

# College of Pharmacy



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# College of Pharmacy



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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. Students enrolled at the University agree to comply with the University's rules and regulations and to accommodate to any changes necessary. 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.



# Academic Calendar 1988-1990

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**1988****FALL QUARTER**

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Residence Halls Open	Sept. 12, M
Orientation	Sept. 13, Tu
Late Registration (Graduate Students Only)	Sept. 14, W (1:00-5:00 p.m.)
Late Registration (All Students)	Sept. 15-16, Th-F
Classes Begin	Sept. 19, M
Drop/Add	Sept. 19-21, M-W
Midpoint of Quarter	Oct. 21, F
Thanksgiving Recess	Nov. 19-27, Sa-Su
Classes Resume	Nov. 28, M
Last Day of Classes	Dec. 2, F
Reading Days	Dec. 3-4, Sa-Su
Final Exams	Dec. 5-8, M-Th

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**1989****WINTER QUARTER**

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Residence Halls Open	Jan. 2, M
Orientation	Jan. 3, Tu
Late Registration (Graduate Students Only)	Jan. 3, Tu (1:00-5:00 p.m.)
Late Registration (All Students)	Jan. 4, W
Classes Begin	Jan. 5, Th
Drop/Add	Jan. 5, 6, 9, Th, F, M
Holiday (No Classes)	Jan. 16, M
Midpoint of Quarter	Feb. 9, Th
Last Day of Classes	Mar. 16, Th
Final Exams	Mar. 17, 20-22, F, M-W

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**1989****SPRING QUARTER**

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Residence Halls Open	Mar. 29, W
Orientation	Mar. 30, Th
Late Registration (Graduate Students Only)	Mar. 30, Th (1:00-5:00 p.m.)
Late Registration (All Students)	Mar. 31, F
Classes Begin	Apr. 3, M
Drop/Add	Apr. 3-5, M-W
Midpoint of Quarter	May 5, F
Last Day of Classes	June 9, F
Reading Days	June 10-11, Sa-Su
Final Exams	June 12-15, M-Th
Commencement	June 17, Sa

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**1989****FALL QUARTER**

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Residence Halls Open	Sept. 11, M
Orientation	Sept. 12, Tu
Late Registration (Graduate Students Only)	Sept. 13, W (1:00-5:00 p.m.)
Late Registration (All Students)	Sept. 14-15, Th, F
Classes Begin	Sept. 18, M
Drop/Add	Sept. 18-20, M-W
Midpoint of Quarter	Oct. 20, F
Thanksgiving Recess	Nov. 18-26, Sa-Su
Classes Resume	Nov. 27, M
Classes End	Dec. 1, F
Reading Days	Dec. 2-3, Sa-Su
Final Exams	Dec. 4-7, M-Th

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**1990****WINTER QUARTER**

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Residence Halls Open	Jan. 2, Tu
Orientation	Jan. 3, W
Late Registration (Graduate Students Only)	Jan. 3, W (1:00-5:00 p.m.)
Late Registration (All Students)	Jan. 4, Th
Classes Begin	Jan. 5, F
Drop/Add	Jan. 5, 8, 9, F, M, Tu
Holiday (No Classes)	Jan. 15, M
Midpoint of Quarter	Feb. 9, F
Classes End	Mar. 16, F
Reading Days	Mar. 17-18, Sa-Su
Final Exams	Mar. 19-22, M-Th

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**1990****SPRING QUARTER**

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Residence Halls Open	Mar. 28, W
Orientation	Mar. 29, Th
Late Registration (Graduate Students Only)	Mar. 29, Th (1:00-5:00 p.m.)
Late Registration (All Students)	Mar. 30, F
Classes Begin	Apr. 2, M
Drop/Add	Apr. 2-4, M-W
Midpoint of Quarter	May 4, F
Classes End	June 8, F
Reading Days	June 9-10, Sa-Su
Final Exams	June 11-14 M-Th
Commencement	June 16, Sa

This Calendar is correct as of the date of this publication, but may be subject to change during the next year. Please refer to the *Schedule of Classes* and/or other special announcements that may be forthcoming. Calendars for the Summer Quarters are available in the Office of the Dean.

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# The University System of Georgia

The University System of Georgia includes 34 state-sponsored, public institutions located throughout Georgia—4 universities, 15 senior colleges and 15 junior colleges.

A 15-member constitutional Board of Regents—one from each of the state's 10 Congressional Districts and five from the state-at-large—governs the University System which was established in 1932. Board members are appointed by the Governor, subject to state senate confirmation, for seven year terms.

The Chairperson, the Vice Chairperson, and other officers of the Board are elected by its membership. The Chancellor, who is not a Board member, is the chief executive officer of the Board and chief administrative officer of the University System.

The overall programs and services of the University System are offered through three major components: Instruction; Public Service/Continuing Education; Research.

INSTRUCTION includes programs of study leading to degrees, ranging from the associate (2-year) to the doctoral level, and certificates.

Requirements for admission to instructional programs are set by institutions, pursuant to policies of the Board of Regents which sets minimum academic standards and leaves each institution the prerogative of establishing higher standards. Application for admission should be made directly to institutions.

A Core Curriculum, defining freshman and sophomore courses for students who seek degrees beyond the associate level, is in effect for all University System institutions. This 90-hour Curriculum includes 60 in general education—humanities, mathematics, natural and social sciences—and 30 in the student's chosen major area. It facilitates transfer of freshman and sophomore credits within the University System.

PUBLIC SERVICE/CONTINUING EDUCATION includes non-degree programs, special college-degree-credit courses, and institutional outreach programs.

Non-degree activities would include short courses, conferences, seminars, lectures and consultative services in many interest areas. These activities, usually of short duration, are designed to meet special educational, informational and cultural needs of people served by

institutions. All institutions conduct some non-degree public service/continuing education. College-degree-credit courses are typically offered through extension center programs and teacher education consortiums.

RESEARCH encompasses investigations conducted for the discovery and application of knowledge. These investigations include clearly defined projects in some cases and non-programmatic activities in other cases. Research is conducted on campuses and at other locations and projects related to a large variety of educational objectives and societal needs. Most research is conducted by the 4 universities though some senior colleges also have research efforts underway.

Board of Regents' policies for government, management and control of the University System and the Chancellor's administrative actions







provide institutions a high degree of autonomy. The President is the executive head of each institution and is recommended by the Chancellor and appointed by the Board.

The University System Advisory Council, with 34 committees, engenders continual dialogue on major academic and administrative matters and makes recommendations to the Chancellor, who transmits them to the Board as appropriate, regarding academic and administrative operations in the System. The Council consists of the Chancellor, the Vice Chancellor, and all Presidents as voting members. It includes other officials of institutions as nonvoting members. The Council's

21 academic and 13 administrative committees are composed of institutional representatives, typically one from each unit, and deal with matters of System-wide application.

Matriculation fees and nonresident tuition fees for students at all institutions are established by the Board of Regents. All students pay matriculation fees while out-of-state students pay nonresident tuition in addition. Other fees for student services and activities are established by institutions, subject to Board of Regents' approval. Non-mandatory fees established by institutions are subject to approval of the Board of Regents office.



# The College of Pharmacy

## OFFICERS OF ADMINISTRATION

Ansel, Howard Carl, Ph.D., *Professor and Dean*  
Entrekin, Durward Neal, Ph.D., *Professor and Associate Dean*  
Hawkins, David Warner, Pharm.D., *Associate Professor and Assistant Dean*  
Tackett, Randall Lynn, Ph.D., *Associate Professor and Coordinator of Graduate Studies and Research*  
Wickliffe, Billie Winell, Ph.D., *Assistant Professor and Assistant to the Dean*  
Duke, Kenneth Martin, M.B.A., *Clinical Pharmacy Associate and Assistant to the Dean*  
Hammond, Alfred Gene, B.B.A., *Assistant to the Dean*  
Waters, Kenneth Lee, Ph.D., *Professor Emeritus and Dean Emeritus*

## THE FACULTY

### Department of Pharmaceutics

Cadwallader, Donald Elton, Ph.D., *Professor and Head*  
Boudinot, Frank Douglas, Ph.D., *Assistant Professor*  
Capomacchia, Anthony Cesare, Ph.D., *Associate Professor*  
Gallo, James Michael, Ph.D., *Assistant Professor*  
Jun, Hung Won, Ph.D., *Professor*  
Price, James Clarence, Ph.D., *Associate Professor*  
Whitworth, Clyde Weydell, Ph.D., *Professor*  
Wickliffe, Billie Winell, Ph.D., *Assistant Professor*

### Department of Pharmacy Practice

#### Athens Unit:

Cooper, James Weaver, Jr., Ph.D., *Professor and Head*  
Cobb, Henry Herbert III, M.S., *Clinical Pharmacy Associate*  
Dickerson, Joe Bill, B.S., *Clinical Pharmacy Associate*  
Duke, Kenneth Martin, M.B.A., *Clinical Pharmacy Associate*  
Fechtel, Edward John, Jr., M.B.A., *Lecturer (Part-time)*  
Gallo, Darla Annette B.S., *Clinical Pharmacy Associate (Part-time)*

Hartley, Martha Cato, B.S., *Clinical Pharmacy Associate (Part-time)*  
Kemp, Douglas Tucker, Pharm.D., *Adjunct Clinical Pharmacy Associate*  
McCall, Charles Yates, Pharm.D., *Associate Professor*  
McCombs, Janet, Pharm.D., *Clinical Pharmacy Associate*  
McKeller, Billie Ray, B.S., *Instructor (Part-time)*  
Meunier, James Frank, B.S., *Clinical Pharmacy Associate (Part-time)*  
Morton, Mark Ronald, Pharm. D., *Assistant Professor*  
Parish, Roy Clayton, Jr., Pharm. D., *Assistant Professor*  
Parks-Veal, Phyllis Marcus, Pharm.D., *Adjunct Clinical Pharmacy Associate*  
Spruill, William Jerry, Pharm.D., *Associate Professor*  
Thomas, Patricia Cole, B.S., *Clinical Pharmacy Associate*  
Wade, William Elton, Pharm. D., *Assistant Professor*  
Waite, Wynn Weston, Pharm.D., *Assistant Professor*  
Warren, Flynn Wilford, M.S., *Clinical Pharmacy Associate*

#### Augusta Unit:

DiPiro, Joseph Thomas, Pharm.D., *Associate Professor*  
Johnson, Mary Wallace, B.S., *Adjunct Lecturer*  
Longe, Robert Leon, Pharm.D., *Associate Professor*  
May, Jere Russell, Pharm.D., *Adjunct Associate Professor*  
Taylor, Andrew Thomas, Pharm.D., *Associate Professor*

### Department of Pharmacology and Toxicology

Wade, Adelbert Elton, Ph.D., *Professor and Head*  
Bruckner, James Victor, Ph.D., *Associate Professor*  
Bunce, Opal Rebecca, Ph.D., *Associate Professor*  
Dallas, Cham Edwards, Ph.D., *Assistant Research Toxicologist*  
Hartle, Diane Kathleen, Ph.D., *Assistant Research Pharmacologist*



Iturrion, William Ben, Ph.D., *Associate Professor*  
 Johnson, Henry Douglas, Ph.D., *Professor*  
 Mokler, Corwin Morris, Ph.D., *Associate Professor*  
 Norred, William Preston, Ph.D., *Adjunct Associate Professor*  
 Reigle, Thomas George, Ph.D., *Associate Professor*  
 Riley, Ronald Thomas, Ph.D., *Adjunct Assistant Professor*  
 Schnellman, Ricky Gene, Ph.D., *Adjunct Assistant Professor*  
 Tackett, Randall Lynn, Ph.D., *Associate Professor*

**Department of Medicinal Chemistry and Pharmacognosy**

Stewart, James Thomas, Ph.D., *Professor and Head*  
 Blanton, Charles DeWitt, Jr., Ph.D., *Professor*  
 Chu, Chung Kwang, Ph.D., *Associate Professor*  
 Gibson, Coy Avery, Ph.D., *Assistant Professor*  
 Honigberg, Irwin Leon, Ph.D., *Professor*  
 LaRocca, Joseph Paul, Ph.D., *Professor Emeritus and Department Head Emeritus*  
 Millikan, Francis Ford, M.S., *Professor Emeritus*  
 Ruenitz, Peter Carmichael, Ph.D., *Associate Professor*

Taylor, Ethan Will, Ph.D., *Assistant Professor*  
 Thompson, Bobby Blackburn, Ph.D., *Associate Professor*

**Department of Pharmacy Care Administration**

Kotzan, Jeffrey Anthony, Ph.D., *Professor and Head*  
 Braucher, Charles Landis, Ph.D., *Professor*  
 Carroll, Norman Vernon, Ph.D., *Associate Professor*  
 Dobbs, Willis Frank, M.B.A., *Associate Professor Emeritus*  
 Jowdy, Albert Willoughby, Ph.D., *Professor Emeritus and Department Head Emeritus*  
 Perri, Matthew III, Ph.D., *Assistant Professor*  
 Wolfgang, Alan Paul, Ph.D., *Assistant Professor*

**Pharmaceutical Services**

Gammill, Charles Goodrich, M.S., *Public Service Representative*  
 Ozburn, William Michael, Ed.D., *Public Service Associate*

**Learning Services**

Perey, Sheryl Louise, B.A., *Learning Services Coordinator*

# General Information

## 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 at Athens. At the same time, Dr. S. C. Benedict was appointed to the chair of Materia Medica in the School. Space was allocated in Terrell Hall for the School and six students enrolled for the 1904-1905 year. The educational objective of those six registrants was to matriculate for two years and receive a Ph.G. degree.

In January 1907, due to an illness of Dr. Benedict, Mr. Robert C. Wilson was elected Instructor in Pharmacy to relieve Dr. Benedict of many of the classroom activities. Dr. Benedict remained as dean until 1914, when Professor Wilson was placed in charge of the Department of Pharmacy as director.

Dean Wilson's continuous struggle to improve pharmacy in Georgia led to development of the first four-year required pharmacy degree 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 which has been maintained continuously since that time.

Upon Dean Wilson's retirement in 1948, Dr. Kenneth L. Waters was named dean of the School of Pharmacy. Under Dean Waters' 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.

Upon Dean Waters' retirement in 1977, Dr. Howard C. Ansel was named Dean. As a result of the broadening of the scope of its programs, the School title was changed to College of Pharmacy in 1983.

## PURPOSE

The purpose of The University of Georgia College of Pharmacy is to provide for the comprehensive academic needs of the profession of pharmacy. Manpower needs of the profession are supplied through the College's professional baccalaureate and doctor of pharmacy education programs, which prepare students for the practice of pharmacy, and through its graduate

program, which prepares individuals for professional specialization and for a career in teaching and research. The postgraduate educational needs of the profession are met by the College's continuing education and service programs. Faculty research supports all of these programs and contributes to the advancement of the body of pharmaceutical knowledge.

## FACILITIES

The College of Pharmacy is housed in facilities completed and occupied in the spring of 1964. Two basic concepts were incorporated into the design of the new building: 1) that it should be a functional facility conducive to learning, and 2) that as many laboratory and research areas as possible should be on display. The first was considered basic to any educational building; the second was intended to stimulate interest in







pharmacy among non-pharmacy students and interest in graduate work among professional baccalaureate students.

The three floors and penthouse of the building contain a total of 96,000 square feet of space.

## PROGRAMS OF STUDY

The Bachelor of Science in Pharmacy degree is awarded to students who successfully complete the five-year study of prescribed courses. The first two years (pre-pharmacy) may be completed at any accredited institution of higher education. The last three years (professional) must be in residence at the College of Pharmacy. Nine quarters of residence in the professional baccalaureate program are required by the American Council on Pharmaceutical Education.

Students who begin their professional study in the fall term will have the <sup>option of</sup> ~~option of~~ "tracking" to a Doctor of Pharmacy <sup>degree.</sup> ~~degree.~~ During the second professional year a <sup>decision</sup> ~~decision~~ will be made regarding this choice. The Pharm.D. tracking program is thirteen professional quarters in length and a portion of the program may be

taught at The Medical College of Georgia in Augusta.

A postbaccalaureate Doctor of Pharmacy degree, which is six quarters in length, is available. All professional programs are accredited by the American Council on Pharmaceutical Education.

The University of Georgia Graduate School offers the Master of Science degree and Doctor of Philosophy degree in various specialty areas of the College of Pharmacy.

## ADMISSION TO PROFESSIONAL PROGRAMS

To be admitted to a professional program in the College of Pharmacy, a student must complete pre-pharmacy requirements. At The University of Georgia, the pre-pharmacy program is administered through the College of Arts and Sciences. The two years of pre-pharmacy education require satisfactory completion of not less than 90 quarter hours of academic work counting toward the pharmacy degree. In addition, students must meet the general requirements for physical education.

## PRE-PHARMACY CURRICULUM\*

AREA 1 - HUMANITIES/ FINE ARTS	Quarter Hours
ENG 101, 102	10
SPC 108	5
Literature—a course may be chosen from CML 221, 222, ENG 231G, 232G, 301, 302, or 323 or foreign languages (intermediate level)	5
AREA II - MATHEMATICS AND NATURAL SCIENCE	
MAT 116**	5
CHM 121 and 121L, 122 and 122L, 123 and 123L	15
AREA III - SOCIAL SCIENCE	
HIS 251 or 252	5
POL 101	5
ECN 106 or 107 (106 preferred)	5
Elective—may be chosen from ANT, HIS, POL, PSY, or SOC	5
AREA IV - MAJOR	
CHM 240 and 240L, 241 and 241L	10
BIO 101-101L, 102-102L	10
PCS 127-127L, 128-128L	
PEB 100-165 (Physical Education)	5

\*The College of Pharmacy does not allow credit for ENG 100 or MAT 102 toward satisfying degree requirements.

\*\*MAT 253 suggested as a substitute if student qualifies.

Applicants to a professional program must take the Pharmacy College Admission Test (PCAT). The fall offering date is the preferred time. In addition to the applicant's grade point average, the selection process will utilize the PCAT scores and recommendations. The College of Pharmacy accepts students into its professional baccalaureate program for either summer or fall quarter. Those entering in the summer are expected to follow a continuous program, i.e., nine consecutive quarters.

Application to the College of Pharmacy should be submitted by April 15. Transcripts showing all college work taken should accompany the application. Students may make application to

the Dean of the College of Pharmacy when they have completed four quarters of academic work. Applicants who are accepted but do not attend for the accepted term may repeat the admission process for a future date.

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

## ADMISSION TO THE POSTBACCALAUREATE DOCTOR OF PHARMACY PROGRAM

Persons holding a baccalaureate degree in pharmacy from an accredited institution may apply to the Pharm.D. academic program. Inquiries should be sent to the office of the dean.

## ADMISSION TO THE GRADUATE PROGRAM

In addition to its professional degrees, the College of Pharmacy offers opportunities for advanced study in each of its five departments. These studies are open to individuals holding baccalaureate science degrees. Programs are available which lead to the M.S. and Ph.D. degrees. Individuals interested in pursuing one of these programs should apply directly to the Graduate Coordinator of The University of Georgia College of Pharmacy.

# Regulations

## HOURS

In order to receive the Bachelor of Science degree from the College of Pharmacy, a student must have earned not less than 235 quarter hours of required credit, exclusive of physical education, with a cumulative grade point average of at least 2.0. Similarly, a minimum of 305 hours are required for the tracking Pharm.D., program.

## ACADEMIC LOAD

All baccalaureate students in the College of Pharmacy must take a minimum academic load of twelve credit hours per quarter for a minimum of nine quarters unless excused by the dean.

## PHARMACY EXTERNSHIP AND CLINICAL PROGRAMS

As part of the baccalaureate curriculum and tracking Pharm.D. program, pharmacy students are required to participate in externship and clinical programs which provide the student with educational experiences in practice settings such as community pharmacies, hospital pharmacies, clinics, and teaching hospitals. During the course of their academic program, students may be required to obtain their externship and/or clinical education at an out-of-town location deemed by the faculty to be most suitable for the desired experience and training. Among the facilities presently being used are the teaching hospital and clinics associated with the Medical College of Georgia, located in Augusta.

## PHARMACY INTERNSHIP

In order to become licensed to practice pharmacy in the state of Georgia, 1500 hours of internship must be earned as a full-time intern under the supervision of a pharmacist. Credit for internship may be received only after a student has been accepted into a College of Pharmacy. Students are encouraged to satisfy internship requirements during the summers. A total of 480 hours of credit toward internship will be awarded for work performed while registered for academic credit in an authorized externship program. An intern license is required for participation in the externship program.

All intern pharmacists must contact the Joint Secretary, State Examining Boards, 166 Pryor Street, S.W., Atlanta, Georgia 30303 in order to receive a license. The pharmacist supervising the intern must also notify the joint secretary that the intern is under his/her supervision.

## SCHOLARSHIP REQUIREMENTS

In addition to the general University requirements relative to scholarship, the following requirements must be met by all professional students.

All first professional year students must have earned a minimum grade point average of 1.8 in all professional and related courses in order to progress to the second professional year.

Similarly, all second year pharmacy students must have earned at least a 2.0 average since entering the College of Pharmacy in order to progress to the third professional year.

Pharmacy students must earn a grade of at least 2.0 in all required PHR courses in order to receive graduation credit.\*

For students in academic difficulty, conditions for readmission and continuance in the pharmacy program will be set during a personal interview with the dean and/or the Pharmacy Faculty Academic Committee.

## REGENTS' TESTING PROGRAM

This is a standard test of English reading and composition skills of the University System of Georgia. All students seeking an undergraduate degree must pass the exam during their sophomore year. Transfer students to the University System schools must take the test during their first quarter in residence. Failure of the test will require remediation. Students having a prior baccalaureate degree from a regionally accredited institution may be exempt from the test.

## ACADEMIC PREPARATION

Students are expected to maintain a schedule of home study so they are prepared for daily classes and are always up-to-date in their coursework. This requires students to establish

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\*This includes MIB 350-350L, ZOO 312-312L, electives, all pharmacy courses and substitutes.





early study habits best suited to their own capabilities and to adjust to the demands of the prescribed curriculum. The successful study of pharmacy necessitates the assimilation of a large amount of subject matter. The curriculum is arranged in a sequence to insure a progression of courses which results in a meaningful correlation between the basic sciences and clinical areas of study and application. Courses do not end with final examinations each quarter, but supplement all others in the total professional curriculum.

### **CLASS ATTENDANCE**

Regular attendance at classes, laboratories (including clinics) and examinations is a student obligation, and the unexcused absence, or "cut," is not recognized as a student privilege by the faculty of the College of Pharmacy. Students are expected to give reason for their absence to individual instructors and to make up all work missed due to the absence. Individual faculty will set the attendance standards for each class.

### **DRESS**

Students of pharmacy are expected to dress neatly and professionally at all times. Certain classes and laboratories may require specific attire.

### **ATTITUDE AND CONDUCT**

Students who conduct themselves, either personally or professionally, in a manner unbecoming a professional person may be subject to dismissal from the program. Students in the College are also governed by the rules and regulations of the University. Special attention is directed to the general Undergraduate *Bulletin* and to the *Student Handbook*.

# Grading System



The grading system for The University of Georgia is as follows:

- |          |              |           |                    |
|----------|--------------|-----------|--------------------|
| <b>A</b> | Excellent    | <b>*D</b> | Passing            |
| <b>B</b> | Good         | <b>F</b>  | Failure            |
| <b>C</b> | Satisfactory | <b>WF</b> | Withdrawn, failing |
- I** Incomplete. This symbol indicates that a student was doing satisfactory work but, for non-academic reasons beyond his/her control, was unable to meet the full requirements of the course. If an I is not satisfactorily removed after three quarters, the symbol I will be changed to the grade F by the appropriate official.
- W** This symbol indicates that a student was permitted to withdraw without penalty. Withdrawals without penalty will not be permitted after the midpoint of the quarter (date

to be specified in the *Schedule of Classes*) except in cases of hardship as determined by the appropriate official.

- WF** This grade indicates that the student was permitted to withdraw from the course while doing unsatisfactory work. Withdrawal from a course under these circumstances is equivalent to a failure. This grade is included in the academic average.
- S** This symbol indicates satisfactory participation in certain required courses. Normally S grades are given in a limited number of professional, seminar, or graduate-level courses. Credit is included in hours earned. The grade is not included in the academic average.
- U** This symbol indicates unsatisfactory performance in certain required courses in which S grades may normally be given. No credit is given. The grade is not included in the academic average.

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\*See Scholarship requirements on page 12.

- V** This symbol indicates an audit. No credit is given. The grade is not included in the academic average.
- K** This symbol indicates that a student was given credit for the course via a credit by examination program approved by the faculty, e.g., CLEP, AP, Proficiency, etc.
- ER** This symbol indicates an error in reporting. See your dean.

*Cumulative grade average is based on all residence hours attempted at the University exclusive of S and U grades.*

For purposes of computing grade point averages, letter grades are converted into numerical equivalents:

<b>A</b>	4.0	<b>I</b>	*
<b>B</b>	3.0	<b>S</b>	*
<b>C</b>	2.0	<b>U</b>	*
<b>D</b>	1.0	<b>V</b>	*
<b>F</b>	0	<b>K</b>	*
<b>WF</b>	0	<b>W</b>	*

\*Not computed

## ACADEMIC PROBATION

University-wide regulations provide that a student is placed on academic probation at the end of any quarter in which his/her cumulative GPA is below 2.0. Students may remove themselves from academic probation by achieving a 2.0 cumulative average. Transfer credits are not included in the computation of the cumulative grade average.

## ACADEMIC DISMISSAL

Pharmacy students will be dismissed after two successive quarters on probation if their cumulative average is below that required for a designated number of total hours attempted as follows:

<i>Dismissal Standards</i>	
<i>Hours Attempted</i>	<i>Required Minimum Average</i>
0 - 30	1.60
31 - 59	1.70
60 - 89	1.80
90 - 119	1.90
120 and above	2.00

Students will be considered enrolled for any quarter in which they received a grade or grades other than "W."

Students whose cumulative average does not meet the minimum listed above will not be subject to dismissal for academic reasons if they earn a minimum grade point average of 2.30 while taking an academic load of at least ten (10) credit hours each quarter.

Upon receiving a First Dismissal, a student will be suspended from the University for a minimum of two quarters. At the end of the suspension, readmission may be granted at the discretion of the academic dean.

After a Second Dismissal, only through appeal to the University Educational Affairs Committee can permission to return to the University be granted. A minimum of one calendar year must lapse before a student on Second Dismissal may petition for readmission.





# Finances and Aid



## 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, and incidentals) is an estimate of quarterly expenses:

Total Resident Fees	\$668.00
Total Non-Resident Fees	\$1,797.00
Residence Halls	\$278.00-\$388.00
Meals	\$333.00-\$396.00
Books	\$100.00
Lab Clothing and Equipment	\$25.00

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

## FINANCIAL AID

Students attending the University have nearly half the actual expense of their college education shared by the state of Georgia. Through the tax support of Georgians, The University of Georgia can offer a quality education economically.

In addition, the University attempts to provide financial help for any student who needs aid and is progressing normally toward graduation. No qualified student need hesitate to apply for financial aid if money is needed to pursue an education in pharmacy.

Information concerning financial aid and work-study for pharmacy students is available through the Office of Student Financial Aid, Academic Building, The University of Georgia, Athens, Georgia 30602.

## LOCAL SCHOLARSHIPS AND LOANS

Certain hometown firms and organizations offer scholarships and loans to deserving students. Students are urged to investigate hometown sources of financial aid.

Applications for scholarships and loans should be made as soon as possible since funds are limited and six weeks are required for processing.

# Student Activities



## PROFESSIONAL ORGANIZATIONS

During their academic career in the College of Pharmacy, students are encouraged to begin to develop interest in professional activities. The primary route by which this interest may be expanded is through the Academy of Students of Pharmacy which is affiliated with both the Georgia and American Pharmaceutical Associations. Active participation in this student function will not only stimulate interest in the profession but also develop leadership and character.

Efforts to advance the pharmacy profession educationally, fraternally, and socially led to the installation of chapters of two professional fraternities, Phi Delta Chi and Kappa Psi; a sorority, Lambda Kappa Sigma; and a leadership fraternity, Phi Lambda Sigma. These organizations instill in their members a respect for diligence, sincerity, and brotherhood and assist in developing leadership characteristics. They sponsor activities beneficial to the College, the University, and the profession.

## HONOR SOCIETIES

Pharmacy students who comprise the top twenty percent of their class academically may be invited to join Rho Chi, the national honorary pharmaceutical society. The invitation is usually extended during the last quarter of the second professional year. Pharmacy students are also eligible for membership in Phi Kappa Phi national honor society and various leadership societies on campus.

## AWARDS

Beginning in 1948 and continuing annually thereafter, the College of Pharmacy has sponsored an awards banquet at which outstanding academic achievement, leadership and devotion to the profession by students are recognized. These awards may be scholarships, trophies, certificates, books or monetary. By design, the majority of the awards presented at the banquet are to seniors, but some are designated for first and second year students.

# Professional Baccalaureate Program

## REQUIRED COURSES

### First Professional Year<sup>1</sup>

	Hours
PHR 310 Pharmacy Orientation	2
ZOO 312-312L Anatomical Basis for Medical Physiology	5
PHR 320 Pharmacy Calculations	3
PHR 324-25 Introductory Medicinal Chemistry I & II	6
PHR 334 Medicinal Chemistry Laboratory	1
PHR 347-447 Biopharmacy I & II	7
PHR 349-50 Medical Physiology and Pathophysiology I & II	8
PHR 390 Pharmaceutical Law	4
PHR 393 Administrative Pharmacy I	3
PHR 406-7 Pharmaceutics I & II	10

### Second Professional Year<sup>2</sup>

MIB 350-350L Introductory Microbiology	5
PHR 396 Administrative Pharmacy II	3
PHR 400 Drug Information	1
PHR 403-4-5 Medicinal Chemistry and Pharmacognosy I, II, III	10
PHR 433-4-5 Pharmacology I, II, III	11
PHR 445 Pharmacology Laboratory	1
PHR 437 Dispensing I	4
PHR 525 Clinical Pharmacokinetics	4
PHR 592 Administrative Pharmacy III	3
PHR 593 Pharmaceutical and Health Care Services	3

### Third Professional Year<sup>3</sup>

PHR 500ABCDE Pharmacy Externship	15
PHR 538 Dispensing II	5
PHR 540 Patient Assessment	2



PHR 575 Chemotherapy	5
PHR 585 Disease States and Therapeutics	5
Elective(s) (cannot be pass/fail)	6

<sup>1</sup>Classification of "First Year Pharmacy Student" means registered in the College for the first Professional year.

<sup>2</sup>Classification of "Second Year Pharmacy Student" means completion of all 300 level courses.

<sup>3</sup>Classification of "Third Year Pharmacy Student" means completion of all 400 level courses.



# Course Descriptions

The curriculum includes professional and graduate courses. Professional courses are numbered 300-599, and graduate courses are numbered 600-999.

## MEDICINAL CHEMISTRY AND PHARMACOGNOSY

Medicinal chemistry and pharmacognosy are unique among the specialized areas of chemistry and pharmacy in that they require a significant background in the biological sciences as well as a thorough understanding of chemistry. Areas of specialization for graduate study include the synthesis of new compounds of medicinal interest, the relationships between physical and chemical properties and biological activity, studies on the mechanisms of drug action, and the isolation, purification and identification of the constituents of natural medicinal and poisonous agents.

### Baccalaureate Courses

**324, 325. Introductory Medicinal Chemistry I, II.** 3 hours each.

Prerequisite: First Year Pharmacy Student.

Corequisite for 324: PHR 334.

An introduction to the basic principles of inorganic and organic chemistry as they apply to pharmaceutical systems. Discussions concerning physicochemical properties in pharmaceutical and biological systems are presented with emphasis on the nature of the roles played by inorganic and organic compounds on drug activity. Brief discussions of radiopharmaceuticals, organic nomenclature and drug analysis are also presented.

STAFF

**334. Medicinal Chemistry Laboratory.** 1 hour.

Corequisite: PHR 324.

The principles and techniques of inorganic and organic chemistry are reviewed and applied to pharmaceutical systems.

STAFF

**347, 447. Biopharmacy I, II.** 4, 3 hours.

Prerequisite: First Year Pharmacy Student.

A study of intermediary metabolism and metabolic regulation. Drug interaction with biochem-

ical systems will be introduced. Use of dietary supplements and drugs in the treatment of nutritional and biochemical abnormalities of pharmaceutical interest will be discussed.

THOMPSON, GIBSON

**403, 404, 405. Medicinal Chemistry and Pharmacognosy I, II, III.** 4, 3, and 3 hours respectively.

Prerequisite for 403: PHR 325, 350, 347.

Prerequisite for 404: PHR 403.

Prerequisite for 405: PHR 404.

A study of the drugs currently in use, emphasizing the chemical principles related to stability, bioavailability, structure-activity relationship, metabolism and therapeutic use.

GIBSON, HONIGBERG, CHU, BLANTON, THOMPSON

**575/775. Chemotherapy.** 5 hours.

Prerequisite: MIB 350-350L, PHR 403, 433/633.

A course dealing with the drugs used to treat and cure infectious diseases, encompassing a discussion of the chemistry, mechanism of action, pharmacology and therapeutic applications of antiseptic, antibacterial, antifungal, antiprotozoan, anthelmintic, antiviral and oncolytic agents. Also included are immunizing biologicals and a review of the classifications of infectious disease organisms.

BLANTON, CHU, GIBSON

### Elective Courses

**504. Abused Drugs.** 3 hours.

Prerequisite: First year pharmacy student.

A discussion of the history, abuse, uses, effects, and detection of abused drugs.

STEWART

**505. Non-Prescription Drugs.** 3 hours.

Prerequisite: Second Year Pharmacy Student.

A discussion of the non-prescription drug products sold in pharmacies and intended primarily as self-medication drugs.

GIBSON

**507. Drug Assay.** 3 hours.

Prerequisite: First Year Pharmacy Student.  
Laboratory exercises in identification of all types of drugs in dosage forms and biological fluids.  
STEWART

**511. Historical Perspectives of Drug Discovery.** 3 hours.

Prerequisite: Second Year Pharmacy Student or P.O.D.\*

A study of selected historical events and personalities associated with the discovery of major drugs and drug classes.  
BLANTON AND STAFF

**549. Radio-Pharmaceuticals.** 3 hours.

Prerequisite: Second Year Pharmacy Student.  
Procedures and techniques involved in the handling and use of radioisotopes in pharmaceutical practice.  
DUKE

## Graduate Courses

**713. Advanced Medicinal Chemistry I.** 4 hours.

Prerequisite: B.A. or B.S. degree in Biology, Chemistry or Pharmacy, year of organic chemistry.

Lectures on fundamental principles of medicinal chemistry and their applications to the development of today's therapeutic agents. The application of biochemical, pharmacological and medicinal chemical aspects of selected pharmacodynamic agents will also be covered.

REUNITZ, THOMPSON

**714. Advanced Medicinal Chemistry II.** 4 hours.

Prerequisite: PHR 713.

Lectures covering the application of biochemical, pharmacological and medicinal chemical aspects of selected classes of pharmacodynamic drugs. Historical development of the classes and pharmacological assay techniques will be used to introduce each class. Current state of the scientific exploration of each class will be covered and the future prospectus for new discoveries will be discussed.

CHU, HONIGBERG, THOMPSON

**715. Advanced Medicinal Chemistry III.** 4 hours.

Prerequisite: PHR 714.

A study of the discovery, design and synthesis of chemical agents used to treat and cure infectious diseases and cancer. Included are correlations of chemical structure with biological activity, mechanism of action, chemical stability, biochemical transport and identification of biological metabolites.

BLANTON, GIBSON

**804. Pharmaceutical Control and Analysis I.** 5 hours.

Prerequisite: P.O.D.\*

Lectures and laboratory instruction are devoted to the identification and analysis of drugs by proton magnetic resonance, infrared and ultraviolet spectroscopic analysis.

THOMPSON

**805. Pharmaceutical Control and Analysis II.** 5 hours.

Prerequisite: P.O.D.\*

Lectures and laboratory instruction are devoted to the separation, identification and analysis of drugs by thin-layer, gas and high-performance liquid chromatographic methods.

HONIGBERG

**806. Pharmaceutical Control and Analysis III.** 5 hours.

Prerequisite: P.O.D.\*

Lectures and laboratory instruction are devoted to the identification and analysis of drugs by mass spectrometry, fluorescence, phosphorescence and atomic absorption analysis.

STEWART

**807. Pharmaceutical Control and Analysis IV.** 5 hours.

Prerequisite: P.O.D.\*

Lectures and laboratory instruction are devoted to the separation, identification and analysis of drugs and drug metabolites in biological samples.

HONIGBERG, STEWART

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\*Permission of department.



**809AB. Topics in Medicinal Chemistry.** 4 hours each.

Prerequisite: PHR 715 or P.O.D.\*

A detailed study of the correlation of chemical structure with biological activity will be presented with special emphasis on the relation of physiochemical properties to biological response.

STAFF

**811. Heterocyclic Medicinal Chemistry.** 3 hours.

Prerequisite: CHM 444/644 or P.O.D.\*

A course designed for the study of the chemical nature and behavior of the main nitrogen, oxygen and sulfur containing heterocyclic compounds of medicinal significance.

BLANTON

**816. Organic Chemistry of Synthetic Medicinal Agents.** 3 hours.

Prerequisite: CHM 430/630 and P.O.D.\*

Preparation and physiochemical properties of organic medicinal agents of synthetic origin.

STAFF

## PHARMACEUTICS

Pharmaceutics explores and defines the physical and chemical properties of pharmaceutical systems and the mechanisms by which medication from these systems may be made available for utilization by the body. Areas of specialization for graduate studies include pharmaceutics, biopharmaceutics, and industrial pharmacy.

## Baccalaureate Courses

**320. Pharmacy Calculations.** 3 hours.

Three hours lecture weekly.

Prerequisite: First Year Pharmacy Student.

A comprehensive study of the mathematical procedures involved in the practice of pharmacy.

WHITWORTH, WICKLIFFE

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\*Permission of department.



**406/606, 407/607. Pharmaceutics I, II.** 5 hours each.

Prerequisite for 406: PHR 320.

Prerequisite for 407: PHR 406.

Prerequisite for 606: P.O.D.\*

Prerequisite for 607: PHR 606.

The general consideration of the underlying principles of dosage form design, compounding, and technology. Laboratory work involves the preparation and evaluation of the various dosage forms and the dispensing of compounded prescriptions.

BOUDINOT, CAPOMACCHIA, GALLO, J., JUN, PRICE

**525/725. Clinical Pharmacokinetics.** 4 hours.

Prerequisite: PHR 407/607.

Clinical Pharmacokinetics deals with the concepts and techniques of the kinetics of absorption, distribution and elimination of drugs as applied to patient care.

JUN, BOUDINOT, GALLO, J.

## Elective Courses

**522/722. Industrial Pharmacy I.** 3-5 hours.

One lecture and six to nine lab hours weekly.

Prerequisite: PHR 407/607; for graduate students: P.O.D.\*

Lectures and lab are concerned with the formulation and production of powders, capsules, compressed tablets and coated tablets. Production equipment and quality control procedures and problems are also studied.

PRICE

**523/723. Industrial Pharmacy II.** 3-5 hours.

Variable lecture and lab hours weekly.

Prerequisite: PHR 407/607; for graduate students: P.O.D.\*

To acquaint students with specialized pharmaceutical systems, processes and control procedures involved with liquid, semisolid and aerosol dosage forms.

PRICE

**530/730. Manufacture of Cosmetics.** 3-5 hours.

Prerequisite: PHR 406/606.

A study of cosmetic formulations and methods of manufacture. Examples of several types of cosmetic products will be prepared in the laboratory.

WHITWORTH

## Graduate Courses

**726. Sterile Products and Techniques.** 5 hours.

Two-hour lectures and nine hours lab.

Prerequisite: Third year Pharmacy Student or P.O.D.\*

The course deals with the manufacture of injectible pharmaceutical products and includes formulation; environmental and product testing; sterilization and packaging techniques.

WHITWORTH

**823, 824. Advanced Physical Pharmacy.** 5 hours each.

Prerequisite: PHR 407 or P.O.D.\*

Discussion of advanced physical chemical methods as they apply to pharmaceutical problems and phenomena.

BOUDINOT, CADWALLADER, CAPOMACCHIA, GALLO, J., PRICE

**826. Pharmacokinetics I.** 5 hours.

Prerequisite: PHR 407 or P.O.D.\*

A study of the principles of kinetics of drug absorption, distribution and elimination, with emphasis on the design and evaluation of mathematical models.

JUN, BOUDINOT, GALLO, J.

**829. Drug Complexation.** 5 hours.

Prerequisite: PHR 435/635 or P.O.D.\*

Principles of thermodynamics, equilibria and kinetics in mechanisms of drug-biomacromolecule interactions. Methods, including direct measurements, subtractive methods and electrostatic methods, for the study of drugs or other small molecules and their interactions with biomacromolecules are examined.

STAFF

**836. Pharmacokinetics II.** 5 hours.

Prerequisite: PHR 826.

Discussion of advanced pharmacokinetic methods with emphasis on nonlinear pharmacokinetics, model independent pharmacokinetics, protein binding and drug-receptor interactions, computer methodology, physiologic pharmacokinetics and pharmacodynamics.

JUN, BOUDINOT, GALLO, J.

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\*Permission of department.

## PHARMACOLOGY AND TOXICOLOGY

Pharmacology is the study of the action of drugs and chemicals on the living organism, the effects induced, and their therapeutic applications, whereas toxicology emphasizes the deleterious effects of chemicals on body organs and systems. As scientific disciplines, these related areas are based in the physical and biological sciences with particular emphasis on physiology and chemistry. Graduate studies and research areas are available in neuro-pharmacology, behavioral pharmacology, biochemical pharmacology, cardiovascular pharmacology, environmental and drug toxicology, and chemical carcinogenesis.

### Baccalaureate Courses

**349, 350. Medical Physiology and Pathophysiology I, II.** 4 hours each.

Prerequisite: ZOO 312-312L or P.O.D.\*

A study of human function in health and in common disease states, emphasizing organ and system interactions.

BUNCE, REIGLE, MOKLER, DALLAS

**433/633, 434/634, 435/635. Pharmacology I, II, III.** 4, 3, and 4 hours respectively.

Prerequisite for 433/633: PHR 350.

Prerequisite for 434/634: PHR 433, 633.

Prerequisite for 435/635: PHR 434/634.

Corequisite for 435/635: PHR 445/645.

For graduate students: P.O.D.\*

A study of the pharmacologic action, therapeutic application, and toxicology of drugs in current use. The drug categories included in PHR 433/633 are antihistamines, diuretics, endocrine hormones and related drugs. Categories included in PHR 434/634 are autonomic, anticoagulant, and cardiovascular drugs. PHR 435/635 is devoted to central nervous system active drugs. JOHNSON, HARTLE, MOKLER, TACKETT, ITURRIAN, REIGLE

**445/645. Pharmacology Laboratory.** 1 hour.

One three-hour laboratory each week.

Corequisite: PHR 435/635.

Experiments designed to demonstrate the action of CNS, autonomic and cardiovascular drugs. REIGLE

### Elective Courses

**(VPH) 491/691. Introductory Toxicology.** 5 hours. Prerequisite: BCH 402/602 or BCH 802 or equivalent; and PHR 350 or VPH 516 or equivalent; and P.O.D.\*

This course is an overview of basic principles in the field of toxicology. It includes principles of hazard and safety evaluation, dose-response relationships, pharmacokinetics and metabolism of chemicals, basic mechanisms of cellular injury, factors influencing toxicity, specialty areas and governmental regulatory policies.

BRUCKNER, HATCH

**PHR 584. Toxicology of Commercial Products.** 3 hours.

Prerequisite: PHR 433/633.

A study of the toxic mechanisms, toxic syndromes, antidotes, and emergency and supportive therapy for poisonings with commonly occurring household and farm products.

JOHNSON

### Graduate Courses

**649. Human Physiology I.** 5 hours.

Prerequisite: BIO 102-102L, CHM 241 and 241L, and P.O.D.\*

Not open to students with credit for PHR 349. Functions of the human nervous, neuromuscular and digestive systems in health and in major disease states.

BUNCE, REIGLE

**650. Human Physiology II.** 5 hours. Four lectures and one discussion period.

Prerequisite: BIO 102-102L, CHM 241 and 241L, or P.O.D.\*

Not open to students with credit for PHR 350. Function of the human cardiovascular, respiratory, renal, endocrine, and reproductive systems in health and in major disease states.

MOKLER, DALLAS

**842. Cardiovascular Pharmacology.** 5 hours.

Prerequisite: PHR 434/634 or P.O.D.\*

A study of physiological control mechanisms of the mammalian cardiovascular system and how defects may lead to clinically identifiable disease states. Experimental approaches are evaluated and the actions of pharmacologically active agents are discussed. (Offered Fall quarter of odd-numbered years.)

HARTLE, TACKETT

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\*Permission of department.

**843. Advanced Neuropharmacology.** 4 hours.

Prerequisite: PHR 435/635 or P.O.D.\*

A study of the behavioral and neurochemical aspects of drug action in the central nervous system. (Offered Winter quarter of odd-numbered years.)

ITURRIAN, REIGLE

**844. Methods in Pharmacological Research.** 5 hours.

Prerequisite: PHR 433/633 and STA 421/621 or P.O.D.\*

A review of classical and biochemical methods used in evaluating compounds for their pharmacologic activity. (Offered Spring quarter of odd-numbered years.)

STAFF

**846. (VPH) Molecular Pharmacology.** 5 hours.

Prerequisite: P.O.D.\*

A detailed study of (a) the interaction of drugs with tissue receptors, and (b) the absorption, distribution, metabolism and elimination of drugs by the organism. (Spring quarter of even-numbered years.)

FERGUSON, JOHNSON, WADE, A., JUN

**(VPH/PS) 891. Organ Systems Toxicology.** 5 hours.

Prerequisite: PHR(VPH) 491/691 or P.O.D.\*

A study of mechanisms by which toxic chemicals alter biochemical and physiological processes in organ systems of the body. The carcinogenic activity of chemicals will also be described.

BOWEN, BRUCKNER, DALLAS, TACKETT, WADE, A.

**(VPH/ENT/PS) 892. Toxicology of Agricultural and Industrial Chemicals in the Environment.** 5 hours.

Prerequisite: PHR(VPH) 491/691 or P.O.D.\*

A study of the dynamics and toxicity of some of the major agricultural and industrial contaminants of the environment. The focus is on sources, properties, toxicodynamics, health and environmental hazards, methods of analysis and contamination control measures.

BRUCKNER, SCHNELLMAN

## PHARMACY CARE ADMINISTRATION

Pharmacy care administration is concerned with both the administrative aspects of pharmacy

practice and the pharmacist's role in serving the patient's health needs. To accomplish these purposes, undergraduate study in this area includes: community and institutional pharmacy management, pharmacy law, health care systems, pharmacy ethics, and patient behavioral characteristics. Graduate studies are offered in pharmacy care administration with four options available for the students.

## Baccalaureate Courses

**390. Pharmaceutical Law.** 4 hours.

Prerequisite: First Year Pharmacy Student.

A review of the various laws involved in pharmaceutical prescription practice and a study of the state and federal regulations including organization enforcement procedures. Consideration is also given to case histories involving negligence and malpractice.

BRAUCHER

**393. Administrative Pharmacy I.** 3 hours.

Prerequisite: First Year Pharmacy Student.

A study of the form, content, nature and use of financial statements. In addition, the student is provided an explanation of the accounting process of which the financial statements are the result.

CARROLL

**396. Administrative Pharmacy II.** 3 hours.

Prerequisite: PHR 393.

The application of managerial principles to the professional practice of pharmacy.

PERRI

**592. Administrative Pharmacy III.** 3 hours.

Prerequisite: PHR 393

Advanced study of managerial and financial principles relating to pharmacy practice in corporate and hospital situations. Microcomputer-assisted financial analyses are provided through simulation in pharmacy management.

KOTZAN

**593. Pharmaceutical and Health Care Services.** 3 hours.

Prerequisite: Third Year Pharmacy Student; for graduate students: P.O.D.\*

A study of the principles and methods involved in the rendering of pharmaceutical and health care services. Included are the social, economic,

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\*Permission of department.





legal and professional aspects and the study of the activities of providers and consumers of such services.

WOLFGANG

### Elective Courses

**590. Pharmacy Ethics.** 3 hours.

Prerequisite: First Year Pharmacy Student.

This course deals with the problems faced by the community pharmacist as he/she strives to strike a balance between the demands of economic competition on the one hand and the demands of professional ethics on the other.

BRAUCHER

### Graduate Courses

**853. Research in Pharmacy Care Administration.** 5 hours.

Prerequisite: STA 421/621.

An intensive study of research and methods of research in pharmacy care administration. The

course includes the design, execution and statistical analysis of experiments relating to physicians, pharmacists, or drug consumers.

STAFF

**860. Topics in Pharmaceutical Marketing.** 4 hours.

Prerequisite: MBA student status.

The course examines the structure of the pharmaceutical industry, the environment in which it operates, and special problems it faces in marketing its products to prescribers, pharmacists, health care institutions, and consumers.

PERRI

**861. Health Care Systems.** 4 hours.

Prerequisite: MBA student status.

A comprehensive examination of the United States Health Care System, the distribution of health care facilities, and the various programs, both public and private, designed to improve the quality and distribution of health care services.

CARROLL

**862. Management Methods in Pharmacy.** 4 hours.

Prerequisite: MBA student status.

An intensive study of analytical methods peculiar to data sources and management problems in the pharmaceutical industry. Interpretation of pharmaceutical data bases, and report preparation are integral portions of the course. For MBA and Pharmacy graduate students.

KOTZAN

### PHARMACY PRACTICE

Pharmacy practice offerings are designed as capstone courses to integrate and apply all prior course material to the assessment of patient problems, prescription practice and communication of knowledge to both prescriber and patient. Graduate studies are intended to further prepare the practitioner for specialized practice and applied research in ambulatory, long term or acute care settings.

### Baccalaureate Courses

**400. Drug Information.** 1 hour.

Prerequisite: Second Year Pharmacy Student.

Drug information retrieval, evaluation and communication.

MAY, McCOMBS

**437. Dispensing I.** 4 hours.

Three hours lecture and three hours lab weekly. Prerequisite: PHR 390, 400, 407, 434/634, 447. An integration of the pharmaceutical sciences and the practice of pharmacy. Attention is directed toward the procedures and precautions necessary in providing pharmaceutical services in the community pharmacy and in various institutional settings. Special emphasis is placed on drug literature, drug interactions, drug product selection and drug therapy. COBB, COOPER, DICKERSON, McCOMBS, THOMAS, GALLO, D.

**500ABCDE. Pharmacy Externship.** 5 hours each, 15 hours (three courses) required.

At least 40 hours per week for 12 weeks.

Prerequisite: PHR 540, 575/775, 585/785.

An integrated course applying all prior material into pharmacy practice. Experience will be obtained in community, hospital and clinical rotations at selected extramural practice sites. The student should check with the Department for the regulations concerning this course series. McCOMBS AND STAFF

**538. Dispensing II.** 5 hours.

Four hours lecture and three hours lab weekly.

Prerequisite: PHR 435/635, 437.

A relationship of factual and conceptual knowledge to prescription practice material emphasizing the most common drug-related problems. Development of a concept of the significance of these problems and formulation of problem anticipation approach for the pharmacy in community and institutional practice. A review of significant regulatory changes is included. COBB, COOPER, DICKERSON, McCOMBS, THOMAS, WARREN

**540. Patient Assessment.** 2 hours.

Prerequisite: PHR 435/635, 437.

Corequisite: PHR 575/775.

An introduction to physical and laboratory assessment of the patient and patient survival management.

MORTON, WAITE

**585/785. Disease States and Therapeutics.** 5 hours.

Prerequisite: PHR 435/635.

A discussion of disease states with emphasis on procedures involved in restoring the patient to normal health.

PARISH, McCALL, WADE, W., SPRUILL

## Elective Courses

**508. Parenteral Therapy.** 3-5 hours

Prerequisite: PHR 350, 434/634, 447, or P.O.D.\* Procedures for establishing and administering an IV admixture service, technical aspects of compounding and administering parenteral preparations and the principles of patient care, e.g., principles involved in diagnosis of imbalance, prescribing effective parenteral therapy and monitoring results.

COBB

**510. Women's Health Care.** 3 hours.

Prerequisite: PHR 349 and PHR 350 and Second Year Pharmacy Student.

This course emphasizes patient education of the medications and over-the-counter products used in obstetrics and gynecology.

McCOMBS

**512/712. Survey of Clinical Drug Therapy in the Elderly.** 3 hours.

Prerequisite: Senior pharmacy student; graduate student; Gerontology Certificate student; P.O.D.\*

A survey course on the use of drug therapies in a nursing home. Using clinical cases and direct patient contact, the student will develop a broad understanding of medical problems and their treatment.

LONGE

**570. Clinical Clerkship.** 3-5 hours. May be repeated for a maximum of 20 credit hours.

Prerequisite: Third Year Pharmacy Student; for graduate students: P.O.D.\*

The clerkship involves instruction in pharmacy practice in a clinical setting under the direct supervision of a professional practitioner. Clerkships are available in a number of community and institutional settings.

COOPER

**594. Prescription Accessory Products.** 3 hours.

Prerequisite: Second Year Pharmacy Student.

A study of accessory products related to prescriptions, sickroom needs, rehabilitation and convalescent equipment, surgical supports and

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\*Permission of department.

other health-related appliances.

MEUNIER, THOMAS

**595. Household and Animal Health Products.** 3 hours.

Prerequisite: Second Year Pharmacy Student. The study of fumigants, rodenticides, insecticides, fungicides, weedicides, parasiticides and toxins, serums, vaccines, and related products commonly sold in the drugstore. Ethics, economic and legal aspects will be stressed. DICKERSON, KEMP

## DOCTOR OF PHARMACY CURRICULUM

**550. Physical Assessment.** 3 hours.

Prerequisite: Admission to Pharm.D. program. Advanced techniques of physical assessment of drug and disease effects. LONGE

**552. Advanced Drug Information.** 4 hours.

Prerequisite: Admission to Pharm.D. program. Practical methods of retrieval, analysis and elucidation of drug information will be presented. MAY

**554AB. Applied Pharmacokinetics and Drug Analysis.** 3 hours each.

Prerequisite: Admission to Pharm.D. program. Application of pharmacokinetic principles to design a dosing regimen, new drug evaluation, and analytical technique selection and evaluation. STEWART, WADE, COBB, AND STAFF

**555. Clinical Conference.** 1 hour. May be repeated for a maximum of 6 credit hours.

Prerequisite: Admission to Pharm.D. program. Presentation of patient case and pertinent literature in grand rounds fashion. MORTON, PATRIAS

**561. Pathophysiology I.** 2 hours.

Prerequisite: Admission to Pharm.D. program. An overview of pathophysiologic processes to rationally apply principles of drug therapy. WAITE

**562AB. Pathophysiology II.** 2 hours each.

Prerequisite: Admission to Pharm.D. program. Advanced presentation of pathophysiologic principles and concepts to human disease and pharmacotherapy. DiPIRO, WAITE AND STAFF

**571AB. Advanced Clerkship I.** 2 hours each.

Prerequisite: Admission to Pharm.D. program. Clinical practice in outpatient and inpatient settings.

WAITE, McCALL, SPRUILL, WADE, MORTON

**572ABCD. Advanced Clerkship II.** 7 hours each.

Prerequisite: Admission to Pharm.D. program. Clinical practice in outpatient and inpatient settings.

TAYLOR, DiPIRO, LONGE, HAWKINS, PATRIAS, MAY

**573AB. Advanced Clerkship III.** 7 hours each.

Prerequisite: Admission to Pharm.D. program. Clinical practice in inpatient and outpatient settings.

COOPER, HAWKINS AND STAFF

**587, 588, 589. Advanced Therapeutics I, II, III.** 4 hours each.

Prerequisite: Admission to Pharm.D. program. An advanced, comprehensive presentation of disease states with emphasis on procedures involved in restoring the patient to normal health. DiPIRO, McCALL AND STAFF

## Pharm.D. Elective Courses

**551. Seminar in Medical Care Problems.** 1 hour.

Prerequisite: Admission to Pharm.D. program. An orientation to medical care problems for the doctor of pharmacy student.

COOPER, LONGE

**574. Pharmacy Problem Solving I.** 5 hours.

Prerequisite: Admission to Pharm.D. program. A comprehensive presentation of basic research methods, study design, pilot and feasibility studies and techniques of evaluation and justification applied to patient situations.

PARISH AND STAFF

**577, 578, 579. Doctor of Pharmacy Project I, II, III.** 1 hour each.

Prerequisite: Admission to Pharm.D. program. This sequence of courses requires: preparation of an acceptable project proposal (577); collection and evaluation of data (578); and both oral and written presentation of an acceptable report (579).

COOPER, PATRIAS AND STAFF



## INTERDEPARTMENTAL COURSES

### Required Courses

**310. Pharmacy Orientation.** 2 hours.

Prerequisite: First Year Pharmacy Student.  
Introduction to historical development of the profession, differentiation of practice sites, philosophies and levels of care and professional functions are given. Wellness and self-care preventive concepts with emphasis on prescription and OTC medication, counseling knowledge and education are emphasized, along with emergency recommendation and referral guidelines.  
COOPER

### Elective Courses

**498H. Directed Study and/or Projects (Honors).** 5 hours each.

Prerequisite: Honors Student in Pharmacy.  
These courses afford Honors students the opportunity to engage in individual study, reading or projects under the direction of a project director.  
STAFF

**499H. Honors Thesis.** 5 hours.

Prerequisite: Honors Student in Pharmacy.  
This course provides the opportunity for an Honors student to undertake individual research in the field of his/her major or in a closely related field.  
STAFF

**521/721. Special Topics in Pharmacy.** 3-5 hours.  
May be repeated for a maximum of 20 credit hours.

A study of specialized pharmaceutical systems, processes and techniques, including assignment of current literature and student presentations.  
STAFF

**598. Undergraduate Research Problem.** 3-5 hours. May be repeated for a maximum of 20 credit hours.

Prerequisite: Second Year Pharmacy Student.  
An introduction to research. The course is designed to acquaint the student with the techniques of research. A problem will be assigned, and the student will be expected to do library and lab work necessary to prepare an acceptable report.  
STAFF

## Graduate Courses

**700M. Master's Research.** 1-15 hours.

Prerequisite: P.O.D.\*  
Research while enrolled for a master's degree under the direction of faculty members.  
STAFF

**730M. Master's Thesis.** 1-15 hours.

Prerequisite: P.O.D.\*  
STAFF

**803. Pharmacy Seminar.** 1 hour. May be repeated for a maximum of 5 hours.

Prerequisite: Graduate student.  
Semi-formal meetings for discussion of research and new developments in the field.  
STAFF

**900. Research in the Pharmaceutical Sciences.** 1-10 hours, repeatable for maximum 100 credit hours.

Independent laboratory investigation under faculty direction on approved problems in various fields of the pharmaceutical sciences.  
STAFF

**900D. Doctoral Research.** 1-15 hours.

Prerequisite: P.O.D.\*  
Research while enrolled for a doctoral degree under the direction of a faculty member.  
STAFF

**930D. Doctoral Dissertation.** 1-15 hours, repeatable for maximum 50 credit hours.

Prerequisite: P.O.D.\*  
STAFF

### Required Non-Pharmacy Courses

The following courses in the pharmacy curriculum are taught by the faculty of the College of Arts and Sciences. A description may be found in the College of Arts and Sciences section of The University of Georgia Undergraduate Bulletin.

**MIB 350-350L. Introductory Microbiology.** 5 hours.

**ZOO 312-312L. Anatomical Basis for Medical Physiology.** 5 hours.

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\*Permission of department.

Inquiries and requests for information and application forms should be addressed as follows:

*Office of the Dean  
College of Pharmacy  
The University of Georgia  
Athens, Georgia 30602  
Telephone: (404) 542-1911*

Information about graduate programs:

*Graduate Coordinator  
College of Pharmacy  
The University of Georgia  
Athens, Georgia 30602  
Telephone: (404) 542-5417*

Housing for single students:

*Department of University Housing  
The University of Georgia  
Athens, Georgia 30602  
Telephone: (404) 542-1421*

Housing for married students:

*Family Housing Office  
The University of Georgia  
Athens, Georgia 30602  
Telephone: (404) 542-1473*

Payment of fees and deposits:

*Treasurer's Office  
The University of Georgia  
Athens, Georgia 30602  
Telephone: (404) 542-1625*

Scholarships and loans:

*Office of Student Financial Aid  
The University of Georgia  
Athens, Georgia 30602  
Telephone: (404) 542-6147*

Admissions:

*Office of Undergraduate Admissions  
The University of Georgia  
Athens, Georgia 30602  
Telephone: (404) 542-2112*

