

**THE UNIVERSITY OF GEORGIA**

**COLLEGE OF PHARMACY BULLETIN**

**2012-2013**



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## ACADEMIC CALENDAR 2012-2013

### FALL 2012

Orientation .....	Friday, August 10
Classes Begin .....	Monday, August 13
Holiday.....	Monday, September 3
Midpoint of Semester.....	Thursday, October 4
Fall Break.....	Friday, October 26
12-week Course Ends .....	Friday, November 2
Final Exam, 12-week Course.....	Monday, November 5
Thanksgiving Holidays .....	Monday-Friday, November 19-23
Classes End .....	Friday, November 30
Final Exams .....	Monday-Monday, December 3-10

### SPRING 2013 (TENTATIVE)

Classes Begin .....	Monday, January 7
Holiday.....	Monday, January 21
Midpoint of Semester.....	Thursday, February 28
Spring Break .....	Monday-Friday, March 11-15
12-week Courses End .....	Friday, April 5
Final Exams, 12-week Courses.....	Monday-Friday, April 8-12
Classes End .....	Monday, April 29
College of Pharmacy Commencement.....	Saturday, May 4
Finals Exams .....	Wednesday-Tuesday, May 1-7
UGA Commencement.....	Friday, May 10

This calendar may be subject to change. Please refer to the *Schedule of Classes* and/or other special announcements that may be forthcoming.

Pursuant to directives of the President of this institution, the University of Georgia continues its affirmative implementation of equal opportunity to employees, students, covered contractors and vendors, and applicants for employment, admission, or contractor/vendor status. The University of Georgia will act in matters of employment, admissions, programs, and services free of prohibited bias with regard to race, creed, color, sex, national origin, religion, age, veteran status, or disability. Further, the University of Georgia will not maintain racially segregated facilities.

Continuation of the above policies is consistent with applicable provisions of the Civil Rights Act of 1964, the Education Amendments of 1972, Executive Order 11246, Revised Order 4, the Vietnam Era Veterans Readjustment Act of 1974, the Rehabilitation Act of 1973, and The Americans with Disabilities Act of 1990, as revised and/or amended, with implementing regulations. Accordingly, this institution will not discriminate in employment, admissions, programs, or services with regard to any position for which the applicant, employee, or student is qualified and will make reasonable accommodation for physical and mental limitations.

The Affirmative Action Plan implementing the above body of law, regulation, and policy is administered by the UGA Equal Opportunity Office at 290 South Jackson Street, Peabody Hall, Suite 3, Athens, Georgia 30602. Telephone inquiries concerning this Plan may be directed to (706) 542-7912. Copies of this Plan are available for inspection in the Equal Opportunity Office and in the UGA Main Library during normal weekday working hours. Affirmative Action Plan narrative may also be reviewed at the website, [eoo.uga.edu/](http://eoo.uga.edu/), by selecting "Affirmative Action Plan."

This is an unofficial publication of the University of Georgia. The official publication for academic matters of the University of Georgia is the University of Georgia Bulletin ([www.bulletin.uga.edu](http://www.bulletin.uga.edu)).

While every effort is made to provide accurate and current information, the University reserves the right to change, without notice, statements in the bulletin concerning rules, policies, fees, curricula, courses, calendar, or other matters. Further, the statements set forth in this bulletin are for informational purposes only and should not be construed as the basis of a contract between a student and the institution.

If you have a disability and need assistance in order to obtain this bulletin in an alternative format, please contact the Office of Student Affairs at (706) 542-5278.

## **GENERAL INFORMATION**

### **ATHENS, GEORGIA**

With a metropolitan population of more than 100,000, Athens is a vibrant city situated in rolling Piedmont country. Athens is known for its many cultural opportunities, including concerts, films, and plays. Atlanta, about 65 miles southwest of Athens, offers musical and theatrical events plus major league sports. Only a few hours away from Athens are major recreational areas such as beaches, the Great Smoky Mountains, and national forests containing numerous lakes and hiking trails. The climate is moderate with a daily mean temperature range from 35 to 51 degrees in January and from 69 to 90 degrees in July.

### **THE UNIVERSITY OF GEORGIA**

The University of Georgia is a unit of The University System of Georgia. The System's Board of Regents was created in 1931 as a part of a reorganization of Georgia's state government. With this act, public higher education in Georgia was unified for the first time under a single governing and management authority. The governor appoints members to the Board, who each serve seven years. Today the Board of Regents is composed of 18 members, five of whom are appointed from the state-at-large, and one from each of the 13 congressional districts. The Board elects a chancellor who serves as its chief executive officer and the chief administrative officer of the University System.

The Board oversees the 35 colleges and universities that comprise the University System of Georgia, Skidaway Institute of Oceanography, and The Georgia Public Library System. These institutions enroll some 318,000 students and employ more than 41,000 faculty and staff to provide teaching and related services to students and the communities in which they are located. For further information, contact: Board of Regents of the University System of Georgia, 270 Washington Street, S.W., Atlanta, Georgia 30334

### **ACCREDITATION**

The professional program at the University of Georgia College of Pharmacy is accredited by the Accreditation Council for Pharmacy Education. The Council can be contacted at 135 S. LaSalle Street, Suite 4100, Chicago, Illinois 60603-4180 or by calling (312)664-3575.

The University of Georgia is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award baccalaureate, masters, specialist and doctorate degrees. Contact the Commission on Colleges at 1866 Southern Lane, Decatur, Georgia 30033 or call 404-679-4500 for questions about the accreditation of the University of Georgia.

### **UNIVERSITY OF GEORGIA ADMINISTRATION**

Michael F. Adams, President, [presuga@uga.edu](mailto:presuga@uga.edu), (706) 542-1214

Jere W. Morehead, Senior Vice President for Academic Affairs and Provost,  
[morehead@uga.edu](mailto:morehead@uga.edu), (706) 542-5806

Svein Øie, Dean, College of Pharmacy, [soie@rx.uga.edu](mailto:soie@rx.uga.edu), (706) 542-1914

## COLLEGE OF PHARMACY HISTORY

In 1903, the Committee on Laws and Disciplines of the Board of Trustees authorized the organization of a School of Pharmacy at the University of Georgia in Athens. At the same time, a local physician, **Dr. Samuel C. Benedict** was appointed to the chair of Materia Medica in the School. Space was allocated in Science Hall, but in November 1903 it burned to the ground. Terrell Hall was constructed on the site and was occupied in June 1905. Since graduation from a college or high school was not a requirement at that time to practice pharmacy, many students enrolled, took classes for a year, and then apprenticed in a pharmacy. The first graduating class was 1908, when three students received their Pharmacy Graduate (Ph.G) degree.

In January 1907, **Mr. Robert C. Wilson** was elected Instructor in Pharmacy and, on the death of Dr. Benedict in 1914, was named Director of the Department of Pharmacy; in 1924 he became Dean of the School of Pharmacy. Although the first woman to enter the School did so in 1920, the first women graduated in 1925. Dean Wilson's continuous struggle to improve pharmacy in Georgia led to the development of one of the first four-year required pharmacy degrees in the nation, beginning in 1926. In 1939, the school moved to quarters in New College and was accredited by the American Council on Pharmaceutical Education, a rating that has been maintained continuously since that time.

**Dr. Kenneth L. Waters** was named Dean of the School of Pharmacy in 1948. Under his guidance, the school grew to the point where a new facility was deemed essential. The building was completed in 1964. One year later, the first students of the five-year pharmacy program graduated. The new facility presented an opportunity for student body and faculty growth, with faculty experiencing the greatest percentage increase. Academic programs were improved and research output was significantly increased. The service program developed rapidly to the point where several faculty members were involved. Externship and clinical programs were required of undergraduate students in an effort to present the optimum learning experience. The School's graduate degree program began with the Master's program in 1951. In 1964, the Ph.D. degree program was authorized, and the first degrees were granted in 1967.

**Dr. Howard C. Ansel** was named Dean in 1977. During his tenure, the name of the school was changed to the College of Pharmacy to reflect the unit's expanded educational, research, and service roles. On Dr. Wilson's 100th birthday in 1978, the building was named the Robert C. Wilson Pharmacy Building. A Doctor of Pharmacy (Pharm.D.) degree program was offered as a post-baccalaureate degree program and as a tracking option. The Clinical Pharmacy Program at

the Medical College of Georgia was established and an assistant dean of pharmacy was named as its administrator. The graduate and research programs of the College were also strengthened through major building renovations, establishing the College of Pharmacy as one of the premier research units on campus. The reading room was named in honor of the late Professor Ford C. Millikan in 1983. An office of Postgraduate Continuing Education was created to provide for the continuing education needs of the practitioner.

**Dr. Stuart Feldman** of the University of Houston was named Dean in 1991. During his tenure the College received Georgia State lottery funds to increase technology in education and the Millikan Educational Resources Center was converted to a computer laboratory for student access. The curriculum was changed from the quarter to the semester system, and the entry-level Doctor of Pharmacy degree and the Non-traditional Doctor of Pharmacy Pathway Program were initiated. A full-time experiential coordinator was hired.

**Dr. Svein Øie** of the University of California San Francisco became Dean on January 1, 2000. Under his guidance, the College has increased its class size, expanded its regional presence, been involved in establishing a Center for Drug Discovery, increased interdisciplinary research and strengthened its research focus. With full implementation of the entry-level PharmD program, the clinical faculty has been augmented, clinical activities increased, and the College has become actively involved in residency training. In 2003, the College celebrated its centennial. Fundraising efforts have increased the number of scholarships, endowed professorships and augmented available funds for building enhancements. A 93,000 sq. ft. building addition, the Pharmacy South Building, opened in fall 2009.

# UNIVERSITY OF GEORGIA GRADUATION REQUIREMENTS

## EXAMINATIONS ON US AND GEORGIA HISTORY AND CONSTITUTIONS

All persons receiving a degree from the University are required to pass examinations on the history and constitutions of both Georgia and the United States. Each of these examinations may be exempted by successfully completing specified courses, which can be found at [www.bulletin.uga.edu](http://www.bulletin.uga.edu). Examinations are given once each semester, with the dates announced in the class schedule (OASIS). Reexamination is permitted by appointment at University Testing Services in Clark Howell Hall. Additional information can be found at [www.testing.uga.edu](http://www.testing.uga.edu).

## BASIC PHYSICAL EDUCATION

All students entering the University fall 1991, and thereafter, who matriculate for their first baccalaureate degree are required to pass one semester credit hour of basic physical education. This requirement may be satisfied by successful completion of any combination of basic physical education courses. Basic physical education courses are designated PEDB 1010-1990; courses for physical education majors (PEDS), health promotion and education majors (HPRB) or recreation majors (RLST) will not satisfy the basic requirement. This requirement shall not apply for those entering a second or subsequent bachelor's degree program. The total number of credit hours in basic physical education courses that may be applied toward an undergraduate degree will be determined by individual schools and colleges. Students entering the University prior to fall 1991 and who graduate fall 1991 or later may at their option choose whether they will be governed in their degree requirement by the basic physical education requirement at the time they matriculated or by the new requirement.

The above requirements are applicable to all students except as follows:

1. **Veterans:** Veterans who have served 180 days or more may receive credit based on their military service, depending on date of matriculation. Veterans may receive no more credit for basic physical education courses than is required for a degree. To establish credit, veterans will be required to present a copy of their DD214 form to the Admissions Office.
2. **Army and Air Force ROTC Participants:** Students who have successfully completed the Army ROTC Advanced Camp or the Air Force ROTC Field Training Encampment shall be considered to have met the basic physical education requirement, if they have not already satisfied it with basic physical education course work.
3. **Disabled Students:** Adapted physical education classes are available to facilitate the meeting of the University physical education requirement by disabled students. Policies with regard to physical education for disabled students are as follows:

There are no exceptions to the physical education requirement for reasons of age, sex, or disability except upon special recommendation by the Staff Physician at the University Health Service.

## **DOCTOR OF PHARMACY PROGRAM**

### **PROGRAM OF STUDY**

The College of Pharmacy offers the Doctor of Pharmacy (Pharm.D.) degree to students who successfully complete the six-year study of prescribed courses. To receive the Pharm.D. degree, a student must have earned academic credit for not less than 60 semester hours (including physical education) in pre-pharmacy coursework and 148 semester hours of required professional coursework. The first two years (pre-pharmacy) may be completed at any accredited institution of higher education. At the University of Georgia, the pre-pharmacy program is administered through the College of Arts and Sciences. The last four years (nine semesters) are in the professional program and must be in residence at the College of Pharmacy.

### **ADMISSION TO THE PROFESSIONAL PROGRAM**

Applicants to the professional program must take the Pharmacy College Admission Test (PCAT) and have their scores transmitted to the Pharmacy College Application Service (PharmCAS). In addition to PCAT scores, the selection process will utilize the applicant's grade point average in pre-pharmacy coursework, recommendations, and an on-campus interview. The College of Pharmacy accepts students into its professional program for beginning classes only in the Fall semester.

Transcripts showing all college coursework and letters of recommendation must be submitted to PharmCAS. Students may apply to the College of Pharmacy after they have completed the majority of the pre-pharmacy requirements. Applicants who are accepted but do not attend the designated term must repeat the admission process for a future term.

Applicants for admission to the College of Pharmacy who are known to have been officially dismissed from another pharmacy program will not be accepted. A student who gains entrance to the College by misrepresentation of facts may be dismissed immediately.

### **APPLICATION GUIDELINES**

1. Applicants must submit completed applications online to both PharmCAS ([www.pharmacas.org](http://www.pharmacas.org)) and the College of Pharmacy ([www.rx.uga.edu](http://www.rx.uga.edu)) by January 7, 2013. The earlier the application is submitted, the sooner it will be processed and considered by the Admissions Committee.
2. At least two letters of recommendation must be submitted directly to PharmCAS; letters sent to the College of Pharmacy will not be accepted. One recommender should be a college instructor familiar with the applicant's academic background; the other should be a health care professional, preferably a pharmacist supervisor/ mentor, who can speak to the applicant's potential in the pharmacy profession.

3. All applicants must take the Pharmacy College Admission Test (PCAT) and have their scores sent to PharmCAS. The Summer and Fall test dates are preferred so that students have the opportunity to retake the test in January if they desire. Students may take the PCAT as many times as they wish without penalty. Individual percentile scores as well as composite percentile scores are reviewed by the Admissions Committee. Review books and courses for the PCAT are available. For more information, contact the College's Office of Student Affairs.
  
4. All applicants should be prepared for an on-campus interview with members of the Admissions Committee and currently enrolled pharmacy students. During the interview, students may be asked to discuss their academic background, reasons for selecting pharmacy as a profession, plans upon graduation, work experience, leadership experience, and extracurricular activities. Verbal and written communication skills also will be evaluated.

**TUITION, FEES, AND OTHER EXPENSES**

Expenses for pharmacy students at The University of Georgia are higher than for most other on-campus students. The following (not including travel, clothing, insurance, and incidentals) is an **estimate of expenses for one semester**:

Georgia Resident Tuition and Fees.....	\$8144
Non-Resident Tuition and Fees .....	\$17978
Room and Board .....	\$4248
Books and Supplies.....	\$530

The University reserves the right to change its tuition and fees at the beginning of any academic term and without previous notice. This right will be exercised cautiously.

While the provisions of this bulletin will ordinarily be applied as stated, the College of Pharmacy reserves the right to change any provision listed in this bulletin, including but not limited to academic requirements for graduation, without actual notice to individual students. Every effort will be made to keep students advised of any such changes. Information on changes will be available in the Office of the Dean. It is especially important that each student note that it is the student's responsibility to keep apprised of current graduation requirements for the student's particular degree program.

## FINANCIAL AID

### THE UGA STUDENT FINANCIAL AID OFFICE

Requests for student aid are handled through the University of Georgia Student Financial Aid office. The office is open year-round (except for holidays) and the hours of operation are 8:00 AM – 5:00 PM, Monday through Friday. For more information about financial aid and eligibility, you may call the Student Financial Aid office at (706) 542-6147 or contact the office at [osfa@uga.edu](mailto:osfa@uga.edu).

### THE HOPE SCHOLARSHIP PROGRAM

Students who meet the criteria for the HOPE Scholarship and have not exceeded the maximum number of credit hours under the HOPE program may continue their HOPE Scholarship in the pharmacy curriculum. Pharmacy students have an eligibility limit of 127 semester hours (which includes both pre-pharmacy and pharmacy coursework) under the HOPE guidelines. Specific questions regarding eligibility for the HOPE Scholarship should be directed to the University of Georgia Student Financial Aid office.

## PRE-PHARMACY CURRICULUM

For specific course descriptions and prerequisites, see the University of Georgia online bulletin at <http://www.bulletin.uga.edu>.

### I. Foundation Courses

#### Hours

ENGL 1101	English Composition I	3
ENGL 1102	English Composition II	3
MATH 2200	Analytic Geometry and Calculus <i>or</i>	
MATH 2250	Calculus I for Science and Engineering	4

### II. Sciences

#### *Physical Sciences*

CHEM 1211	Freshman Chemistry I	3
CHEM 1211L	Freshman Chemistry Lab I	1

#### *Life Sciences*

BIOL 1107-1107L	Principles of Biology I	4
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### III. Quantitative Reasoning

STAT 2000	Introductory Statistics	4
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### IV. World Languages and Culture, Humanities, and the Arts

#### World Languages and Culture

Three elective courses selected from university list	9
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#### Humanities and the Arts

SPCM 1100	Introduction to Public Speaking <i>or</i>	
SPCM 1500	Introduction to Interpersonal Communication	3

### V. Social Sciences

ECON 2105	Principles of Macroeconomics <i>or</i>	
ECON 2106	Principles of Microeconomics	3
POLS 1101	American Government	3
(Meets the Georgia and U.S. Constitution graduation requirement)		
HIST 2111	American History to 1865 <i>or</i>	
HIST 2112	American History since 1865	3
(Meets the Georgia and U.S. History graduation requirement)		

### VI. Entrance Requirements Related to Major

CHEM 1212	Freshman Chemistry II	3
CHEM 1212L	Freshman Chemistry Lab II	1
CHEM 2211	Modern Organic Chemistry I	3
CHEM 2211L	Modern Organic Chemistry Lab I	1
CHEM 2212	Modern Organic Chemistry II	3
CHEM 2212L	Modern Organic Chemistry Lab II	1
BIOL 1108-1108L	Principles of Biology II	4

## **COLLEGE OF PHARMACY FACULTY**

### **ADMINISTRATION**

Øie, Svein, Ph.D., Professor, Dean  
Francisco, George, Jr., Pharm.D., Professor, Associate Dean  
Brooks, Paul, Pharm.D., Ed.D., Assistant Dean for Outreach and Nontraditional Education  
Duke, Lori, Pharm.D., Assistant Dean for Experience Programs  
Fagan, Susan, Pharm.D., Professor, Assistant Dean for MCG Programs  
Fulford, Michael, Ph.D., Director of Assessment  
Khan, Iqbal, Ph.D., Assistant Dean for Southwest Georgia Programs  
Nair, Vasu, Ph.D., Associate Dean for Research  
Wolfgang, Alan, Ph.D., Assistant Dean for Student Affairs

### **PHARMACEUTICAL AND BIOMEDICAL SCIENCES**

Liu, Dexi, Ph.D., Professor, Department Head  
Bartlett, Michael, Ph.D., Professor  
Beach, J. Warren, Ph.D., Associate Professor  
Beedle, Aaron, Ph.D., Assistant Professor  
Bruckner, James, Ph.D., Professor  
Capomacchia, Anthony, Ph.D., Associate Professor  
Chu, Chung, Ph.D., Professor Emeritus  
Cummings, Brian, Ph.D., Associate Professor  
Elder, Deborah, Pharm.D., Clinical Assistant Professor  
Franklin, James, Ph.D., Associate Professor  
Govindarajan, Rajgopal, Ph.D., Assistant Professor  
Greenspan, Phillip, Ph.D., Associate Professor  
Hooks, Shelley, Ph.D., Associate Professor  
Kennedy, Eileen, Ph.D., Assistant Professor  
Long, Timothy, Ph.D., Assistant Professor  
Momany, Cory, Ph.D., Associate Professor  
Murph, Mandi, Ph.D., Assistant Professor  
Roberts, Arthur, Ph.D., Assistant Professor  
Thomson, J. Michael, Assistant Professor  
Weng, Han-rong, Ph.D., Assistant Professor  
White, Catherine, Ph.D., Associate Professor  
Zastre, Jason, Ph.D., Assistant Professor

## CLINICAL AND ADMINISTRATIVE PHARMACY

Phillips, Bradley, Pharm.D., Professor, Department Head  
Bourg, Catherine, Pharm.D., Clinical Assistant Professor  
Bradley, Amber, Pharm.D., Clinical Assistant Professor  
Branan, Trisha, Pharm.D., Clinical Assistant Professor  
Buck, Brian, Pharm.D., Clinical Associate Professor  
Cobb, Henry, III, Ph.D., Clinical Professor  
DeRemer, David, Pharm.D., Clinical Assistant Professor  
Duke, Kenneth, M.B.A., Clinical Assistant Professor  
El-Remessy, Azza, Ph.D., Assistant Professor  
Ergul, Adviye, M.D., Ph.D., Professor  
Fagan, Susan, Pharm.D., Professor, Associate Department Head  
Fleming, Virginia, Pharm.D., Clinical Assistant Professor  
Franc, Duska, Pharm.D., Ph.D., Associate Professor  
Herist, Keith, Pharm.D., Clinical Associate Professor  
Hess, David, M.D., Professor  
Hunter, Carolyn, Pharm.D., Clinical Assistant Professor  
Huston, Sally, Ph.D., Assistant Professor  
Kozak, Anna, M.S., Assistant Research Scientist  
Laio, Vivian, Pharm.D., Clinical Assistant Professor  
Langford, Alan, M.D., Clinical Professor  
Manasco, Kalen, Pharm.D., Clinical Associate Professor  
May, Dianne Williams, Pharm.D., Clinical Associate Professor  
May, J. Russell, Pharm.D., Clinical Professor  
Miller, Mindi, Pharm.D., Clinical Associate Professor  
Neville, Michael, Pharm.D., Clinical Associate Professor  
Norton, Merrill, Pharm.D., Clinical Associate Professor  
Perri, Matthew III, Ph.D., Professor  
Phan, Stephanie, Pharm.D., Clinical Assistant Professor  
Phillips, Beth, Pharm.D., Clinical Associate Professor  
Phillips, Marjorie, M.S., Professor  
Richards, Hal, Pharm.D., Clinical Assistant Professor  
Sarao, Suhkmani, Pharm.D., Clinical Assistant Professor  
Segar, Lakshman, Ph.D., Associate Professor  
Shenoy, Somanath, Ph.D., Assistant Professor  
Southwood, Robin, Pharm.D., Clinical Associate Professor  
Spruill, William, Pharm.D., Professor  
Tackett, Randall, Ph.D., Professor  
Terry, Alvin, Jr., Ph.D., Professor

## **OUTREACH AND NON-TRADITIONAL EDUCATION**

Brooks, Paul, Pharm.D., Ed.D., Assistant Dean  
Dykstra, Gary, Director, Biomedical Continuing Education & Strategic Planning  
Hodges, Johnna, Assistant Director, Regulatory Affairs Educational Programs  
McDuffie, Charles, Pharm.D., Public Service Associate  
Mullis, David, Director, Regulatory Affairs Educational Programs  
Sanford, Jeffrey, Senior Public Service Associate  
Taylor, Tom, Pharm.D., Associate Professor Emeritus  
von Waldner, Trina, Pharm.D., Director of Postgraduate Continuing Education

## **EXPERIENCE PROGRAMS**

Duke, Lori, Pharm.D., Assistant Dean  
Brooks, Kay, M.Ed., Public Service Assistant  
Hughes, Linda, Pharm.D., Public Service Assistant  
Krucic, Wesley, Pharm.D., Public Service Assistant  
McDuffie, Charles, Pharm.D., Public Service Associate  
McEwen, Deanna, Pharm.D., Public Service Assistant  
Miller, Mindi, Pharm.D., Clinical Associate Professor  
Sheffield, Melody, Pharm.D., Public Service Associate  
Unterwagner, Whitney, Pharm.D., Public Service Associate  
Welch, Lindsey, Pharm.D., Public Service Assistant

## DOCTOR OF PHARMACY CURRICULUM

### FIRST PROFESSIONAL YEAR

The first year curriculum introduces the student to “systems” on which the profession is based, e.g., organ systems, drug delivery systems, health care systems, computer systems, communications, and medical terminology. This provides the foundation on which the second, third, and fourth professional years are built.

#### Fall Semester

PHRM 3010	Introduction to Pharmacy	3
PHRM 3050	Biochemical Basis of Disease I	2
PHRM 3100	Pharmacy Skills Lab I	2
PHRM 3450	Anatomy, Physiology, and Pathophysiology I	5
PHRM 3800	Clinical Applications I	1
PHRM 3900	Pharmacy Intercommunications	2
PHRM 3940	Survey of Drug Information	<u>1</u>
		16

#### Spring Semester

PHRM 3060	Biochemical Basis of Disease II	2
PHRM 3110	Pharmacy Skills Lab II	2
PHRM 3200	Quantitative Methods in Pharmacy	2
PHRM 3460	Anatomy, Physiology, and Pathophysiology II	5
PHRM 3750	Pharmacy and the U.S. Health Care System	2
PHRM 3850	Clinical Applications II	1
PHRM 3950	Introductory Pharmacy Practice Experience I	<u>3</u>
		17

## SECOND PROFESSIONAL YEAR

In the second year, the curriculum focuses on drugs – their structure, function, mechanism of action, formulation, and clinical use in patients.

### Fall Semester

PHRM 4050	Principles of Medicinal Chemistry I	2
PHRM 4120	Pharmacy Skills Lab III/Early Experiences	2
PHRM 4180	Drug Therapy of Infectious Disease	3
PHRM 4200	Fundamentals of Pharmaceutics I	3
PHRM 4410	Pharmacology I	3
PHRM 4520	Introductory Pharmacy Practice Experience II	1
PHRM 4850	Disease Management I	<u>3</u>
		17

### Spring Semester

PHRM 4060	Principles of Medicinal Chemistry II	2
PHRM 4130	Pharmacy Skills Lab IV/Early Experiences	2
PHRM 4211	Pharmaceutics II: Biopharmaceutics and Pharmacokinetics	3
PHRM 4420	Pharmacology II	3
PHRM 4530	Introductory Pharmacy Practice Experience III	1
PHRM 4700	Statistical Approaches to Drug Literature Evaluation	2
PHRM 4860	Disease Management II	3
Elective		<u>2</u>
		18

### THIRD PROFESSIONAL YEAR

Third year courses utilize disease and drug information presented in the first and second years to make decisions for individual patients. The student will construct pharmacotherapy regimens and write plans to monitor drug therapy for efficacy and safety.

#### Fall Semester

PHRM 5140	Pharmacy Skills Lab V/Early Experiences	1
PHRM 5190	Anticancer Therapeutics	2
PHRM 5261	Clinical Pharmacokinetics	2
PHRM 5710	Introductory Pharmacy Practice Experience IV	1
PHRM 5750	Drug Interactions and Adverse Drug Reactions	2
PHRM 5860	Pharmacotherapy I	4
PHRM 5920	Clinical Seminar	1
Electives		<u>6</u>
		19

#### Spring Semester

PHRM 5650	Pharmacy Care Management	2
PHRM 5680	Pharmacy Law and Ethics	2
PHRM 5720	Introductory Pharmacy Practice Experience V	2
PHRM 5820	Self-Care and Nonprescription Drugs	3
PHRM 5870	Pharmacotherapy II	4
PHRM 5920	Clinical Seminar	1
PHRM 5950	Advanced Drug Information and Drug Policy Management	2
Electives		<u>2</u>
		18

## FOURTH PROFESSIONAL YEAR

The fourth year consists of full-time advanced pharmacy practice experiences in institutional, community, and other patient care settings.

### Summer Semester

PHRM 5901	Required Advanced Pharmacy Practice Experience I	5
PHRM 5902	Required Advanced Pharmacy Practice Experience II	5
PHRM 5930	Pharmacotherapy Care Plans and Professional Development	<u>1</u>
		11

### Fall Semester (Student completes 3 of 4 Fall clerkships)

PHRM 5903	Required Advanced Pharmacy Practice Experience III	5
PHRM 5904	Required Advanced Pharmacy Practice Experience IV	5
PHRM 5905	Required Advanced Pharmacy Practice Experience V	5
PHRM 5906	Required Advanced Pharmacy Practice Experience VI	5
PHRM 5930	Pharmacotherapy Care Plans and Professional Development	<u>1</u>
		16

### Spring Semester

PHRM 5907	Required Advanced Pharmacy Practice Experience VII	5
PHRM 5908	Required Advanced Pharmacy Practice Experience VIII	5
PHRM 5909	Required Advanced Pharmacy Practice Experience IX	5
PHRM 5930	Pharmacotherapy Care Plans and Professional Development	<u>1</u>
		16

## **COURSE DESCRIPTIONS**

### **PHARMACEUTICAL AND BIOMEDICAL SCIENCES**

Pharmaceutical and Biomedical Sciences encompasses the basic science components related to pharmacy and medicine. Specialized areas within Pharmaceutical and Biomedical Sciences include the molecular design and synthesis of pharmacologic agents, development of analytical methodology, determination of physical and chemical properties of drug molecules, assessment of pharmacologic and toxicologic activities of drugs and chemicals, design and formulation of drug delivery systems, and characterization of the pharmacokinetics and metabolism of drugs.

#### Required Professional Courses

**PHRM 3050, 3060. Biochemical Basis of Disease I, II.** 2 hours each.

Prerequisite for PHRM 3050: Permission of department.

Corequisite for PHRM 3050: PHRM 3450.

Prerequisite for PHRM 3060: PHRM 3050.

Corequisite for PHRM 3060: PHRM 3460.

PHRM 3050: Chemical factors affecting bioactivity of drugs, role of enzymes in biochemistry and disease, metabolism of biochemicals and drugs.

PHRM 3060: Lipids and prostaglandins; cholesterol and steroid hormones, biosynthesis of amino acids and nucleotides; nucleic acids, molecular genetics and biotechnology; immunology; targets for therapeutic intervention.

**PHRM 3200. Quantitative Methods in Pharmacy.** 2 hours.

Prerequisite: Permission of department.

Corequisite: PHRM 3110.

Mathematical principles and quantitative methods utilized in the contemporary practice of pharmacy. The calculations required in the quantitative development and assessment of prescriptions, dosage forms, drug delivery systems, and drug therapy modalities are integrated in a manner applicable to pharmacy practice.

**PHRM 3450, 3460. Human Physiology and Pathophysiology I, II.** 5 hours each.

Prerequisite for PHRM 3450: Permission of department.

Corequisite for PHRM 3450: PHRM 3050 and PHRM 3100.

Prerequisite for PHRM 3460: PHRM 3450.

Corequisite for PHRM 3460: PHRM 3060 and PHRM 3110.

PHRM 30450: Physiology and pathophysiology of the human body with emphasis on cellular function, the immune system, the nervous system, including the special senses. Diseases of each of these systems will be covered in detail.

PHRM 3460: Physiology and pathophysiology of the human body with emphasis on the endocrine, muscle, gastrointestinal, circulatory, renal, and respiratory systems. Major diseases of these systems will be discussed.

**PHRM 4050, 4060. Principles of Medicinal Chemistry I, II.** 2 hours each.

Prerequisite for PHRM 4050: PHRM 3060.

Corequisite for PHRM 4050: PHRM 4410 and PHRM 4850.

Prerequisite for PHRM 4060: PHRM 3060 and PHRM 4050.

Corequisite for PHRM 4060: PHRM 4420 and PHRM 4860.

PHRM 4050: Drugs acting on the peripheral nervous system and peripheral acting hormones and antihormones, including structure-activity relationships; mechanisms of action; storage and chemical stability reactions.

PHRM 4060: Central nervous system drugs, including their physio-chemical properties, structure-activity relationships and toxicities, side effects, and drug interactions.

**PHRM 4200. Fundamentals of Pharmaceutics I - Physical Pharmacy and Dosage Form Design.** 3 hours.

Prerequisite: PHRM 3200.

Corequisite: PHRM 4120.

Fundamentals of physical pharmacy and pharmaceutical dosage form design.

**PHRM 4211. Pharmaceutics II: Biopharmaceutics and Pharmacokinetics.** 3 hours.

Prerequisite: PHRM 4200.

Corequisite: PHRM 4130

Basic concepts associated with drug absorption, distribution, metabolism, excretion, and transport with an emphasis on compartmental modeling related to dosing of drugs. Specific disease states that alter drug disposition.

**PHRM 4410, 4420. Pharmacology I, II.** 3 hours each.

Prerequisite for PHRM 4410: PHRM 3060 and PHRM 3460.

Corequisite for PHRM 4410: PHRM 4050 and PHRM 4850.

Prerequisite for PHRM 4420: PHRM 4410.

Corequisite for PHRM 4420: PHRM 4060 and PHRM 4860.

PHRM 4410: Pharmacology of drugs which affect the autonomic nervous, cardiovascular, gastrointestinal, endocrine, and renal systems.

PHRM 4420: Pharmacology of anesthetics, analgesics, hypnotic agents, anticonvulsants, muscle relaxants, antiparkinsonism agents, antianxiety and anti-panic agents, antipsychotic agents, antidepressants, central stimulants and drugs of abuse.

#### Elective Courses

**PHRM 4600. Cancer: Carcinogenesis, Biology, Prevention.** 2 hours.

Prerequisite: Permission of department.

Steps in cancer development, initiation, promotion, progression, metastasis, modulators of tumor promotion and progression, diet and cancer, hormone receptors, suppressor genes, oncogenes, and immunosurveillance. Nutritional epidemiology and population studies, dietary guidelines and cancer prevention strategies. Treatment strategies, therapeutic side effects, and quality of life issues.

**PHRM 5040. Antiviral Chemotherapy.** 2 hours.

Prerequisite: PHRM 4180 or Permission of department.

An in-depth discussion of human viral disease and the management of these diseases.

**PHRM 5240-5240L. Advanced Compounding.** 2 hours

Prerequisite: PHRM 3100, PHRM 3110, PHRM 3200, PHRM 4120, PHRM 4130, PHRM 4200, and PHRM 4211.

Novel and traditional dosage forms and advanced principles of pharmaceuticals for dosage form preparation and administration.

**PHRM 5300. Applied Pharmaceutical Biotechnology.** 3 hours.

Prerequisite: PHRM 3060.

Developments in the field of biotechnology that are applicable to the pharmaceutical industry.

**PHRM 5350. Disaster Training for Health Care Professionals.** 3 hours.

Prerequisite: Permission of department.

Basic first aid and disaster relief training for future pharmacists, other health care professionals, and graduate students. First responders training and mock simulations for weapons of destruction events, including case studies, tabletop exercises, and mass casualty medical response.

**PHRM 5440. Nutraceuticals.** 2 hours.

Rationale for use of nutraceuticals in both prevention and treatment of human disease. Course emphasizes nutritional genomic targets for nutraceutical research and development. Students will study several functional medicine topics related to the use of nutraceuticals.

## **CLINICAL AND ADMINISTRATIVE PHARMACY**

The Department of Clinical and Administrative Pharmacy seeks to provide students with the knowledge and problem solving skills needed to deliver pharmaceutical care. Courses focus on the general areas of pharmacy administration and pharmacy practice. These areas provide the means for pharmacy professionals to integrate and apply prior course material to the identification and assessment of patient problems by collecting and utilizing patient information, developing solutions to patients' drug related problems, selecting and recommending therapies, and assessing outcomes. The economic, social, behavioral, and political aspects of developing and providing pharmacy care services are also explored. These areas of study prepare the student to address the complex socio-political and therapeutic challenges associated with ethical drug use.

### Required Professional Courses

**PHRM 3010. Introduction to Pharmacy.** 3 hours.

Prerequisite: Permission of department.

Corequisite: PHRM 3100.

Medical terminology, the United States health care system, drug development and distribution, and the pharmacist's role in the system. Discussion of professional organizations and ethics.

Overview of common diseases, their diagnoses and treatment, including the top 200 drugs.

Overview of basic dispensing skills. Substance abuse in the health care profession.

**PHRM 3750. Pharmacy and the United States Health Care System.** 2 hours.

Prerequisite: Permission of department.

The social, economic, and political forces that shape the environment in which health care currently is being delivered in America and how this affects the practice of pharmacy.

**PHRM 3800, 3850. Clinical Applications I, II.** 1 hour each.

Prerequisite for PHRM 3800: Permission of department.

Corequisite for PHRM 3800: PHRM 3050 and PHRM 3450.

Prerequisite for PHRM 3850: PHRM 3800

Corequisite for PHRM 3850: PHRM 3060 and PHRM 3460.

PHRM 3800 and PHRM 3850: Clinical applications of anatomy, physiology, pathophysiology, and biochemistry. Case presentations and various off-site experiential assignments to develop students' direct patient care skills.

**PHRM 3900. Pharmacy Intercommunications.** 2 hours.

Prerequisite: Permission of department.

The skills to effectively communicate with, teach, and counsel patients about their medications and health are taught. Effective communication strategies and skills are presented. Students are challenged to incorporate these skills into their own counseling and communication style.

Innovative technology is employed to promote interactive patient counseling.

**PHRM 3940. Survey of Drug Information.** 1 hour.

Prerequisite: Permission of department.

Corequisite: PHRM 3100.

Primary, secondary, and tertiary drug information resources, including standard reference texts, computer systems and journals. Emphasis will be placed on retrieval of information and communication of a response.

**PHRM 3950. Introductory Pharmacy Practice Experience I.** 3 hours.

Prerequisite: PHRM 3100.

Corequisite: PHRM 3110.

Development of pharmacy practice skills within the community pharmacy setting. Emphasis will be on prescription processing, communication skills, inventory management, third party insurance processing, student professional development, and time management.

**PHRM 4520. Introductory Pharmacy Practice Experience II.** 1 hour.

Prerequisite: PHRM 3950.

Corequisite: PHRM 4120.

Provision of population health and health outreach, focusing on how the public and patients utilize community health programs, health resources, and services.

**PHRM 4530. Introductory Pharmacy Practice Experience III.** 1 hour.

Prerequisite: PHRM 4520.

Corequisite: PHRM 4130.

Third in a five-course sequence of introductory practice experiences which focuses on provision of individualized health care (screening, physical assessment, wellness programs), exposure to medication administration and medication safety in institutional settings, competency in patient counseling, and participation in health-related service learning programs.

**PHRM 4700. Statistical Approaches to Drug Literature Evaluation.** 2 hours.

Prerequisite: PHRM 3940 and PHRM 4120.

Basic statistical methods and analysis used to critically evaluate drug literature are discussed. Topics include statistical inference and hypothesis testing, selection of appropriate statistical tests, correlation and regression analysis, and research design. Students will apply these topics while evaluating published clinical trials, outcome studies, and materials from pharmaceutical manufacturers.

**PHRM 4850, 4860. Disease Management I, II.** 3 hours each.

Prerequisite for PHRM 4850, 4860: PHRM 3060 and PHRM 3460.

Corequisite for PHRM 4850: PHRM 4050, PHRM 4120, and PHRM 4410.

Corequisite for PHRM 4860: PHRM 4060, PHRM 4130, and PHRM 4420.

PHRM 4850 and PHRM 4860: Drug and non-drug treatment of diseases that occur in various human organ systems. The effect of a disease on the patient, non-drug therapy, and drugs used are covered.

**PHRM 5261. Clinical Pharmacokinetics.** 2 hours.

Prerequisite: PHRM 4200 and PHRM 4211.

Application of pharmacokinetic principles to the dosing and therapeutic monitoring of drugs. Emphasis on pharmacokinetic changes in specific disease states and of specific drugs.

**PHRM 5650. Pharmacy Care Management.** 2 hours.

Prerequisite: Permission of department.

Presentation of management principles, organizational needs, accounting practices, entrepreneurial aspects, marketing needs, and associated topics for use in future pharmacy and health care system practice milieus. The analysis of management principles as they relate to community and health-systems management.

**PHRM 5680. Pharmacy Law and Ethics.** 2 hours.

Prerequisite: PHRM 3010 and Permission of department.

Laws and regulations that govern the practice of pharmacy, including those of patient care, professional conduct, business conduct, hospital practice, and the dispensing and provision of pharmaceuticals.

**PHRM 5710. Introductory Pharmacy Practice Experience IV.** 1 hour.

Prerequisite: PHRM 4530.

Corequisites: PHRM 5140 and PHRM 5860.

Fourth in a five-course sequence of introductory practice experiences which focuses on provision of individualized healthcare (optimization of pharmaceutical regimens, physical assessment, immunizations and wellness programs) and further developing patient and healthcare provider communication skills.

**PHRM 5720. Introductory Pharmacy Practice Experience V.** 2 hours.

Prerequisite: PHRM 5710.

Corequisite: PHRM 5870.

Fifth in a five-course sequence of introductory practice experiences which focuses on provision of individualized healthcare (optimization of pharmaceutical regimens, physical assessment, wellness programs) in both ambulatory and institutional/specialty practice arenas, exposure to postgraduate pharmacy training options, and participation in health-related service learning programs.

**PHRM 5750. Drug Interactions and Adverse Drug Reactions.** 2 hours.

Corequisite: PHRM 5860.

Most common drug interactions and adverse drug reactions with an emphasis on detection, prevention, and management.

**PHRM 5820. Self-Care and Nonprescription Medications.** 3 hours.

Prerequisite: PHRM 4860.

Development of skills for patient counseling on the use of nonprescription medications and products related to self-care. Emphasis on patient consultation, product recommendation, triage, and verbal communication skills; topics in self-care and health maintenance.

**PHRM 5860, 5870. Pharmacotherapy I, II.** 4 hours each.

Prerequisite for PHRM 5860: PHRM 4180, PHRM 4850, and PHRM 4860.

Corequisite for PHRM 5860: PHRM 5190 and PHRM 5140.

Prerequisite for PHRM 5870: PHRM 4180, PHRM 4850 and PHRM 4860.

PHRM 5860 and PHRM 5870: Pharmacotherapeutic principles and concepts applied to human disease states and conditions with emphasis on case-based problem solving.

**PHRM 5901-5909. Required Pharmacy Clerkship I-IX.** 5 hours each.

Prerequisite: PHRM 5650, PHRM 5680, PHRM 5720, PHRM 5820, PHRM 5870, PHRM 5920, and PHRM 5950.

Clinical practice in outpatient and inpatient settings with emphasis on pharmaceutical care.

These courses will meet for forty hours a week for five weeks (total of 200 contact hours) during the semester.

**PHRM 5920. Clinical Seminar.** 1 hour. Repeatable for maximum 4 hours credit.

Elements of an effective clinical presentation, including the use of slides, overheads, handouts, and other visual aids; methods of answering audience questions; steps to evaluate the presentation.

**PHRM 5930. Pharmacotherapy Care Plans and Professional Development.** 1 hour.

Repeatable for maximum 3 hours credit.

Prerequisite: PHRM 5261, PHRM 5650, PHRM 5680, PHRM 5820, PHRM 5870, PHRM 5920, and PHRM 5950.

Corequisite: PHRM 5901 or PHRM 5902 or PHRM 5903 or PHRM 5904 or PHRM 5905 or PHRM 5906 or PHRM 5907 or PHRM 5908 or PHRM 5909.

Capstone course (during last three semesters) for the advanced pharmacy experiences, including integration and utilization of student's knowledge of drug therapy and professional practice for patients with common disease states. Development of professional attitudes and behaviors through completion of professional development activities.

**PHRM 5950. Advanced Drug Information and Drug Policy Management.** 2 hours.

Prerequisite: PHRM 3940, PHRM 4700, and PHRM 5860.

Advanced concepts of drug information provision, including newsletter publication, ADR monitoring systems, drug usage evaluation, formulary management, and drug information retrieval and analysis.

## Elective Courses

### **PHRM 5010. Personal Financial Management.** 2 hours.

Prerequisite: PHRM 3750.

Effective management of the pharmacy graduate's personal finances. A life-cycle approach with special emphasis on actions needed during critical stages of the pharmacist's professional and personal life.

### **PHRM 5050. Abused Drugs.** 3 hours.

The history, abuse, misuse, effects, and detection of selected drugs. Guest lecturers are invited to present their views on these subjects.

### **PHRM 5060. Oncology Therapeutics.** 3 hours.

Prerequisite: Permission of department.

Cancer chemotherapeutic agents' use, toxicity, patient education, and treatment of the most prevalent oncologic problems.

### **PHRM 5080. Diabetes Disease Management.** 3 hours.

Prerequisite: Permission of department.

Provision of diabetes education/management services to patients.

### **PHRM 5100. Nuclear Pharmacy.** 2 hours.

Prerequisite: Permission of department.

Procedures and techniques involved in handling and use of radio isotopes in nuclear pharmacy practice.

### **PHRM 5180. Pharmacist's Role in Addiction Management.** 3 hours.

Prerequisite: Permission of department.

Topics in addiction pharmacy, including psychiatric medications, addiction treatment management medications, and pain management medications. In-depth discussions of pharmacotherapeutic approaches for the treatment of all psychiatric illnesses, acute and chronic pain syndromes, and behavioral/chemical dependencies.

### **PHRM 5230. ECG Interpretation.** 2 hours.

Prerequisite: PHRM 4420.

Principles of cardiac function and electrophysiology with a focus on systematic interpretation of cardiac rate and rhythm parameters for electro-cardiogram. The course will also review principles of advanced cardiac life support and provide an opportunity for ACLS provider certification.

### **PHRM 5250. Entrepreneurship for Pharmacists.** 3 hours.

Prerequisite: Permission of department.

Current management and strategic issues in operating an independent pharmacy.

### **PHRM 5310. Advanced Topics in Cardiology.** 2 hours.

Prerequisite: PHRM 4860

Use of drug therapy to treat patients with cardiovascular and cerebrovascular diseases. Emphasis on the pharmacotherapy used in treating diseases, treatment plans, patient counseling, and monitoring patient outcomes.

**PHRM 5370. Critical Care Pharmacy.** 1 hour.

Prerequisite: PHRM 4860

In-depth discussions of disease states most commonly encountered in critical care patients and the associated pharmacotherapeutic management of these conditions.

**PHRM 5410. Clinical Pharmacy Topics.** 1 hour.

Topics from Pharmacy Grand Rounds lectures, including specific areas in clinical pharmacy to more global issues in healthcare. Presenters include faculty, guest lecturers, and residents; students provide written analyses of each presentation.

**PHRM 5450. Parenterals.** 3 hours.

Preparation and therapeutic uses of parenteral medicinal agents use in institutional (hospital) practice and home health care settings.

**PHRM 5460. Forensic Pharmacy.** 2 hours.

Application of pharmacy to legal issues, including drug testing, analyzing adverse drug reactions for causation, evaluation of drug interactions, medication errors and drug effects as mitigating factors in criminal activity.

**PHRM 5500. Community-Based Pharmacy Outreach.** 3 hours.

Prerequisite: Permission of department.

A framework for implementing community-based programs in practice settings for health risk reduction. Emphasis will be placed on disease states and different target groups.

**PHRM 5520. Cancer Awareness and Prevention.** 3 hours.

Prerequisite: PHRM 4850.

Public health information on common cancers: breast, cervical, lung, prostate, testicular, leukemia/lymphoma, colon, and skin, focusing on information needed to identify high-risk patients and properly counsel patients on early warning signs and appropriate early diagnostic tests and procedures.

**PHRM 5530. Ethics in Health Care.** 2 hours.

A focus on the ethical issues and dilemmas facing health professionals in today's environment. Beliefs, human experimentation, professional responsibility, confidentiality, and conflicts of interest will be addressed to develop the critical thinking process important to the personal and professional resolution of ethical issues.

**PHRM 5540. Public Health and the Health Professions.** 2 hours.

Prerequisite: Permission of department.

Relationship between the public's health and the health professions, including the role of the health care professional in local, state, and national public health systems, the Healthy People 2010 program, interdisciplinary public health professional teams, and the health care professional's role in prevention programs.

**PHRM 5550. Cases in Neurology.** 2 hours.

Corequisite: PHRM 5860.

The use of drug therapy to treat patients with neurologic diseases, including the pharmacotherapy used in treating diseases, disorders or syndromes, and a review of the disorder, therapeutic goals, treatment plans, patient counseling and patient outcome monitoring.

**PHRM 5840. Physical Assessment.** 3 hours.

Prerequisite or corequisite: PHRM 4120

Basic principles and techniques of physical assessment for pharmacists.

**PHRM 5850. Introduction to Postgraduate Residency Training.** 2 hours.

Prerequisite or corequisite: PHRM 5860.

In-depth description of residency training to prepare students to seek and obtain a residency position upon graduation. Course format includes informal lecture, panel discussion, written assignments, and competencies.

## **INTERDEPARTMENTAL COURSES**

### Required Courses

**PHRM 3100, 3110. Pharmacy Skills Laboratory I, II.** 2 hours each.

Prerequisite for PHRM 3100 and PHRM 3110: Permission of department.

Corequisite for PHRM 3100: PHRM 3010 and PHRM 3450.

Corequisite for PHRM 3110: PHRM 3200 and PHRM 3460.

Development of skills and techniques necessary to render effective pharmaceutical care in a variety of settings, including prescription dispensing systems, medical charts, aseptic technique, human anatomy laboratory, and basics of physical assessment.

**PHRM 4120, 4130. Pharmacy Skills Laboratory III, IV.** 2 hours each.

Prerequisite for PHRM 4120: PHRM 3100 and PHRM 3110.

Corequisite for PHRM 4120: PHRM 4180, PHRM 4200, and PHRM 4850.

Corequisite for PHRM 4130: PHRM 4860.

Analysis, comprehension, and application of pharmaceutical product knowledge.

Offered every year.

**PHRM 4180. Drug Therapy of Infectious Disease.** 3 hours.

Prerequisite: PHRM 3060.

Corequisite: PHRM 4120.

Chemistry, spectrum of activity, place in therapy, stability, incompatibilities, and toxicities of antibacterials, antivirals, and antibiotics.

**PHRM 5140. Pharmacy Skills Laboratory V.** 1 hours.

Prerequisite: PHRM 4130.

Corequisite: PHRM 5860.

Creation and demonstration of individual dosage regimens designed by integrating patient presenting conditions and pharmacotherapeutic conditions.

**PHRM 5190. Anticancer Therapeutics.** 2 hours.

Prerequisite: PHRM 3060.

Etiology, prevention, and treatment of cancer in man. Emphasis is on the mechanism, toxicity, and side effects of anticancer agents of various antineoplastic agents.

## Elective Courses

**PHRM 5210. Special Topics in Pharmacy.** 1-3 hours. Repeatable for maximum 12 hours credit.

Prerequisite: Permission of department.

Specialized pharmaceutical systems, processes and techniques, including assignment of current literature and student presentations.

**PHRM 5480. Issues in Health Care Policy.** 2 hours.

Prerequisite: PHRM 3750.

Key issues shaping health care policy and reform efforts in the United States. Course format focuses on active student participation through discussions, small group activities, and writing assignments.

**PHRM 5980. Undergraduate Research Problem.** 1-3 hours. Repeatable for maximum 12 hours credit.

Prerequisite: Permission of department.

An introduction to research methods. A problem will be assigned and the student will perform library and laboratory work and write up results.

## **PRACTICE EXPERIENCE**

The experience programs are designed to develop professional practice skills in a variety of patient care settings. They are divided into two components: introductory and advanced pharmacy practice experiences.

Introductory practice experiences are incorporated into existing courses offered during the first three years of pharmacy education. These experiences are designed to provide students with a better understanding of how pharmacy relates not only to patients but also to other health care disciplines. In the Spring semester of the first year, students will be assigned to complete a 3 week community practice experience. Efforts will be made to place students at an approved site within a 30 mile radius of their Georgia hometown. However, this is subject to availability. During years two and three, students will have various community, institutional, and service-learning based introductory practice experiences which will include limited summer activities (each up to 1 week in duration) within the state of Georgia.

Advanced pharmacy practice experiences comprise the final three semesters of the Doctor of Pharmacy program. A number of students will be assigned to complete their final two years of the program at either the Augusta or Albany region. The process used for assignments will be handled through the Dean's Office. Classes will be held at the respective satellite campuses, and clinical experiences will be arranged within the assigned geographic region. For all other students, a matching system is used during the third year to assign students to available fourth year advanced pharmacy practice areas within Georgia. Space within these areas is limited and quotas will be set each year based upon available sites and class size. Students will be assigned to one area for the entire fourth year. In order to be fair to all, the matching process relies on random selection. We will only consider special circumstances when required by law or Board of Regents/University of Georgia policies. Within the fourth year, students receive extensive

training in various inpatient and outpatient settings. The majority of these experiences occur in teaching hospitals, community hospitals, community pharmacies, home health settings, nursing homes, public health agencies, managed care companies, and the pharmaceutical industry. Students learn to design, implement, monitor, evaluate, and modify patient pharmacotherapeutic plans based upon scientific principles to ensure effective, safe, and economical patient care.

In order to be eligible to participate in the experience program activities, students must submit proof of the following: immunizations (MMR, TDap, tetanus, immunity for hepatitis B, varicella zoster immunization or immunity), ppd testing, a valid intern license, physical exam, and AHA Healthcare Provider CPR certification. Proof of annual influenza vaccination will also be required during the fall of each year. Students will also be required to purchase professional liability insurance through the College of Pharmacy and must participate in the mandatory student health insurance program. Some practice sites require students to obtain/undergo a criminal background check or drug screening prior to beginning an experience. Students not meeting the requirements of the background check and/or drug screen can be prohibited from completing an experience at that site which could subsequently lead to a delay in student progression.

Students should be aware that these requirements are subject to change as alterations occur in the affiliation agreements with participating practice sites.

Possible advanced practice experiences in the fourth year include:

Ambulatory Care	Industry
Automation	Infectious Disease
Cardiology	Internal Medicine
Community Pharmacy Practice	Managed Care
Compounding	Neurology
Consultant Pharmacy	Nuclear Pharmacy/Radiology
Critical Care/Operating Room	Nutrition Support
Drug Information/Medication Utilization Evaluation	Obstetrics/Women's Health
Emergency Medicine	Oncology
Family Medicine	Pediatrics/Neonatology
Gastroenterology	Pharmacokinetics
Geriatrics	Pharmacy Administration
Home Health Care	Psychiatry
Hospital Pharmacy Practice	Public Health
	Research

### **PHARMACY INTERNSHIP**

In order to become licensed to practice pharmacy in the state of Georgia, 1500 hours of internship must be earned as a pharmacy intern under the immediate supervision of a pharmacist. Credit for internship may be received only after a student has been licensed by the Georgia State Board of Pharmacy as a pharmacy intern. Application for a pharmacy intern license can only be made once a student has enrolled in a college of pharmacy. Students are encouraged to satisfy

internship requirements during the summers. A total of 1000 hours of internship credit will be awarded for work performed while registered for academic credit in the Doctor of Pharmacy clerkships. An intern license is required for participation in all patient care experiences.

All pharmacy interns must contact the Professional Licensing Boards Division, 237 Coliseum Drive, Macon, Georgia 31217-3858 (Phone: (478) 207-2440) in order to receive a license. Applications are submitted online at the Board of Pharmacy website ([sos.georgia.gov/plb/pharmacy](http://sos.georgia.gov/plb/pharmacy)). The pharmacist supervising the intern also must notify the Joint Secretary that the intern is under his/her supervision.

## **PHARMACY SCHOLARSHIPS**

Each year, the College of Pharmacy awards a number of scholarships to Doctor of Pharmacy students. Scholarships available in 2012-2013 include:

Alpha Iota Alumni Chapter of Phi Delta Chi – Brian Eastmead Memorial Scholarship  
Alumni Scholarship  
Howard C. Ansel Scholarship  
Sandra and Ralph Balchin Scholarship  
BeneScript Scholarship  
Pamela Beth Goldman Block Memorial Scholarship  
Broadrick Family Endowed Student Scholarship  
Chapman Family Endowed Scholarship  
David and Jane Chu Scholarship  
College of Pharmacy Faculty Scholarship  
CVS Scholarship  
Ferrell “Al” Dixon, Jr. Endowed Student Scholarship  
Ashley and Jill R. Dukes Scholarship  
George W. Elrod Scholarship for Student Assistance  
Mike Ellington Memorial Scholarship  
Heidi Flye Kroger Memorial Scholarship  
Jim Furman Student Scholarship  
Georgia Pharmacy Association Regina Baird Memorial Fellowship  
Georgia Pharmacy Association Carlton Henderson Memorial Fellowship  
Georgia Pharmacy Foundation Neil L. Pruitt, Sr. Scholarship  
Georgia Society of Health-System Pharmacists Scholarship  
I.Z. Harris Scholarship  
Harvey’s Endowed Student Scholarship  
Herbert W. Hatton Scholarship  
Charles R. Herrin, Jr. Memorial Scholarship  
Leslie and Rondell Jagers Student Scholarship  
Dione Mavis Johnston Scholarship of Excellence  
Albert W. Jowdy Scholarship  
Jun Family Achievement Scholarship  
Kaiser Permanente Scholarship  
Kmart Scholarship  
Kroger Scholarship

Lake Family Scholarship  
Robert E. Long Kroger Scholarship  
Reagan Roland Lykins Memorial Scholarship  
Alhaja Sekinat Mumuney Memorial Scholarship  
National Association of Chain Drug Stores Foundation Pharmacy Partners Scholarship  
Oh Family Scholarship  
Wayne C. Olsen Memorial Scholarship  
Amy A. Panter Memorial Scholarship  
Pharmacists Mutual Companies Scholarship  
Publix Scholarship  
Randolph-Mercer Memorial Scholarship  
Leo E. Reese Scholarship  
Rite Aid Scholarship  
John Avery Smith Distinguished Scholarship  
J.M. Smith Foundation Scholarship  
Student Development Scholarship for Residency Training  
Target Pharmacy Scholarship  
R.A. Thompson Alumni Memorial Scholarship  
Walgreens Diversity Scholarship  
Wal-Mart Scholarship  
Lee Webb Memorial Scholarship  
M.W. Williamson Scholarship  
R.C. Wilson Pharmaceutical Association Scholarship  
Alan and Carla Wolfgang Endowed Student Scholarship

## **STUDENT ORGANIZATIONS**

### **ACADEMY OF MANAGED CARE PHARMACY**

The Academy of Managed Care Pharmacy (AMCP) is a professional association of pharmacists and associates who serve patients and the public through the promotion of wellness and rational drug therapy by the application of managed care principles. AMCP empowers their members to develop leadership, clinical, and business skills through varied opportunities at the local, regional, and national level.

### **ACADEMY OF STUDENT PHARMACISTS**

The Academy of Student Pharmacists (ASP) is the UGA subdivision of the national Academy of Student Pharmacists, which is the national professional society of pharmacy students in the United States and an official subdivision of the American Pharmacists Association (APhA). ASP is the professional organization in which you have a voice that can be heard from local chapter meetings to state, regional, and national meetings.

### **AMERICAN SOCIETY OF CONSULTANT PHARMACISTS**

The American Society of Consultant Pharmacists (ASCP) at UGA is a professional association that provides leadership, education, advocacy, and resources to advance the practice of consultant and senior care pharmacy. The mission of ASCP is to empower student pharmacists to enhance quality of care for all older persons through the appropriate use of medication and the promotion of health aging.

### **CHRISTIAN PHARMACISTS FELLOWSHIP INTERNATIONAL**

The Christian Pharmacists Fellowship International (CPFI) is an interdenominational ministry of individuals working in all areas of pharmaceutical service and practice. The mission of CPFI is to bring about spiritual growth and the advancement of knowledge and ethics in the service and practice of pharmacy by providing the resources, tools, and expertise necessary to challenge, encourage, and promote the integration of Christian principles and standards within that practice.

### **COLLEGE OF PHARMACY ASSOCIATION OF NON-TRADITIONAL STUDENTS**

Many students at the College of Pharmacy are returning to school after having spent several years in the workforce, or have relationship or family obligations not seen in the typical undergraduate student. The College of Pharmacy Association of Non-Traditional Students (COPANTS) exists to provide social camaraderie and a chance at unique community service opportunities tailored to the needs of the non-traditional student.

### **DEAN'S STUDENT ADVISORY COUNCIL**

The Dean's Student Advisory Council (DSAC) serves as a resource for the Dean pertaining to the enhancement of the College of Pharmacy, its programs, and the profession of pharmacy. The president and vice president (or equivalent) of each of the student organizations in the College and two members from each professional year make up the membership of the DSAC.

### **GEORGIA SOCIETY OF HEALTH-SYSTEM PHARMACISTS**

The UGA student chapter of the Georgia Society of Health-System Pharmacists (GSHP) serves as a forum to provide students with information on careers in hospital pharmacy and other organized health care delivery systems. Speakers from area hospitals discuss subjects related to institutional pharmaceutical care and offer insight into specific areas of hospital pharmacy practice.

### **KAPPA PSI**

Kappa Psi is a national pharmaceutical fraternity which had its beginning in 1879. Since that time, the brothers of Kappa Psi have formed a total of over 75 collegiate chapters and over 40 graduate chapters. At UGA, the Gamma Phi chapter was chartered in 1951 and became the forty-fourth collegiate chapter nationally.

### **LAMBDA KAPPA SIGMA**

Lambda Kappa Sigma (LKS) is a progressive and growing international professional fraternity for pharmacy women. It is a vital and significant force among pharmacy women and has the distinction of being the oldest and largest pharmaceutical fraternity for women in the world. The Alpha Kappa chapter at UGA was established in 1958.

### **NATIONAL COMMUNITY PHARMACISTS ASSOCIATION**

The National Community Pharmacists Association (NCPA) is a national group which represents the interests of independent pharmacy. It is the goal of our student chapter to educate the student body on the opportunities that independent pharmacy provides and enable them through networking and other activities to be able to take advantage of the opportunities available.

### **PHI DELTA CHI**

Phi Delta Chi is a coed professional fraternity of pharmacy whose goals are to advance our chosen profession and to foster a feeling of brotherhood. Founded in 1883 at the University of Michigan, Phi Delta Chi was the first Greek letter organization established for members of pharmacy only. The UGA chapter, Alpha Iota, was founded in 1937.

### **PHI LAMBDA SIGMA**

Phi Lambda Sigma, the Pharmacy Leadership Society, was founded in 1965 at Auburn University. The society is presently the only organization of its kind in existence. The Delta chapter of Phi Lambda Sigma was organized at UGA in 1974.

### **RHO CHI SOCIETY**

The Rho Chi Society is the national pharmacy honor society that recognizes academic excellence of pharmacy students. Students must have completed at least four semesters in pharmacy and have a grade point average in the top 20% of their class. The Alpha Kappa chapter was founded at UGA in 1948.

### **STUDENT NATIONAL PHARMACEUTICAL ASSOCIATION**

The Student National Pharmaceutical Association (SNPhA) is an educational and service organization dedicated to the pharmacy profession, professional development, and the full participation of a diverse student body in pharmacy and other health-related professions.

### **STUDENT SOCIETY OF PEDIATRIC ADVOCATES**

The mission of Student Society of Pediatric Advocates (SSPA) is to bring awareness to the proper use of medication therapy in pediatric populations through various service and education-based initiatives. Overall, SSPA advocates for the safety and happiness of young patients while learning and having fun along the way.

## APPLICATION TIMELINE

**June** – PharmCAS application available (see [www.pharmacas.org](http://www.pharmacas.org)).

**July** – College of Pharmacy application available (see [www.rx.uga.edu](http://www.rx.uga.edu)). Summer administration of the PCAT (see [www.PCATweb.info](http://www.PCATweb.info) for application and exam dates, times, and locations).

**Fall** – Submit online applications and send related materials (e.g., transcripts, letters of recommendation) to PharmCAS; completed files will be considered for early interview dates. Fall PCAT administered in September.

**January** – Winter PCAT administered.

**January 7** – Deadline for both the PharmCAS and College of Pharmacy applications; all materials for which the student is responsible must have been received by PharmCAS.

For more information, contact the Office of Student Affairs, College of Pharmacy, (706) 542-5278.

## CONTACT INFORMATION

### COLLEGE OF PHARMACY ADMISSIONS:

Office of Student Affairs  
College of Pharmacy  
The University of Georgia  
Green Street  
Athens, GA 30602  
(706) 542-5278  
Website: [www.rx.uga.edu](http://www.rx.uga.edu)

### UNDERGRADUATE ADMISSIONS:

Office of Undergraduate Admissions  
The University of Georgia  
Terrell Hall  
Athens, GA 30602  
(706) 542-8776  
Website: [www.admissions.uga.edu](http://www.admissions.uga.edu)

### UNIVERSITY HOUSING:

Department of University Housing  
The University of Georgia  
Russell Hall  
Athens, GA 30602  
(706) 542-1421  
Website: [www.uga.edu/housing](http://www.uga.edu/housing)

### FAMILY AND GRADUATE HOUSING:

Family and Graduate Housing Office  
The University of Georgia  
710 East Campus Road  
Athens, GA 30602  
(706) 542-1743  
Website: [www.uga.edu/housing](http://www.uga.edu/housing)

### STUDENT ACCOUNT PAYMENTS:

Bursar's Office  
The University of Georgia  
424 E. Broad St.  
Athens, GA 30602  
(706) 542-1625  
Website: [www.bursar.uga.edu](http://www.bursar.uga.edu)

### SCHOLARSHIPS AND LOANS:

Office of Student Financial Aid  
The University of Georgia  
Holmes/Hunter Academic Building  
Athens, GA 30602  
(706) 542-6147  
Website: [www.uga.edu/osfa](http://www.uga.edu/osfa)