirement
<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 115 &amp; BIOL 116</td>
<td>Principles of Biology and Principles of Biology Laboratory (May fulfill GEF 2)</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 101 &amp; BIOL 102 &amp; BIOL 103 &amp; BIOL 104</td>
<td>General Biology and General Biology Laboratory</td>
<td>8</td>
</tr>
<tr>
<td>BIOL 117 &amp; BIOL 118</td>
<td>Introductory Physiology and Introductory Physiology Laboratory (May fulfill GEF 8)</td>
<td>4</td>
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</tbody>
</table>

### Chemistry Requirement
<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>CHEM 115 &amp; 115L</td>
<td>Fundamentals of Chemistry and Fundamentals of Chemistry 1 - Laboratory (May fulfill GEF 8)</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 116 &amp; 116L</td>
<td>Fundamentals of Chemistry and Fundamentals of Chemistry 2 - Laboratory (May fulfill GEF 8)</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 233 &amp; CHEM 235</td>
<td>Organic Chemistry and Organic Chemistry Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 234 &amp; CHEM 236</td>
<td>Organic Chemistry and Organic Chemistry Laboratory</td>
<td>4</td>
</tr>
</tbody>
</table>

### Economics Requirement
<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 201</td>
<td>Principles of Microeconomics (May fulfill GEF 4)</td>
<td>3</td>
</tr>
</tbody>
</table>

### English Requirement
<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 101</td>
<td>Introduction to Composition and Rhetoric (May fulfill GEF 1)</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 102</td>
<td>Composition, Rhetoric, and Research (May fulfill GEF 1)</td>
<td>3</td>
</tr>
</tbody>
</table>

### Math Requirement
Select one of the following (May fulfill GEF 3):
- MATH 150 | Applied Calculus | 3 |
- MATH 153 | Calculus 1a with Precalculus | 3 |
- MATH 154 | Calculus 1b with Precalculus | 3 |
- MATH 155 | Calculus 1 | 3 |

### Microbiology Requirement
Select one of the following:
- AEM 341 | General Microbiology | 3 |
- AEM 401 | Environmental Microbiology | 3 |
- MICB 200 | Medical Microbiology | 3 |

### Physiology Requirement
<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSIO 241</td>
<td>Elementary Physiology</td>
<td>4</td>
</tr>
<tr>
<td>or BIOL 235</td>
<td>Human Physiology</td>
<td>4</td>
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</tbody>
</table>

### Public Speaking Requirement
<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSAD 270</td>
<td>Effective Public Speaking</td>
<td>3</td>
</tr>
</tbody>
</table>

### Statistics Requirement
<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>STAT 211</td>
<td>Elementary Statistical Inference</td>
<td>3</td>
</tr>
<tr>
<td>or ECON 225</td>
<td>Elementary Business and Economics Statistics</td>
<td>3</td>
</tr>
</tbody>
</table>

### General University Orientation Requirement
<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHAR 191</td>
<td>First-Year Seminar</td>
<td>1</td>
</tr>
</tbody>
</table>

**General Education Foundations**
GEP Requirements 5, 6, 7

Total Hours 70

* Select BIOL 115 OR BIOL 101-104. BIOL 115 is preferred.
** BIOL 101, 102, 103, and 104 are equivalent to BIOL 115.
*** PHAR 191 and PHAR 199 course registration restricted for Direct Admit Pathway students only.

**SUGGESTED PLAN OF STUDY**

**First Year**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Hours</th>
<th>Spring</th>
<th>Hours</th>
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<tbody>
<tr>
<td>BIOL 115 &amp; BIOL 116</td>
<td>4</td>
<td>BIOL 117 &amp; BIOL 118</td>
<td>4</td>
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<tr>
<td>CHEM 115 &amp; 115L</td>
<td>4</td>
<td>CHEM 116 &amp; 116L</td>
<td>4</td>
</tr>
<tr>
<td>MATH Requirement</td>
<td>3-4</td>
<td>ENGL 101 &amp; 116L</td>
<td>3</td>
</tr>
<tr>
<td>CSAD 270</td>
<td>3</td>
<td>STAT 211 or ECON 225</td>
<td>3</td>
</tr>
<tr>
<td>PHAR 191 or WVUE 191***</td>
<td>1</td>
<td>GEF #5</td>
<td>3</td>
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<tr>
<td></td>
<td></td>
<td>PHAR 199***</td>
<td>1,2</td>
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| 15-16 | 18-19

**Second Year**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Hours</th>
<th>Spring</th>
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<tr>
<td>Select one of the following:</td>
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<td>Select one of the following:</td>
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<tr>
<td>AEM 341</td>
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<td>AGBI 410</td>
<td></td>
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<tr>
<td>AEM 401</td>
<td></td>
<td>BIOC 339</td>
<td></td>
</tr>
<tr>
<td>MICB 200</td>
<td></td>
<td>CHEM 234</td>
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<tr>
<td>CHEM 233</td>
<td>3</td>
<td>CHEM 236</td>
<td>1</td>
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<tr>
<td>CHEM 235</td>
<td>1</td>
<td>BIOL 235 or PSIO 241</td>
<td>3-4</td>
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<tr>
<td>ENGL 102</td>
<td>3</td>
<td>GEF #7</td>
<td>3</td>
</tr>
<tr>
<td>ECON 201</td>
<td>3</td>
<td></td>
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<tr>
<td>GEF #6</td>
<td>3</td>
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<tr>
<td>16</td>
<td>13-14</td>
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</table>

Total credit hours: 62-65

**COURSES**

**PHAR 191. First-Year Seminar. 1-3 Hours.**
Engages students in active learning strategies that enable effective transition to college life at WVU. Students will explore school, college and university programs, policies and services relevant to academic success. Provides active learning activities that enable effective transition to the academic environment. Students examine school, college and university programs, policies and services.

**PHAR 199. Orientation to Pharmacy 1-2 Hr. 1.2 Hour.**
Orientation to degree programs and requirements, departmental resources, curriculum options, student responsibilities, and opportunities.

**PHAR 287A. . 1-3 Hours.**
Seminars arranged for advanced graduate students.

**PHAR 287B. . 1-3 Hours.**
Seminars arranged for advanced graduate students.

**PHAR 287C. . 1-3 Hours.**
Seminars arranged for advanced graduate students.

**PHAR 287D. . 1-3 Hours.**
Seminars arranged for advanced graduate students.

**PHAR 287E. . 1-3 Hours.**
Seminars arranged for advanced graduate students.

**PHAR 287F. . 1-3 Hours.**
Seminars arranged for advanced graduate students.
PHAR 287G . 1-3 Hours.
Seminars arranged for advanced graduate students.

PHAR 287H . 1-3 Hours.
Seminars arranged for advanced graduate students.

PHAR 287I . 1-3 Hours.
Seminars arranged for advanced graduate students.

PHAR 287J . 1-3 Hours.
Seminars arranged for advanced graduate students.

PHAR 287K . 1-3 Hours.
Seminars arranged for advanced graduate students.

PHAR 287L . 1-3 Hours.
Seminars arranged for advanced graduate students.

PHAR 287M . 1-3 Hours.
Seminars arranged for advanced graduate students.

PHAR 287N . 1-3 Hours.
Seminars arranged for advanced graduate students.

PHAR 287O . 1-3 Hours.
Seminars arranged for advanced graduate students.

PHAR 287P . 1-3 Hours.
Seminars arranged for advanced graduate students.

PHAR 287Q . 1-3 Hours.
Seminars arranged for advanced graduate students.

PHAR 287R . 1-3 Hours.
Seminars arranged for advanced graduate students.

PHAR 287S . 1-3 Hours.
Seminars arranged for advanced graduate students.

PHAR 287T . 1-3 Hours.
Seminars arranged for advanced graduate students.

PHAR 287U . 1-3 Hours.
Seminars arranged for advanced graduate students.

PHAR 287V . 1-3 Hours.
Seminars arranged for advanced graduate students.

PHAR 287W . 1-3 Hours.
Seminars arranged for advanced graduate students.

PHAR 287X . 1-3 Hours.
Seminars arranged for advanced graduate students.

PHAR 287Y . 1-3 Hours.
Seminars arranged for advanced graduate students.

PHAR 287Z . 1-3 Hours.
Seminars arranged for advanced graduate students.

PHAR 289A . 2-3 Hours.
PR: Consent. Original investigation in pharmaceutics, medicinal chemistry, pharmacology, pharmacy administration, or clinical pharmacy.

PHAR 289B . 2-3 Hours.
PR: Consent. Original investigation in pharmaceutics, medicinal chemistry, pharmacology, pharmacy administration, or clinical pharmacy.

PHAR 289C . 2-3 Hours.
PR: Consent. Original investigation in pharmaceutics, medicinal chemistry, pharmacology, pharmacy administration, or clinical pharmacy.

PHAR 289D . 2-3 Hours.
PHAR 289D. Pharmaceutical Investigation. I, II. 2-3 hr. PR: Consent. Original investigation in pharmaceutics, medicinal chemistry, pharmacology, pharmacy administration, or clinical pharmacy.

PHAR 289E . 2-3 Hours.
PR: Consent. Original investigation in pharmaceutics, medicinal chemistry, pharmacology, pharmacy administration, or clinical pharmacy.

PHAR 289F . 2-3 Hours.
PR: Consent. Original investigation in pharmaceutics, medicinal chemistry, pharmacology, pharmacy administration, or clinical pharmacy.
PHAR 289G. . 2-3 Hours.
PR: Consent. Original Investigation in pharmaceutics, medicinal chemistry, pharmacology, pharmacy administration, or clinical pharmacy.

PHAR 289H. . 2-3 Hours.
PR: Consent. Original investigation in pharmaceutics, medicinal chemistry, pharmacology, pharmacy administration, or clinical pharmacy.

PHAR 289I. . 2-3 Hours.
PR: Consent. Original investigation in pharmaceutics, medicinal chemistry, pharmacology, pharmacy administration, or clinical pharmacy.

PHAR 289J. . 2-3 Hours.
PR: Consent. Original investigation in pharmaceutics, medicinal chemistry, pharmacology, pharmacy administration, or clinical pharmacy.

PHAR 289K. . 2-3 Hours.
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PHAR 289L. . 2-3 Hours.
PR: Consent. Original investigation in pharmaceutics, medicinal chemistry, pharmacology, pharmacy administration, or clinical pharmacy.

PHAR 289M. . 2-3 Hours.
PR: Consent. Original investigation in pharmaceutics, medicinal chemistry, pharmacology, pharmacy administration, or clinical pharmacy.

PHAR 289N. . 2-3 Hours.
PHAR 289N. Pharmaceutical Investigation in pharmaceutics, medicinal chemistry, pharmacology, pharmacy administration, or clinical pharmacy.

PHAR 289O. . 2-3 Hours.
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PHAR 289S. . 2-3 Hours.
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PHAR 289T. . 2-3 Hours.
PR: Consent. Original investigation in pharmaceutics, medicinal chemistry, pharmacology, pharmacy administration, or clinical pharmacy.

PHAR 289U. . 2-3 Hours.
PR: Consent. Original investigation in pharmaceutics, medicinal chemistry, pharmacology, pharmacy administration, or clinical pharmacy.

PHAR 289V. . 2-3 Hours.
PR: Consent. Original investigation in pharmaceutics, medicinal chemistry, pharmacology, pharmacy administration, or clinical pharmacy.

PHAR 289W. . 2-3 Hours.
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PHAR 289X. . 2-3 Hours.
PR: Consent. Original investigation in pharmaceutics, medicinal chemistry, pharmacology, pharmacy administration, or clinical pharmacy.

PHAR 289Y. . 2-3 Hours.
PR: Consent. Original investigation in pharmaceutics, medicinal chemistry, pharmacology, pharmacy administration, or clinical pharmacy.

PHAR 484A. .. 1-6 Hours.
Seminars arranged for advanced graduate students.

PHAR 484B. .. 1-6 Hours.
Seminars arranged for advanced graduate students.

PHAR 484C. .. 1-6 Hours.
Seminars arranged for advanced graduate students.

PHAR 484D. .. 1-6 Hours.
Seminars arranged for advanced graduate students.

PHAR 484E. .. 1-6 Hours.
PHAR 484E. Seminar. I, II, S. 1-6 hr. Seminars arranged for advanced graduate students.

PHAR 484F. .. 1-6 Hours.
Seminars arranged for advanced graduate students.
PHAR 484G. . 1-6 Hours.
Seminars arranged for advanced graduate students.

PHAR 484H. . 1-6 Hours.
Seminars arranged for advanced graduate students.

PHAR 484I. . 1-6 Hours.
Seminars arranged for advanced graduate students.

PHAR 484J. . 1-6 Hours.
Seminars arranged for advanced graduate students.

PHAR 484K. . 1-6 Hours.
Seminars arranged for advanced graduate students.

PHAR 484L. . 1-6 Hours.
Seminars arranged for advanced graduate students.

PHAR 484M. . 1-6 Hours.
Seminars arranged for advanced graduate students.

PHAR 484N. . 1-6 Hours.
Seminars arranged for advanced graduate students.

PHAR 484O. . 1-6 Hours.
Seminars arranged for advanced graduate students.

PHAR 484P. . 1-6 Hours.
Seminars arranged for advanced graduate students.

PHAR 484Q. . 1-6 Hours.
Seminars arranged for advanced graduate students.

PHAR 484R. . 1-6 Hours.
Seminars arranged for advanced graduate students.

PHAR 484S. . 1-6 Hours.
Seminars arranged for advanced graduate students.

PHAR 484T. . 1-6 Hours.
Seminars arranged for advanced graduate students.

PHAR 484U. . 1-6 Hours.
Seminars arranged for advanced graduate students.

PHAR 484V. . 1-6 Hours.
Seminars arranged for advanced graduate students.

PHAR 484W. . 1-6 Hours.
Seminars arranged for advanced graduate students.

PHAR 484X. . 1-6 Hours.
Seminars arranged for advanced graduate students.

PHAR 484Y. . 1-6 Hours.
Seminars arranged for advanced graduate students.

PHAR 484Z. . 1-6 Hours.
Seminars arranged for advanced graduate students.

PHAR 497. Research. 1-6 Hours.
PR: Consent. Research activities leading to thesis, problem report, research paper or equivalent scholarly project, or a dissertation.

PHAR 498. Honors. 1-3 Hours.
PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.