Pharmacy Programs

Pharmacy Mission

Our mission is to provide an exemplary educational experience that leads to highly competent and practice-ready caring pharmacists and pharmaceutical scientists who are accountable for improving the health and well-being of society. The programs seek to advance knowledge through collaborative education, science, research, service, patient care and advocacy. The school strives to achieve academic and professional excellence.

By virtue of their innate abilities and their education and experiences at Pacific, our graduates are:

- accomplished and compassionate practitioners dedicated to improving inpatient care in traditional and emerging roles in all practice settings;
- capable of critical thinking, problem solving and strong individual and team leadership;
- filled with the desire, knowledge and skills to serve their diverse communities and professions locally, regionally, nationally and globally;
- able to advance the profession of pharmacy by providing high quality health care, innovative practice models and leadership in healthcare policy to meet the needs of an increasingly diverse population;
- able to advance the pharmaceutical sciences by developing cutting-edge research and contributing to scientific discovery;
- prepared and inspired to seek postgraduate and continuing professional development; and
- ambassadors for preventive health and wellness

Programs in Pharmacy and Pharmaceutical Sciences

The Thomas J. Long School of Pharmacy and Health Sciences offers the Pre-Pharmacy Advantage program, Doctor of Pharmacy degree and graduate degrees in the pharmaceutical and chemical sciences.

Pre-Pharmacy Advantage Program

The University of Pacific offers first-time undergraduate freshmen three options that can lead to guaranteed admission into Pacific’s Doctor of Pharmacy program. The options are the five-year (2+3) Pre-Pharmacy/PharmD option, the six-year (3+3) Pre-Pharmacy/PharmD option and the seven-year (4+3) Bachelor’s/PharmD option. Specific admission criteria for each ensure that students have the appropriate time to successfully prepare for advancement into the professional pharmacy program. Interested students should request information about the Pacific Pre-Pharmacy Advantage Program from the Admissions Office or visit http://www.pacific.edu/Academics/Schools-and-Colleges/Thomas-J-Long-School-of-Pharmacy-and-Health-Sciences/Academics/Pre-Health-Sciences.html. More specific program information is provided in the section on the Pre-Pharmacy Advantage Program.

Doctor of Pharmacy Program

The Doctor of Pharmacy Program is an accelerated program designed to develop pharmacy practitioners who are able to enter community and hospital pharmacy practice, residencies, and other roles in pharmacy and health care. Satisfactory completion of the Doctor of Pharmacy degree enables a student to sit for pharmacy licensing examinations throughout the United States, and eventually practice pharmacy. The basic residence requirement for completion of the Doctor of Pharmacy degree is eight semesters, which is completed in approximately two and two-thirds years. This has been made possible by utilizing the summer months for instruction, thus providing the same number of instructional semesters as in four academic years. The first two years of the program include on campus course work plus introductory pharmacy practice experiences. The final year of the program consists of advanced pharmacy practice experiences in health care settings. More specific program information is provided in the section on the Doctor of Pharmacy program.

Accreditation

Organized in 1955, the Thomas J. Long School of Pharmacy and Health Sciences is a member of the American Association of Colleges of Pharmacy, and its Doctor of Pharmacy Program is fully accredited by the Accreditation Council for Pharmacy Education (ACPE). Accreditation information can be found online at http://www.acpe-accredit.org/ or by contacting:

ACPE
20 North Clark Street, Suite 2500
Chicago, IL 60601-5109
Phone: (312) 664-3575
Fax: (312) 664-4652
E-mail: info@acpe-accredit.org

Pharmacy Licensure

For California pharmacy licensure requirements see http://www.pharmacy.ca.gov/ or contact:

the California State Board of Pharmacy
1625 N. Market Blvd., Suite N219
Sacramento, CA 95834

Contact information for boards of pharmacy from other states can be found through the National Association of Boards of Pharmacy at http://www.nabp.net/.

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<th>Institution</th>
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<tbody>
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<tr>
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<td>University of California, 1995</td>
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Tracy Wong, Adjunct Professor, 2008, PharmD, University of California San Francisco, 1988
William Wong, Adjunct Professor, 2008, PharmD, University of Illinois at Chicago, 1999
Carolyn Woo, Adjunct Professor, 2012, BS, University of California, Davis, 2009; PharmD, University of California, San Francisco, 2007.
Christopher A. Woo, Adjunct Professor, 1991, PharmD, University of the Pacific, 1988
Kenneth Woo, Adjunct Professor, 2007, PharmD, University of Mississippi, 2000
Margie M. Woo, Adjunct Professor, 1988, PharmD, University of the Pacific, 1987
Christopher Wood, Adjunct Professor, 2007, BA, Chaminade University, 1987; MPH, University of Hawaii, 1991; MD, University of Hawaii, 1998
Frank C. Wood, Adjunct Professor, 2005, PharmD, University of the Pacific, 1985
Linda K. Woods, Adjunct Professor, 2009, PharmD, University of Wyoming, 1979
Wayne V Woods, Adjunct Professor, 2009, PharmD, University of Wyoming
James W. Wright, Adjunct Professor, 1983, BS, University of California, Davis, 1976; PharmD, University of California San Francisco, 1980
Jay J.Q. Wu, Adjunct Professor, 2004, PhD, University of Konstanz, 1993
Felix K. Yam, Adjunct Professor, 2011, PharmD, University of Rhode Island, 2004.
Noymi Yam, Adjunct Professor, 2006, PhD, University of the Pacific, 2009
Peggy Yang, Adjunct Professor, 1997, PharmD, University of Southern California, 1994
Lovelle M. Yano, Adjunct Professor, 2000, BA, San Francisco State University, 1985; MA, 1994; PharmD, University of California, San Francisco, 1998
Alan S. Yayesaki, Adjunct Professor, 2005, BS, University of California, Davis, 1977; PharmD, University of the Pacific, 1980
Betty W.S. Yee, Adjunct Professor, 1995, AA, City College of San Francisco, 1970; PharmD, University of California, San Francisco, 1994
Chester Yee, Adjunct Professor, 2005, BS, Idaho State University, 1961; BS Pharm, 1962
Christy J. Yee, Adjunct Professor, 2005, BS, University of California, San Diego, 1996; PharmD, University of California, San Francisco, 2001
Florence Yee, Adjunct Professor, 2003, PharmD, University of California, San Francisco, 1973
Fred Yee, Adjunct Professor, 1987, BS, California State University, Sacramento, 1978; BS University of the Pacific, 1981
Helen S. Yee, Adjunct Professor, 1995, PharmD, University of California, San Francisco, 1993
William P. Yee, Adjunct Professor, 1986, PharmD, University of the Pacific, 1983
Johnathan Yeh, Adjunct Professor, 2009, PharmD, University of Southern California, 2007
Edward Yen, Adjunct Professor, 2012, BS, University of California Los Angeles, 2007; PharmD, University of the Pacific, 2011.
Katherine A. Yep, Adjunct Professor, 2009, PharmD, University of the Pacific, 2005
Janis Wing Yun Yim, Adjunct Professor, 2012, PharmD, University of the Pacific, 2006.
C. Kelly Yip, Adjunct Professor, 2012, BS, University of Wisconsin, Madison, 1980; PharmD, University of Illinois, Chicago, 1992.
Franklin Yip, Adjunct professor, 1995, BA, University of California, Berkeley, 1988; PharmD, University of the Pacific, 1991
Goldie Yip, Adjunct Professor, 1999, PharmD, University of the Pacific, 1990
Ok Hee Yoon, Adjunct Professor, 2009, PharmD, Hyo-sung Women's University, 1973
Alison Yoshida, Adjunct Professor, 2000, PharmD, University of the Pacific, 1997
Terrence Young, Adjunct Professor, 2007, BS, University of Southern California, 1973; PharmD, University of the Pacific, 1976
Feng Yu, Adjunct Professor, 2009, PharmD, Janssen Pharmaceutica Research Foundation, Belgium, 1996
John R. Yuen, Adjunct Professor, 2001, BA, University of Southern California, 1984; PharmD, University of Southern California, 1988
Robert C. Zehnder, Adjunct Professor, 2000, BS, California Polytechnic University, San Luis Obispo, 1983; PharmD, University of California, San Francisco, 1989
Larry A. Zelman, Adjunct Professor, 1985, PharmD, University of Southern California, 1983
Dongxiao Zhang, Adjunct Professor, 2006, BS, Nakai University, 1990; PhD, Case Western Reserve University, 1996
Winnie Zing, Adjunct Professor, 2005, PharmD, University of California, San Francisco, 1988
Thomas F. Zioncheck, Adjunct Professor, 2002, BS, State University College, Oneonta, 1984; PhD, Purdue University, 1988

Pre-pharmacy Advantage Program

In order to earn a guaranteed seat in the Doctor of Pharmacy program, all of the following criteria must be met within 5 (five) years of entering the University: all seven-year (4+3) students must also obtain a Bachelors degree (BS or BA) from Pacific in addition to these criteria. A Math/Science GPA of 2.7 (by June 1st of the year the student matriculates to the Doctor of Pharmacy program) and a cumulative Pacific GPA of 3.0 must be achieved.

*The Math/Science GPA does not include all math and science courses. For a specific list of Math/Science courses, please contact the Office of Pre-Health at PreHealth@pacific.edu or (209) 946-2563.

I. General Education Requirements

Minimum of 28 units that include:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PACS 001</td>
<td>What is a Good Society</td>
<td>4</td>
</tr>
<tr>
<td>PACS 002</td>
<td>Topical Seminar on a Good Society</td>
<td>4</td>
</tr>
</tbody>
</table>

One course from each subdivision below:
### Social and Behavioral Sciences
- IA. Individual and Interpersonal Behavior
- IB. U.S. Studies
- IC. Global Studies

### Arts and Humanities
- IIA. Language and Literature
- IIB. Worldviews and Ethics
- IIC. Visual and Performing Arts

### Natural Sciences and Mathematics
- IIA. Natural Sciences
- IIB. Mathematics and Formal Logic
- IIC. Science, Technology and Society

or a second IIIA Natural Sciences course

**Note:** 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

### II. Diversity Requirement
Students must complete one diversity course (3-4 units)

**Note:** 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. 2) Courses may also be used to meet general education and/or major/minor requirements. 3) The diversity requirement only applies to 4+3 students.

### III. Fundamental Skills
Students must demonstrate competence in:
- Reading
- Writing
- Quantitative analysis

### IV. Major Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>BIOL 051</td>
<td>Principles of Biology</td>
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<tr>
<td>BIOL 061</td>
<td>Principles of Biology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 071</td>
<td>Human Anatomy</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 145</td>
<td>Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 025</td>
<td>General Chemistry</td>
<td>5</td>
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<tr>
<td>CHEM 027</td>
<td>General Chemistry</td>
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</tr>
<tr>
<td>CHEM 121</td>
<td>Organic Chemistry</td>
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<tr>
<td>CHEM 123</td>
<td>Organic Chemistry</td>
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<tr>
<td>PRAC 101</td>
<td>Pharmacy Orientation</td>
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<tr>
<td>PHYS 017</td>
<td>Concepts of Physics</td>
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<tr>
<td>PHYS 023</td>
<td>General Physics I</td>
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<tr>
<td>PHYS 025</td>
<td>General Physics II</td>
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<td>PHYS 053</td>
<td>Principles of Physics I</td>
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<tr>
<td>PHYS 055</td>
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Select one of the following:

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<tr>
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<td>Elements of Calculus</td>
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<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>MATH 053</td>
<td>Calculus II</td>
<td>4</td>
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<tr>
<td>MATH 055</td>
<td>Calculus III</td>
<td>4</td>
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<tr>
<td>COMM 027</td>
<td>Public Speaking (Fall or Spring semester only)</td>
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Select one of the following:

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<tr>
<td>PSYC 031</td>
<td>Introduction to Psychology</td>
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<tr>
<td>PSYC 111</td>
<td>Abnormal Psychology</td>
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Select one of the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
</table>

**Notes:**
- * Satisfies GE IIA requirement.
- ** Satisfies GE IIA requirement.
- *** Satisfies GE IA requirement.
- + Satisfies GE IB requirement.

### Admission into the Doctor of Pharmacy Program
There are two pathways for admission into the Doctor of Pharmacy Program: 1) Pacific’s Pre-Pharmacy Advantage Program; and 2) application as a transfer student from another college, university, or program within the University of the Pacific. The criteria for advancement from the Pre-Pharmacy Advantage Program to the Doctor of Pharmacy program are provided in the description of the Pre-Pharmacy Program.

For information about admission to the Doctor of Pharmacy Program as a transfer student, see the “Special Requirements for Pharmacy Applicants” section under Admission Requirements at the front of this catalog or information provided on the University’s website at http://www.pacific.edu/pharmd. The pharmacy faculty determines admission requirements but the Office of Admission manages the admissions process. Questions regarding admission are directed to the Office of Admission. The program places strong emphasis on the academic record, verbal and written communication skills, demonstrated interest and experience in healthcare and leadership qualities in the selection process. The School attempts to select students with strength in all of these areas. After review of the completed application, the Office of Admission invites qualified candidates to participate in interviews on campus and a writing demonstration. Admissions decisions are based on the application, letters of recommendation, the interviews and the writing sample.

### Pharmacy Pre-Professional Curriculum Requirements
At least sixty four (64) transferable semester units are required prior to entry into the Doctor of Pharmacy program. Those courses are listed below. The liberal arts requirements must total a minimum of twenty eight (28) semester or forty two (42) quarter units. No more than two semester units of physical education are used to fulfill the electives requirements. These requirements will be satisfied by successful completion of the Pre-Pharmacy Advantage program, which is described in detail in that section.

- Mathematics: One semester of college-level calculus or its equivalent.
- Physics: One year of high school physics (with laboratory) or one semester/quarter of college physics (with laboratory).
- Chemistry: (1) General chemistry with lab, eight semester units minimum and (2) organic chemistry with lab, eight semester units minimum. Coursework is designed for chemistry or biology majors.
- Biological Sciences: General biology, eight semester units with laboratory both semesters; coursework may include two semesters zoology, one semester each botany and zoology, or two semesters of general biology designed for biology majors; general microbiology, four units.
- Writing for College or equivalent: One semester, minimum.
- Reading for College or equivalent: One semester, minimum.
- Public Speaking: Three semester/four quarter units, minimum.
- Psychology: One semester, minimum.
- Economics: Three semester/four quarter units, minimum.
• General Education: At least one three semester/four quarter unit course from each non-science category of the University of the Pacific’s General Education Program.

Students must pass the fundamental skills competency in quantitative skills and writing and satisfy any general education and liberal arts course requirements not completed in pre-pharmacy. Students who enter the Doctor of Pharmacy program with a U.S. baccalaureate degree and students who have met the General Education requirements of another college or university are not required to meet the University General Education requirements. These requirements are listed elsewhere in this catalog.

Applicants are also strongly encouraged to take course work in human physiology. Although not yet a requirement, physiology will eventually become a requirement for entrance into the Doctor of Pharmacy program.

These pre-professional requirements simply make the candidate eligible for selection. Final selection is based on recommendations, personal factors and strength of academic preparation. Applicants are urged to communicate with the University of the Pacific’s Admissions Office regarding questions on the above requirements.

Other Entrance and Progression Requirements

Entrance and progression in the Doctor of Pharmacy program requires that students provide documentation of receiving the required immunizations and disease screening. Students must also meet certain technical standards (see http://www.pacific.edu/Admission/Graduate-Professional/Pharmacy/Pharm-D-Technical-Standards.html ) for entrance into and progression through the Doctor of Pharmacy program.

Participation in introductory and advanced pharmacy practice experiences requires a California pharmacy intern license. Program and pharmacy practice experience requirements also include required drug screening and background checks.

Academic Standards

Students must successfully pass each required course in each semester in order to be allowed to enroll in the subsequent semester. Because of the integrated nature of the pharmacy curriculum, students are not permitted to enroll in pharmacy courses out-of-sequence.

In order to remain in good academic standing, a student must maintain a 2.0 grade point average in all required professional coursework and in all University course work. Students with a course grade point deficiency of 0.1 to 7.9 will be placed on probation. Students with a major, required course grade point deficiency of from 8.0 to 12.0 are placed on probation and are not permitted to enroll in new required courses. Students with a required course grade point deficiency of 12.0 or greater will be disqualified from the professional program. Students who fail or receive a No Credit grade in the same required course twice or who fail any two advanced pharmacy practice experiences will also be disqualified from the program.

Students must pass all required courses. A grade of C or better is required to pass the four practicum courses in semesters 1 through 6 and the six advanced pharmacy practice experience courses in semesters 7 and 8 of the program. In other courses, a grade of D or better is required. A student who has a major grade point deficiency or who has not successfully completed all required course work plus 4 units of elective course work may not enroll in advanced pharmacy practice experiences until the deficiency is corrected. As noted above, a grade point average in all courses of 2.0 or better and a required grade point deficiency of zero or better is required for graduation.

Professional Curriculum for the Doctor of Pharmacy Degree

The professional curriculum for the Doctor of Pharmacy program has been designed to prepare graduates to meet the following major performance objectives (student learning outcomes):

• Possess and apply pharmaceutical sciences knowledge;
• Perform pharmacist directed patient care;
• Practice in pharmacy and health care environments;
• Promote public health;
• Demonstrate professionalism, communication & interaction abilities; and
• Problem solve and continue to learn.

This new curriculum replaces the old curriculum beginning with the 2009 entering class. A minimum of 141 units are required in the professional curriculum, which includes a total of 4 units of electives prior to program semester 7 and 12 units of elective rotations in semesters 7 and 8.

Note: The following courses must be taken in the prescribed semester sequence because of the integrated nature of the pharmacy curriculum. The IPPEs noted below with the # mark can be taken in Semesters 3, 4 or 5. A grade of C or better is required to pass Practicum II to IV courses in semesters 3 through 6 and the advanced pharmacy practice experiences in semesters 7 and 8. (IPPE stands for Introductory Pharmacy Practice Experiences and APPE stands for Advanced Pharmacy Practice Experiences.)

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Units</th>
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<tbody>
<tr>
<td>PHRM 111</td>
<td>Pharmacy Practice and Professionalism</td>
</tr>
<tr>
<td>PHRM 112</td>
<td>Dispensing, Compounding and Calculations</td>
</tr>
<tr>
<td>PHRM 113</td>
<td>Molecular and Cellular Biochemistry</td>
</tr>
<tr>
<td>PHRM 114</td>
<td>Physical Pharmacy and Dosage Forms</td>
</tr>
<tr>
<td>PHRM 115</td>
<td>Nonprescription Therapy and Self Care</td>
</tr>
<tr>
<td>PHRM 118</td>
<td>Practicum I</td>
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<td><strong>Term Units</strong></td>
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<tr>
<th>Semester 2</th>
<th>Units</th>
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<tbody>
<tr>
<td>PHRM 121</td>
<td>Informatics, Statistics and Research Design</td>
</tr>
<tr>
<td>PHRM 122</td>
<td>Physiology and Pathophysiology I</td>
</tr>
<tr>
<td>PHRM 123</td>
<td>Physiology and Pathophysiology II</td>
</tr>
<tr>
<td>PHRM 124</td>
<td>Drug Metabolism and Disposition</td>
</tr>
<tr>
<td>PHRM 129</td>
<td>Community I IPPE</td>
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<td><strong>Term Units</strong></td>
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<tr>
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<tbody>
<tr>
<td>PHRM 134</td>
<td>Pharmacokinetics and Advanced Drug Delivery Systems</td>
</tr>
<tr>
<td>PHRM 135</td>
<td>Pharmacology and Medicinal Chemistry I</td>
</tr>
<tr>
<td>PHRM 136</td>
<td>Pharmacology and Medicinal Chemistry II</td>
</tr>
<tr>
<td>PHRM 138</td>
<td>Practicum II</td>
</tr>
<tr>
<td>PHRM 139</td>
<td>Geriatrics Introductory Pharmacy Practice Experience</td>
</tr>
<tr>
<td>Electives</td>
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<td><strong>Term Units</strong></td>
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<th>Units</th>
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<tbody>
<tr>
<td>PHRM 142</td>
<td>Physiology and Pathophysiology III</td>
</tr>
<tr>
<td>PHRM 145</td>
<td>Pharmacology and Medicinal Chemistry III</td>
</tr>
<tr>
<td>PHRM 146</td>
<td>Therapeutics I Neuro-Psychiatry</td>
</tr>
<tr>
<td>PHRM 147</td>
<td>Therapeutics II GI/Hepatic/Nutrition</td>
</tr>
<tr>
<td>PHRM 149</td>
<td>Hospital IPPE</td>
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<tr>
<td>Electives</td>
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<td><strong>Term Units</strong></td>
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<tr>
<td>PHRM 151</td>
<td>Pharmacoeconomics, Benefits and Outcomes</td>
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<tr>
<td>PHRM 152</td>
<td>Pharmacy Law and Ethics</td>
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<tr>
<td>PHRM 156</td>
<td>Therapeutics III Cardiology</td>
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<tr>
<td>PHRM 157</td>
<td>Therapeutics IV Renal/Respiratory</td>
</tr>
<tr>
<td>PHRM 158</td>
<td>Practicum III</td>
</tr>
<tr>
<td>PHRM 159</td>
<td>Community II IPPE</td>
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<tr>
<td>Electives</td>
<td>0-2</td>
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<tr>
<td><strong>Term Units</strong></td>
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<tbody>
<tr>
<td>PHRM 161</td>
<td>Pharmacy Management</td>
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<tr>
<td>PHRM 165</td>
<td>Therapeutics V Infectious Diseases</td>
</tr>
<tr>
<td>PHRM 166</td>
<td>Therapeutics VI Oncology/Transplantation</td>
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<tr>
<td>PHRM 167</td>
<td>Therapeutics VII Endocrine/Musculoskeletal</td>
</tr>
<tr>
<td>PHRM 168</td>
<td>Practicum IV</td>
</tr>
</tbody>
</table>
Pharmacy Programs

Notice.

The right to modify or change the curriculum at any time without prior notice. Graduation Requirements

All requirements for the Doctor of Pharmacy degree must be completed within five (5) calendar years of the student’s initial enrollment in the Doctor of Pharmacy program.

Completion of the Doctor of Pharmacy degree requires a minimum of 205 semester units (pre-pharmacy plus pharmacy) in the new curriculum and 198 semester units (pre-pharmacy plus pharmacy) in the old curriculum.

Eight semesters of Thomas J. Long School of Pharmacy and Health Sciences residency are required for the Doctor of Pharmacy programs.

A semester in residence consists of registering for a minimum of 12 semester units each semester.

A grade point average of 2.00 (on a 4-point scale) is required for graduation in: (1) all required Doctor of Pharmacy courses and (2) all courses taken while in residence in the professional program.

Pharmacy Courses

PHAR 149. Professional Communication and Interviewing. 1 Unit.

Other Pharmacy Courses

PHRM 100. Continuous Registration. 0 Units.

PHRM 111. Pharmacy Practice and Professionalism. 3 Units.

This course is an introduction to the roles and responsibilities of the pharmacist in general and in various practice settings with a focus on leadership and professional development. Prerequisite: admission to the Doctor of Pharmacy Program.

PHRM 112. Dispensing, Compounding and Calculations. 3 Units.

This course presents mathematical concepts as they apply to the practice of pharmacy. The course also presents information on the techniques needed for the proper compounding and dispensing of medication as well as those techniques needed for communicating effectively with patients and health care professionals. Prerequisite: admission to the Doctor of Pharmacy program.

PHRM 113. Molecular and Cellular Biochemistry. 4 Units.

This course is a conceptual study of cellular function and control mechanisms at the molecular level. Prerequisite: admission to the Doctor of Pharmacy program.

PHRM 114. Physical Pharmacy and Dosage Forms. 5 Units.

Students study dosage forms and the relationship between the physicochemical properties of drugs and drug reaction. Prerequisite: admission to the Doctor of Pharmacy program.

PHRM 115. Nonprescription Therapy and Self Care. 2 Units.

Students study the principles of triage and self care that use non-prescription pharmacotherapy and dietary supplements. Prerequisite: admission to the Doctor of Pharmacy Program.

PHRM 118. Practicum I. 2 Units.

Pharmacy practice skills and knowledge are developed through completion of self-study modules and guided practice simulations. The practicum experiences relate to effective patient counseling for the most commonly prescribed and select non-prescription medications, smoking cessation products, and immunizations in addition to application of appropriate techniques for measurement of blood pressure, blood glucose and administration of immunizations for adults. Prerequisite: admission to the Doctor of Pharmacy Program.

PHRM 121. Informatics, Statistics and Research Design. 3 Units.

Students develop an understanding of the availability, selection and use of electronic and printed sources of medical and pharmacy information. Approaches to effectively responding to drug information questions in addition to analyzing and critiquing medical and pharmacy literature based on knowledge of the essentials of study design and statistics. Students will also understand the research steps prior to and following drug approval by the Food and Drug Administration. Prerequisite: a passing grade in all required courses in Semester 1 in the Doctor of Pharmacy Program.
PHRM 122. Physiology and Pathophysiology I. 5 Units.
This course is an integrated study of the cellular, anatomical, physiological, and pathophysiological components of the nervous and gastrointestinal systems. Prerequisite: a passing grade in all required courses in Semester 1 of the Doctor of Pharmacy program. Prerequisite, may be taken concurrently: PHRM 123.

PHRM 123. Physiology and Pathophysiology II. 5 Units.
This course is an integrated study of the cellular, anatomical, physiological, and pathophysiological components of the pulmonary, cardiovascular and renal systems. Prerequisite: a passing grade in all required courses in Semester 1 of the Doctor of Pharmacy program. Prerequisite, may be taken concurrently: PHRM 122.

PHRM 124. Drug Metabolism and Disposition. 3 Units.
This is a continuation course of PHRM 114 (Physical Pharmacy and Dosage Form) that utilizes the LADME framework (Liberation, Absorption, Distribution, Metabolism, and Excretion) to understand the biopharmaceutic, biometabolic and pharmacokinetic concepts underlying drug action. Prerequisite: a passing grade in all required courses in Semester 1 of the Doctor of Pharmacy program.

PHRM 129. Community I IPPE. 2 Units.
This course is a practice-based introductory experience that focuses on the role of the Pharmacist/Pharmacy Intern in a community pharmacy practice. This course is designed to allow students to participate in the delivery of pharmaceutical care. Prerequisite: a passing grade in all required courses in Semester 1 of the Doctor of Pharmacy Program and a current Pharmacy Intern license.

PHRM 134. Pharmacokinetics and Advanced Drug Delivery Systems. 4 Units.
This course is a continuation of PHRM 114 Physical Pharmacy & Dosage Forms and PHRM 124 Drug Metabolism & Disposition that use the LADME framework (Liberation, Absorption, Distribution, Metabolism, and Excretion) to understand biopharmaceutic and pharmacokinetic/pharmacodynamic principles governing drug behavior in the body. Additionally, the design of modified release drug delivery systems is covered. Prerequisite: a passing grade in all required courses in Semester 1 to 2 in the Doctor of Pharmacy program.

PHRM 135. Pharmacology and Medicinal Chemistry I. 4 Units.
This course is a continuation of PHRM 114 Physical Pharmacy & Dosage Forms and PHRM 124 Drug Metabolism & Disposition that utilize the LADME framework (Liberation, Absorption, Distribution, Metabolism, and Excretion) to understand biopharmaceutic and pharmacokinetic/pharmacodynamic principles of governing drug behavior in the body. Additionally, the design of modified release drug delivery systems is covered. Prerequisite: a passing grade in all required courses in Semesters 1 to 2 in the Doctor of Pharmacy program.

PHRM 136. Pharmacology and Medicinal Chemistry II. 4 Units.
The second course in the Pharmacology and Medicinal Chemistry series covers the effects of antimicrobial, hematologic, and gastrointestinal therapeutic agents and the mechanisms whereby these effects are induced. Drug classes are presented to illustrate the effects of drug classes in the treatment of diseases. The mechanisms of drug toxicity is also covered. Prerequisite: a passing grade in all required courses in Semester 1 to 2 of the Doctor of Pharmacy program.

PHRM 138. Practicum II. 2 Units.
Students develop communication, assessment and documentation abilities to prepare them for didactic courses and practice experience. Students learn to conduct a patient history, perform basic physical examinations, interpret common clinical laboratory data and diagnostic tests, and document pharmacist directed patient care using standardized approaches. Students assess simulated patient scenarios using a standardized SOAP (subjective data, objective data, assessment, plan) format. Each student is expected to demonstrate proficiency in each major ability. Prerequisite: a passing grade in all required courses in Semester 1 to 2 of the Doctor of Pharmacy program.

PHRM 139. Geriatrics Introductory Pharmacy Practice Experience. 2 Units.
PHRM 139 introduces practice-based experience that focuses on long term care, senior care, and geriatric patients. It is designed as a method to enhance each student’s understanding of the role and responsibilities of pharmacists in the long term care and other geriatric care settings through the provision of pharmaceutical care to patients. Prerequisites are the successful completion of (passing grade in) all required courses in Semester 1 and 2 of the Doctor of Pharmacy program and a current Pharmacy Intern license.

PHRM 140. Pharmacology and Medicinal Chemistry III. 4 Units.
The third course in the Pharmacology and Medicinal Chemistry series covers the effects of cardiovascular, endocrine, cancer chemotherapy, immunologic therapeutic agents and the mechanisms whereby these effects are induced. Drug classes are presented to illustrate the effects of drug classes in the treatment of diseases. Prerequisite: a passing grade in all required courses in Semesters 1 to 3 in the Doctor of Pharmacy program.

PHRM 142. Physiology and Pathophysiology III. 5 Units.
This course is an integrated study of the cellular, anatomical, physiological, and pathophysiological components of the pulmonary, cardiovascular and renal systems. Prerequisite: a passing grade in all required courses in Semester 1 to 3 of the Doctor of Pharmacy program.

PHRM 145. Pharmacology and Medicinal Chemistry III. 4 Units.
The third course in the Pharmacology and Medicinal Chemistry series covers the effects of cardiovascular, endocrine, cancer chemotherapy, immunologic therapeutic agents and the mechanisms whereby these effects are induced. Drug classes are presented to illustrate the effects of drug classes in the treatment of diseases. Prerequisite: a passing grade in all required courses in Semesters 1 to 3 in the Doctor of Pharmacy program.

PHRM 146. Therapeutics I Neuro-Psychiatry. 4 Units.
Students develop the abilities to assess and develop patient-specific care plans for patients with specific conditions, diseases, disorders, and drug-induced problems that utilize basic and applied pharmaceutical science abilities. Lectures, readings and discussion enable students to develop the abilities to assess, manage, and document simple to complex patients. Prerequisite: a passing grade in all required courses in Semesters 1 to 3 in the Doctor of Pharmacy program.

PHRM 147. Therapeutics II GI/Hepatic/Nutrition. 2 Units.
Students develop the abilities to assess and develop patient-specific cares plans for patients with gastrointestinal, hepatic, nutrition, and anemia conditions, diseases, disorders, and drug-induced problems that utilize basic and applied pharmaceutical science abilities. Lectures, readings and discussion enable students to develop the abilities to assess, manage, and document simple to complex patients. Prerequisite: a passing grade in all required courses in Semesters 1 to 3 in the Doctor of Pharmacy program.

PHRM 149. Hospital IPPE. 2 Units.
Hospital introductory pharmacy practice experience are a method to enhance each student’s understanding of the role and responsibilities of pharmacists in the institutional setting and to gain experience with the medication use system and with other health care providers within a hospital. Prerequisites: passing grade in all required courses in Semester 1 and 2 of the Doctor of Pharmacy program and a current Pharmacy Intern license.

PHRM 151. Pharmacoeconomics, Benefits and Outcomes. 2 Units.
This course describes and applies economic-based evaluation methods to pharmaceutical products, treatments and services. Content includes understanding principles which help decision makers maximize clinical and/or humanistic outcomes given economic constraints. Additionally, this course provides an introduction to managed care and Medicare and its role in US health care delivery. Prerequisite: a passing grade in all required courses in Semesters 1 to 4 in the Doctor of Pharmacy program.

PHRM 152. Pharmacy Law and Ethics. 3 Units.
Discussions and analysis of federal and state law, regulations, standards of practice, case law and ethics related to pharmacy practice and drug development and distribution. The focus is California laws and regulations that govern the practice of pharmacy in community and institutional settings. Prerequisite: a passing grade in all required courses in Semesters 1 to 4 in the Doctor of Pharmacy program.
PHRM 156. Therapeutics III Cardiology. 4 Units.
Students develop the abilities to assess and develop patient-specific care plans for patients with specific cardiovascular diseases that utilize basic and applied pharmaceutical science abilities. Lectures, readings, and discussion enable students to develop the abilities to assess, manage, and document simple to complex patients. Prerequisite: a passing grade in all required courses in Semesters 1 to 4 in the Doctor of Pharmacy program.

PHRM 157. Therapeutics IV Renal/Respiratory. 3 Units.
Students develop the abilities to assess and develop patient-specific care plans for patients with renal and respiratory diseases. Lectures, readings, and discussion enable students to develop the abilities to assess, manage, and document simple to complex patients with renal and respiratory-related issues. Prerequisite: a passing grade in all required courses in Semesters 1 to 4 in the Doctor of Pharmacy program.

PHRM 158. Practicum III. 1 Unit.
Problem solving and critical thinking skills are developed through the discussion and solution of complex cases and problems, with a focus on patients with multiple disorders and patients from various cultures or diverse populations and pediatric and geriatric populations. Problem solving and critical thinking skills are also developed through the discussion and solution of cases and problems that involve the clinical pharmacokinetics of select drugs, which include the determination and documentation of initial dosing recommendations, dosage adjustments, drug concentration predictions, and monitoring plans. Prerequisite: a passing grade in all required courses in Semesters 1 to 4 in the Doctor of Pharmacy program. Prerequisites, may be taken concurrently: PHRM 156 and PHRM 157.

PHRM 159. Community II IPPE. 2 Units.
Community II introductory pharmacy practice experiences are a method to enhance each student’s understanding of the role and responsibilities of pharmacists in the community setting and to gain experiences with the medication use system within a community pharmacy and expand the abilities developed in Community I introductory pharmacy practice experience. Prerequisites: a passing grade in all required courses in Semesters 1 and 2 of the Doctor of Pharmacy program and a current Pharmacy license.

PHRM 160. Practice-Based IPPE. 2 Units.
The Practice-Based introductory pharmacy practice experience is another method to enhance each student’s understanding of the role and responsibilities of pharmacists and medication distribution and use process in any one of a variety of pharmacy practice settings. Successful completion of this course satisfies completion of PHRM 159.

PHRM 161. Pharmacy Management. 2 Units.
Students study the analysis of financial management principles applicable to pharmacy practice which includes an analysis of human resources management applicable to pharmacy practice. Prerequisite: a passing grade in all required courses in Semesters 1 to 5 in the Doctor of Pharmacy program.

PHRM 165. Therapeutics V Infectious Diseases. 4 Units.
Infectious Disease Therapeutics is an integrated course where students are taught to bring Medical Microbiology, Pharmacology, Physiology, Immunology, Pharmacokinetics, Pharmacodynamics and Chemotherapeutics together in order to care for patients with treatable infectious diseases. Students develop the ability to assess and develop patient-specific care plans for patients with infectious disease conditions, that include prevention and drug-induced problems that utilize applied pharmaceutical science principles and knowledge. Lectures, readings, presentations and discussions enable students to develop the ability to assess, manage, and document therapeutic care plans of varying complexity for patients with infectious diseases. Prerequisite: a passing grade in all required courses in Semesters 1 to 5 in the Doctor of Pharmacy program.

PHRM 166. Therapeutics VI Oncology/Transplantation. 3 Units.
Students develop the abilities to assess and develop patient-specific care plans for patients with specific conditions, diseases, disorders of cancers and transplants and drug-induced problems that utilize basic and applied pharmaceutical science abilities. Lectures, readings, and discussion enable students to develop the abilities to assess, manage, and document simple to complex patients with cancers or transplants. Prerequisite: a passing grade in all required courses in Semesters 1 to 5 in the Doctor of Pharmacy program.

PHRM 167. Therapeutics VII Endocrine/Musculoskeletal. 4 Units.
Students develop the abilities to assess and develop patient-specific care plans for patients with endocrine, musculoskeletal, pain, dermatologic, and ophthalmic conditions, diseases, disorders, and drug-induced problems that utilize basic and applied pharmaceutical science abilities. Lectures, readings, and discussion enable students to develop the abilities to assess, manage, and to document simple to complex patients. Prerequisite: a passing grade in all required courses in Semesters 1 to 5 in the Doctor of Pharmacy program.

PHRM 168. Practicum IV. 1 Unit.
This course is a continuation of Practicum III. Problem solving and critical thinking skills are developed through the discussion and solution of complex cases and problems that focus on patients with multiple disorders and patients from various cultures or diverse populations and pediatric and geriatric populations. Problem solving and critical thinking skills are also developed through the discussion and solution of cases and problems that involve the clinical pharmacokinetics of select drugs, including the determination and documentation of initial dosing recommendations, dosage adjustments, drug concentration predictions, and monitoring plans. Prerequisite: a passing grade in all required courses in Semesters 1 to 5 in the Doctor of Pharmacy program. Prerequisites, may be taken concurrently: PHRM 165, PHRM 166, PHRM 167.

PHRM 169. Health Care Outreach IPPE. 1 Unit.
Community health care outreach introductory pharmacy practice experiences are a method to enhance each student’s understanding, participation, and commitment to enhancing the health of the public. Groups of students work with community agencies and organizations in the development, organization, management, implementation, delivery, and assessment of health care outreach activities in local communities. Many of these activities are managed through professional student organizations. Students also reflect on their activities to determine the impact of those activities on the public and on themselves. Prerequisite: a passing grade in all required courses in Semesters 1 to 5 in the Doctor of Pharmacy program and the current Pharmacy Intern license, current blood borne pathogen and CPR certifications.

PHRM 171. Internal Medicine APPE. 6 Units.
This clinical pharmacy practice rotation at an affiliated health care facility emphasizes the medical management of disease states, rational drug therapy, and patient monitoring that use the pharmaceutical care practice model. Prerequisites: a passing grade in all required courses and 4 units of elective courses in semesters 1 to 6 of the Doctor of Pharmacy program. Students must satisfy academic standards for entry into advanced pharmacy practice experiences, and they must satisfy the institution’s policies and procedures on healthcare trainee or worker eligibility, such as background.

PHRM 172. Ambulatory Care APPE. 6 Units.
This clinical pharmacy practice rotation at an affiliated clerkship site has an emphasis on providing pharmaceutical care for ambulatory care patients, that include the medical management of disease states, rational drug therapy, and patient monitoring. Prerequisites: a passing grade in all required courses and 4 units of elective courses in semesters 1 to 6 of the Doctor of Pharmacy program. Students must satisfy academic standards for entry into advanced pharmacy practice experiences, and they must satisfy the institution’s policies and procedures on healthcare trainee or worker eligibility, such as background checks and screenings, HIPPA training, etc. A valid pharmacy intern license is also required.
PHRM 173. Hospital Care APPE. 6 Units.
This hospital pharmacy practice rotation at an affiliated clerkship site enhances experiences in selecting drug products, compounding, dispensing, monitoring and evaluation, as well as understanding pharmacy operations and administration, communicating with patients and other health professionals, and providing drug information. Prerequisites: a passing grade in all required courses and 4 units of elective courses in semesters 1 to 6 of the Doctor of Pharmacy program. Students must satisfy academic standards for progression into Advanced Pharmacy Practice Experiences, and they must satisfy the institution’s policies and procedures on healthcare trainee or worker eligibility, such as background checks and screenings, HIPAA training, etc. A valid pharmacy intern license is required.

PHRM 174. Community Pharmacy APPE. 6 Units.
The Advanced Pharmacy Practice Experience in Community Pharmacy Practice is designed to provide students hands-on experience in selecting drug products, compounding, dispensing, monitoring and evaluating, communicating with patients, communicating with other health professionals, drug information, public health, and pharmacy operations and management. This required experiential learning rotation allows students to integrate their pharmacy knowledge with patient care skills, further develop effective communication skills, develop pharmacy management skills, and engage in innovative practice experiences when possible. Students actively participate in the day-to-day activities that comprise the work of a pharmacist who practices in the community setting. In addition, students have the opportunity to engage in pharmacy practice activities that include pharmacy management, medication therapy management and other pharmaceutical care services, and health promotion and preventive care services. Prerequisites: a passing grade in all required courses in semesters 1 to 6 of the Doctor of Pharmacy program. Students must satisfy academic standards for progression into Advanced Pharmacy Practice Experiences, and they must satisfy the institution’s policies and procedures on healthcare trainee or worker eligibility, such as background checks and screenings, HIPAA training, etc. A valid pharmacy intern license is required.

PHRM 184. APPE Elective I. 6 Units.
This is the first of two elective advanced pharmacy practice experiences that allow the student to explore and develop abilities in an area of interest within the health care industry. This experience may be in a variety of biomedical settings that include patient care, administrative, health care system, public health, governmental agency, professional organization, research, academic, pharmaceutical company, and other biomedical or health related settings. Prerequisites: a passing grade in all required and 4 units of elective courses in semesters 1 to 6 of the Doctor of Pharmacy program. Students must satisfy academic standards for progression into Advanced Pharmacy Practice Experiences, and they must satisfy the institution’s policies and procedures on healthcare trainee or worker eligibility, such as background checks and screenings, HIPAA training, etc. A valid pharmacy intern license is required.

PHRM 185. APPE Elective II. 6 Units.
This is the second of two elective advanced pharmacy practice experiences that allow the student to explore and develop abilities in an area of interest within the health care industry. This experience may be in a variety of biomedical settings including patient care, administrative, health care system, public health, governmental agency, professional organization, research, academic, pharmaceutical company, and other biomedical or health related settings. Prerequisites: Successful completion of (passing grade in) all required courses and 4 units of elective courses in semesters 1 to 6 of the Doctor of Pharmacy program. Satisfy academic standards for progression into Advanced Pharmacy Practice Experiences. PHRM 184, satisfy the institution’s policies and procedures on healthcare trainee or worker eligibility, such as background checks and screenings, HIPAA training, etc, and possess a valid pharmacy intern license.

PHRM 191. Independent Study. 1-4 Units.
Physiology Pharmacology Courses

PHYP 111. Veterinary Pharmacology. 2 Units.
Students examine the application of pharmacology to the problems of animal health. The course is one two-hour lecture per week.

PHYP 113. Teaching Anatomy, Physiology and Pathophysiology Laboratory. 1 Unit.
This course provides academic credit for second-year PharmD students who assist with teaching laboratory and discussion sessions for first-year Anatomy, Physiology, and Pathophysiology courses. Assistance may be for demonstrations, wet laboratory procedures, or discussion sessions for PharmD courses taught by faculty in the Physiology & Pharmacology Department. Prerequisites: PHRM 122 or PHRM 123 with a C or better; permission of instructor; must not be on probation or received no credit in required pharmacy courses. The course may be repeated twice for credit.

PHYP 114. Teaching Anatomy and Physiology Laboratory II. 2 Units.
This course provides academic credit for second year students who assist with teaching laboratory and discussion sessions for first-year Anatomy and Physiology courses. Assistance may be for demonstrations, wet laboratory procedures, or discussion sessions in PHAR 125. Students must receive a grade of “C” or better in the course in which teaching assistance is provided. Permission of instructor.

PHYP 130. Science Education Experiences (SEE). 2 Units.
The course prepares second year pharmacy students for outreach to elementary school classrooms to teach science information and concepts. Students receive training to prepare for the classroom environment and then make 6-7 visits to assigned classrooms to present science information and direct hands-on science activities. Open to second year students in the Doctor of Pharmacy program with good academic standing.

PHYP 149A. Special Topics. 1-4 Units.

PHYP 149B. Special Topics. 1-4 Units.

PHYP 158. Fundamentals of Toxicology. 2 Units.
An introduction to the general principles of toxicology. The toxic effects of various classes of non-medical chemicals are discussed with emphasis on the mechanisms of action, sites of action, signs and symptoms of toxicity and the treatment of toxicity. Prerequisites: PHRM 135 and PHRM 136.

PHYP 193. Undergraduate Independent Study. 1-5 Units.
This independent study course involves library and laboratory work and the writing of a report. Permission of the instructor.

Pharmaceutics Med. Chem Courses

PME 111A. Teaching the Pharmaceutical Dosage Forms Laboratory. 1 Unit.
This course is designed to train pharmacy students to supervise a laboratory as a teaching assistant. This course is open to students who have completed all first year courses and are in good standing.

PME 111B. Teaching the Pharmaceutical Dosage Forms Laboratory. 1 Unit.
A course designed to train pharmacy students in supervising a laboratory as a teaching assistant. This course will be open to students who have completed all first year courses and are in good standing.

PME 121. Professional Communications and Interviewing. 1 Unit.
This course instructs students on the principles of professional communication and interviewing. After appropriate training, students participate in different aspects of the interview of candidates for the pharmacy program. At the end of their participation, students evaluate the program. Prerequisite: Doctor of Pharmacy Student.

PME 122. Teaching Assistant for Professional Communications and Interviewing. 2 Units.
This course enables students to participate at a coordinator level in the process of professional communications and interviewing. Students are assigned specific coordinator roles and work in cooperation with the Office of Student and Professional Affairs, other students, and faculty in fulfilling those roles. Open to second year Doctor of Pharmacy students. Prerequisite: PMED 121.
PMED 129. Dynamics of Student Leadership. 2 Units.
Students explore and apply of basic leadership theories and processes which foster personal and interpersonal development via cognitive experiential classroom methods and mentoring relationships with experienced peer leaders. Professional standing.

PMED 131. Introduction to Dermatology. 2 Units.
This course is an integrated study of dermatological disorders with emphases on triage, medication options, and pharmaceutical care. Prerequisites: PHRM 112 and PHRM 115. Professional standing.

PMED 138. Lectures in Nuclear Pharmacy Science. 3 Units.
Students study radioactivity, radionuclides, and nuclear radiations. Topics include methods of detection and measurement of radiations as well as basic rules of use for nuclides and radioactive material.

PMED 143. Facilitating Molecular and Cellular Biochemistry (MCB) Lab Sessions. 2 Units.
This course provides academic units for second-year students who assist with teaching/facilitating laboratory discussion sessions for first-year Molecular and Cellular Biochemistry (MCB) students. Open to second year PharmD students. Prerequisite: PHRM 113 with an "A" and permission of instructor.

PMED 149A. Special Topics. 4 Units.

PMED 149B. Special Topic. 1 or 2 Unit.

PMED 153. Pharmaceutical Compounding. 2 Units.
Students study current compounding practice, regulations governing compounding, USP recommendations and making compounded products with evaluation and analysis as is currently part of a pharmacy practice. Prerequisites: PHRM 134, PHRM 135, PHRM 136 with a "D" or higher; PHRM 138 with a "C" or higher; PHRM 139. Professional standing.

PMED 164. Advances in Applied Pharmacokinetics. 2 Units.
This course offers a systematic approach to a rational application of basic pharmacokinetics to patient specific clinical practice.

PMED 185. Cosmetics: Formulation and Function Lab. 1 Unit.
This hands-on course is an introduction to the formulation and function of cosmetic products for the hair, nails, skin, lips and eyes. Prerequisite: PHRM 184.

PMED 193. Undergraduate Independent Study. 1-5 Units.
This course is independent study that involves library and/or laboratory.

PMED 196F. Independent Study. 1-4 Units.
Pharmacy Practice Courses

PRAC 070. Clinical Experience Rotations. 18 Units.

PRAC 101. Pharmacy Orientation. 1 Unit.
Students study a general survey of the scope of pharmacy that includes and licensing requirements, career and occupational opportunities, pharmacy organizations (campus, local, state and national), basic pharmacy terminology and University and School of Pharmacy and Health Sciences regulations and pre-pharmacy requirements.

PRAC 121. Basic Life Support. 2 Units.
This course is a training program that prepares instructors to teach basic life support courses.

PRAC 123. Health Care Delivery Systems. 2 Units.
Students examine the structure and function of Health Care in the U.S., with emphasis on the effects on the practice of pharmacy.

PRAC 124. Developing Consumer Fact Sheets. 2 Units.
Students develop written communication skills geared towards consumers by writing consumer friendly fact sheets about relevant health topics. All facts sheets are submitted to the California State Board of Pharmacy for use at their discretion. Students receive acknowledgement for their contributions. Open to second year Doctor of Pharmacy students or those with permission of the instructor.

PRAC 127. Teaching the Drug Information Lab. 1 Unit.

PRAC 127A. RxTract Writer. 1 Unit.
Students write and publish pharmacotherapy reports in a newsletter format.

PRAC 127B. RxTract Writer. 1 Unit.
Students write and publish pharmacotherapy reports in a newsletter format.

PRAC 127C. RxTract Writer. 1 Unit.
Students write and publish pharmacotherapy reports in a newsletter format.

PRAC 127D. RxTract Writer. 1 Unit.
Students write and publish pharmacotherapy reports in a newsletter format.

PRAC 127E. RxTract Writer. 1 Unit.
Students write and publish pharmacotherapy reports in a newsletter format.

PRAC 127F. RxTract Writer. 1 Unit.
Students write and publish pharmacotherapy reports in a newsletter format.

PRAC 127G. RxTract Writer. 1 Unit.
Students write and publish pharmacotherapy reports in a newsletter format.

PRAC 127H. RxTract Writer. 1 Unit.
Students write and publish pharmacotherapy reports in a newsletter format.

PRAC 130. Practice of Pharmacy- A Multicultural and International Approach. 1-2 Units.
The focus of this course is to develop a culturally competent and multifaceted approach to patient care in a diverse cultural and dynamic healthcare setting. This course takes into consideration the various health and illness needs, religious beliefs, complementary health practices, cultural orientation of various ethnic groups as well as the dynamics of transcultural communications between patients and healthcare professionals. Prerequisite: successful completion of semester 1 in the Doctor of Pharmacy program or permission of instructor.

PRAC 131. Managed Care- Formulary Management. 2 Units.
This course introduces fundamental concepts about the role and influence Pharmacists have on formulary management in managed care settings. Topics include understanding the steps involved in evaluating the AMCP (Academy of Managed Care Pharmacy), Dossier format of pharmaceutical products, additional literature search and evaluation, interpreting pharmacoeconomic/cost-impact analysis, monograph creation and presentation to a Pharmacy and Therapeutics Committee. Open to Doctor of Pharmacy students only.

PRAC 132. Introduction to Travel Medicine. 2 Units.
Introduction to the practice of travel medicine with an emphasis on vaccines and pharmacological prophylaxis and treatment of tropical diseases. Prerequisites: PHRM 111, 112, 113, 114, 115, 118; certification through APhA’s Pharmacy Based Immunization Delivery training program.

PRAC 135. Student Journal Club. 2 Units.
This elective course is designed to help students practice and master 1) literature retrieval and evaluation skills and 2) information dissemination skills that help prepare them for rotations and the rotation requirement of reviewing and presenting journal articles. Students select, review, analyze and present articles each week that are related to topics of interest in other courses they are taking. Prerequisite: PHRM 121 and 3rd semester standing (or higher) in the Doctor of Pharmacy program.

PRAC 136. Entrepreneurial Pharmacy Practice. 2 Units.
An overview of entrepreneurship in general, the traits of an entrepreneur, current topics in entrepreneurship with a specific focus on pharmacy practice and patient care programs. The course teaches the participants a comprehensive set of critical skills needed to develop a profitable business project. Preference is given to students enrolled in the Entrepreneurial Program. Prerequisite: PHRM 111.
PRAC 137A. RxTract Editor. 2 Units.
Students organize and edit reports that are published in a newsletter format. Prerequisite is enrollment as a second year PharmD student.

PRAC 137B. RxTract Editor. 2 Units.
Students organize and edit reports that are published in a newsletter format. Prerequisite is enrollment as a second year PharmD student.

PRAC 137C. RxTract Editor. 2 Units.
Students organize and edit reports that are published in a newsletter format. Prerequisite is enrollment as a second year PharmD student.

PRAC 138. Behavioral Medicine in Pharmaceutical Care. 2 Units.
Students study basic principles of behavior, behavioral medicine and health psychology. Application of these principles are studied and related to diabetes, asthma, chronic pain, cardiovascular disease and pain. Professional standing.

PRAC 140. Healthcare Finance: Pharmacy Applications. 2 Units.
Healthcare Finance offers an introduction to accounting, financial theory and practice in health care settings. It is designed to familiarize students with financial concepts and issues that confront managers in the health and pharmaceutical sectors. Second year standing in the Doctor of Pharmacy program or permission of instructor.

PRAC 141. Medicare Part D- Fundamentals, Application and Outreach. 2 Units.
This course focuses on introducing fundamental concepts about Medicare Part D, understanding real-world implications of Medicare Part D, and performing community outreach activities which assist Medicare-eligible patients to identify the most cost appropriate prescription drug plan.

PRAC 142. Basics and Structure of the Medicare Benefit. 2 Units.
A course which focuses on understanding the eligibility, structure, financing and administration of the Medicare benefit. The prescription drug benefit ('PartD') is discussed in detail and topics such as formulary requirements, restrictions, coverage determination and appeals are explored. Cost-minimization strategies including the late-enrollment penalty, low-income subsidy, and pharmaceutical assistance programs are highlighted. Students also learn about the most common medications filled by Medicare beneficiaries and have a series of Medication Therapy Modules on the most prevalent chronic conditions in this population. Prerequisite: Instructor permission.

PRAC 143. Health Care Outreach IPPE- Medicare Part D. 1 Unit.
Community health care outreach introductory pharmacy practice experiences are a method to enhance each student’s understanding, participation, and commitment to enhancing the health of the public, with a focus on enhancing Medicare beneficiary understanding and enrollment in a Medicare Part D prescription drug plan. Groups of students work to develop, organize, manage, implement, deliver, and assess Medicare Part community outreach activities in settings serving Medicare beneficiaries. This course is given in conjunction with PRAC 141 Medicare Part D- Fundamentals, Application and Outreach. Students also reflect on their activities to determine the impact of those activities on both the beneficiaries they serve and on themselves. Successful completion of this course satisfies completion of PHRM 169 Health Care Outreach Introductory Pharmacy Practice Experiences. Prerequisites: a passing grade in all required courses in Semester 1 of the Doctor of Pharmacy program or permission of the instructor, current Pharmacy Intern license, and current blood borne pathogen and CPR certifications. Corequisite: PRAC 141.

PRAC 145. Foundations of Clinical Outcomes Research. 2 Units.
This course offers an introduction to the design and implementation of clinical/outcomes research studies. Emphasis is placed on methods appropriate for evaluating health care services and assessing the long-term outcomes of pharmacological interventions. The course is designed for students who have an interest in conducting clinical and outcomes research. The multidisciplinary focus of the course makes it appropriate for students in Pharmacy, Physical Therapy, and Speech Language Pathology. Prerequisites: PHAR 111, 112, 121 or permission of instructor.

PRAC 148. Introductory Biostatistics. 2 Units.
This is an introductory course in the terminology and use of biostatistics.

PRAC 149A. Special Topics. 1-4 Units.

PRAC 151. Intro to Pediatrics. 2 Units.
Students are introduced to the pediatric patient, physiologic considerations, population-specific disease states and pharmacotherapy. Prerequisites: successful completion of all courses in the first three semesters of current Doctor of Pharmacy curriculum and current enrollment in fourth semester coursework or higher.

PRAC 152. Practicum I Teaching Assistant. 1 Unit.
This course presents an opportunity for 2nd year pharmacy student to act as teaching assistants (TA) and to help teach and foster learning for 1st year professional students in the practicum course. The practicum experiences relate to effective patient counseling for the most commonly prescribed and select non-prescription medications, pulmonary devices, smoking cessation products, in addition to application of appropriate techniques for measurement of blood pressure, blood glucose, and administration of immunizations for adults. Prerequisite: Permission of the instructor and a grade of B or better (or grade of Pass if Pass/No Credit) in PHRM 118, pharmacy students in the 2nd year of their professional studies. Students must not be on probation and must not have failed or received no credit in any required pharmacy course.

PRAC 155. Biotechnology and Product Development. 2 Units.
This course offers the students comprehensive information and insights about the science of biotechnology, as well as a focus on product development, and the differentiations of biological from drugs. Actual industry experiences are provided. The students also gain an understanding of key biological product attributes, and the business and science practices in the biopharma industry, plus regulatory issues. Through a student presentation, an understanding of a “Total Product Profile”, is provided, which is essential in product development examining the clinical parameters of diseases in healthcare systems with the product applications, along with business potential of a biological product. Prerequisite: Second year Doctor of Pharmacy student.

PRAC 156. Opportunities in Pharmacy Practice. 1 or 2 Unit.
Students learn personal and business tools to make the transition from the academic environment to the daily practice of pharmacy, with an emphasis on entrepreneurship.

PRAC 159. Pharmaceutical Care for Ambulatory Care Clinic Patients. 2 Units.
A course which focuses on education and actively involving students in the provision of pharmaceutical care provided to patients through our four clinics [asthma, osteoporosis & falls, pharm. care (which includes smoking cessation), and wellness] and our associated education, assessment, and interventional community programs.

PRAC 160. Pain Management. 2 Units.
Students examine pharmaceutical care for the patient with pain disorders and focus on pathophysiology, pharmacology and toxicology, pain assessment skills, appropriate medication therapy, side effect management and non-medication management of these disorders. Prerequisites: successful completion of all courses in semesters 1-4 of the Doctor of Pharmacy program.

PRAC 162. Practicum II TA 2. 1 Unit.
This is the second of a two-semester course series. In this course, second year pharmacy students serve as teaching assistants for students in PHRM 138. Prerequisites: Second year Pharm.D. student. Completion of PRAC 161. Permission from the instructor. Students must be in good academic standing and not tutoring first year pharmacy students for PHRM 138. Students must not have failed any required pharmacy course.

PRAC 164. Applied Therapeutics and Managed Care. 2 Units.
This course is a blend of therapeutics and pharmacoeconomics that apply the principles of outcome research situations in managed care (real-life situations). Open to second year students in the Doctor of Pharmacy program.
PRAC 165. Business Law for the Pharmacist. 3 Units.
This is an introductory course to the business laws that affect the pharmacist.

PRAC 191. Pharmacy Practicum. 1-3 Units.
This course examines procedures related to pharmacy practice. It includes conference and practicum, and students may re-elect for a maximum of three units. Permission of instructor.

PRAC 193. Undergraduate Independent Study. 1-5 Units.
This independent study course involves library, conference and clinical studies in clinical pharmacy. Students may re-elect for a maximum of three units. Permission of instructor.