

The University of Georgia Bulletin 1982-83  
**SCHOOL OF PHARMACY**

A Unit of the University System of Georgia

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# TABLE OF CONTENTS

<b>Calendar</b>	<b>3</b>	<b>Regulations</b>	<b>18</b>
<b>University System of Georgia</b>	<b>5</b>	Hours for Graduation	18
Institutions	6	Academic Load	18
Board of Regents	7	Pharmacy Externship and	
Officers and Staff	7	Clinical Programs	18
<b>The University of Georgia</b>	<b>8</b>	Pharmacy Internship	18
Colleges and Schools	8	Scholarship Requirements	18
Officers of General Administration	9	Regents' Testing Program	18
<b>The School of Pharmacy</b>	<b>11</b>	Limitation of Student Employment	18
Officers of Administration	11	Academic Preparation	19
Faculty	11	Class Attendance	19
<b>General Information</b>	<b>15</b>	Dress	19
History	15	Attitude and Conduct	19
Purpose	15	<b>Grading System</b>	<b>20</b>
Facilities	16	Academic Probation	20
Programs of Study	16	Academic Dismissal	20
Admission to the		<b>Finances and Aid</b>	<b>21</b>
Baccalaureate Program	16	Expenses	21
Pre-Pharmacy Curriculum	16	Aid	21
Admission to the Doctor		Local Scholarships and Loans	21
of Pharmacy Program	17	<b>Student Activities</b>	<b>22</b>
Admission to the		Professional Organizations	22
Graduate Program	17	Honor Societies	22
		Awards	22
		<b>Professional Baccalaureate</b>	
		<b>Program</b>	<b>23</b>
		<b>Courses of Instruction</b>	<b>24</b>
		Medicinal Chemistry and	
		Pharmacognosy	24
		Pharmaceutics	26
		Pharmacology	27
		Pharmacy Care	
		Administration	28
		Pharmacy Practice	30
		Interdepartmental Courses	31
		Doctor of Pharmacy Curriculum	32

# CALENDAR 1982-1983

## SUMMER QUARTER

1982

Residence Halls Open

Orientation

Late Registration

Classes Begin

Drop/Add

Holiday (No Classes)

**Regular (Thru) Session**

Note: Classes meet for 60 minutes daily

Midpoint of Session

Last Day of Classes

Final Exams

June 14, M

June 15, Tu

June 16, W

June 17, Th

June 17, 18, 21, Th, F, M

July 5, M

July 16, F

Aug. 16, M

Aug. 17-19, Tu-Th

## FALL QUARTER

1982

Residence Halls Open

Orientation

Late Registration

Classes Begin

Drop/Add

Midpoint of Quarter

Thanksgiving Recess

Classes Resume

Last Day of Classes

Reading Day

Final Exams

Sept. 13, M

Sept. 14, Tu

Sept. 15, 16, W, Th

Sept. 17, F

Sept. 17, 20, 21, F, M, Tu

Oct. 21, Th

Nov. 20-28, Sa-Su

Nov. 29, M

Dec. 2, Th

Dec. 3, F

Dec. 6-9, M-Th

## WINTER QUARTER

1983

Residence Halls Open

Orientation

Late Registration

Classes Begin

Drop/Add

Midpoint of Quarter

Last Day of Classes

Final Exams

Jan. 2, Su

Jan. 3, M

Jan. 4, Tu

Jan. 5, W

Jan. 5-7, W-F

Feb. 8, Tu

Mar. 14, M

Mar. 15-18, Tu-F

## SPRING QUARTER

1983

Residence Halls Open

Orientation

Late Registration

Classes Begin

Drop/Add

Midpoint of Quarter

Last Day of Classes

Reading Days

Final Exams

Commencement

Mar. 23, W

Mar. 24, Th

Mar. 25, F

Mar. 28, M

Mar. 28-30, M-W

Apr. 29, F

June 3, F

June 4-5, Sa-Su

June 6-9, M-Th

June 11, Sa

This Calendar is correct as of the date of this publication. The Calendar may be subject to change during the next two years. Please refer to the *Schedule of Classes*, and/or other special announcements that may be forthcoming.





# THE UNIVERSITY SYSTEM OF GEORGIA

The University System of Georgia includes 33 state-sponsored, public institutions located throughout Georgia—4 universities, 14 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 freshmen 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 freshmen 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.

State appropriations for the University System are requested by and made to the Board of Regents. Allocations of the appropriations are made by the Board to institutions. Approximately 52 percent of state appropriations are allocated for instruction. In fiscal 1980-81, the percentages of all funds for instruction showed 77 percent from state appropriations, 20 percent from student fees and 3 percent from other internal income.

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.

## INSTITUTIONS OF THE UNIVERSITY SYSTEM OF GEORGIA

h—On-Campus Student Housing Facilities  
 Degrees Awarded: A—Associate; B—Bachelor's; J—Juris Doctor;  
 M—Master's; S—Specialist in Education; D—Doctor's

### Universities

Athens 30602  
 The University of Georgia—h; B,J,M,S,D  
 Atlanta 30332  
 Georgia Institute of Technology—h; B,M,D  
 Atlanta 30303  
 Georgia State University—A,B,M,S,D  
 Augusta 30912  
 Medical College of Georgia—h; A,B,M,D

### Senior Colleges

Albany 31705  
 Albany State College—h; B,M  
 Americus 31709  
 Georgia Southwestern College—h; A,B,M,S  
 Augusta 30910  
 Augusta College—A,B,M,S  
 Carrollton 30118  
 West Georgia College—h; A,B,M,S  
 Columbus 31993  
 Columbus College—A,B,M,S  
 Dahlonega 30597  
 North Georgia College—h; A,B,M  
 Fort Valley 31030  
 Fort Valley State College—h; A,B,M  
 Marietta 30061  
 Kennesaw College—A,B  
 Marietta 30060  
 Southern Technical Institute—h; A,B  
 Milledgeville 31061  
 Georgia College—h; A,B,M,S  
 Savannah 31406  
 Armstrong State College—A,B,M  
 Savannah 31404  
 Savannah State College—h; A,B,M  
 Statesboro 30460  
 Georgia Southern College—h; A,B,M,S  
 Valdosta 31698  
 Valdosta State College—h; A,B,M,S

### Junior Colleges

Albany 31707  
 Albany Junior College—A  
 Atlanta 30310  
 Atlanta Junior College—A  
 Bainbridge 31717  
 Bainbridge Junior College—A

Barnesville 30204  
 Gordon Junior College—h; A  
 Brunswick 31523  
 Brunswick Junior College—A  
 Cochran 31014  
 Middle Georgia College—h; A  
 Dalton 30720  
 Dalton Junior College—A  
 Douglas 31533  
 South Georgia College—h; A  
 Gainesville 30403  
 Gainesville Junior College—A  
 Macon 31297  
 Macon Junior College—A  
 Morrow 30260  
 Clayton Junior College—A  
 Rome 30161  
 Floyd Junior College—A  
 Swainsboro 30401  
 Emanuel County Junior College—A  
 Tifton 31793  
 Abraham Baldwin Agri. College—h; A  
 Waycross 31501  
 Waycross Junior College—A

University System of Georgia  
 244 Washington Street, S.W.  
 Atlanta, Georgia 30334





# THE UNIVERSITY SYSTEM OF GEORGIA

## BOARD OF REGENTS

Jesse Hill, *Atlanta*  
State-at-Large (1978-1985)

Rufus B. Coody, *Vienna*  
State-at-Large (1976-1983)

John E. Skandalakis, *Atlanta*  
State-at-Large (1981-1988)

Marie Walters Dodd, *Roswell*  
State-at-Large (1981-1988)

O. Torbitt Ivey, Jr., *Augusta*  
State-at-Large (1977-1984)

Erwin A. Friedman, *Savannah*  
First District (1976-1983)

William T. Divine, Jr., *Albany*  
Second District (1982-1989)

John H. Robinson, III, *Americus*  
Third District (1979-1986)

Scott Candler, Jr., *Decatur*  
Fourth District (1977-1984)

Elridge W. McMillan, *Atlanta*  
Fifth District (1982-1989)

Lamar R. Plunkett, *Bowdon*  
Sixth District (1978-1985)

Lloyd L. Summer, Jr., *Rome*  
Seventh District (1980-1987)

Thomas H. Frier, Sr., *Douglas*  
Eighth District (1978-1985)

Sidney O. Smith, Jr., *Gainesville*  
Ninth District (1980-1987)

Julius F. Bishop, *Athens*  
Tenth District (1979-1986)

## OFFICERS AND STAFF

Marie W. Dodd, *Chairperson*

O. Torbitt Ivey, Jr., *Vice Chairman*

Vernon D. Crawford, *Chancellor*

H. Dean Propst, *Vice Chancellor*

Henry G. Neal, *Executive Secretary*

Shealy E. McCoy, *Vice Chancellor - Fiscal Affairs and Treasurer*

W. Ray Cleere, *Vice Chancellor - Academic Affairs*

Frank C. Dunham, *Vice Chancellor - Facilities*

Mario J. Goglia, *Vice Chancellor - Research*

Howard Jordan, Jr., *Vice Chancellor - Services*

Harry B. O'Rear, *Vice Chancellor - Health Affairs*

Haskin R. Pounds, *Vice Chancellor - Planning*

Robert M. Joiner, *Vice Chancellor - Public Relations and Information Services*

Thomas F. McDonald, *Vice Chancellor - Student Affairs*

# THE UNIVERSITY OF GEORGIA

## COLLEGES AND SCHOOLS

### College of Arts and Sciences (1801)

William J. Payne, *Dean*

### School of Law (1859)

J. Ralph Beard, *Dean*

### School of Pharmacy (1903)

Howard C. Ansel, *Dean*

### College of Agriculture (1906)

William P. Flatt, *Dean*

### School of Forest Resources (1906)

Leon A. Hargreaves, Jr., *Dean*

### College of Education (1908)

Kathryn A. Blake, *Dean*

### Graduate School (1910)

John C. Dowling, *Dean*

### College of Business Administration (1912)

J.M. Tull School of

Accounting (1977)

William C. Flewellen, Jr., *Dean*

### School of Journalism and Mass

### Communication (1915)

Scott M. Cutlip, *Dean*

### College of Home Economics (1933)

Emily Q. Pou, *Dean*

### College of Veterinary Medicine (1946)

David P. Anderson, *Dean*

### School of Social Work (1964)

Charles A. Stewart, *Dean*

### School of Environmental Design (1969)

Robert P. Nicholls, *Dean*



## OFFICERS OF GENERAL ADMINISTRATION

### President

Frederick Corbet Davison, *President*  
J. Ralph Beaird, *University Professor of Law*  
James L. Carmon, *Assistant to the President*  
Albert Bruce Jones, *Assistant to the President*  
James Benson Kenney, *Assistant to the President - Administration*

### Vice President for Academic Affairs

Virginia Y. Trotter, *Vice President*  
Mary Louise McBee, *Associate Vice President*  
Sidney Edward Brown, *Associate Vice President*  
James H. Buck, *Associate Vice President*  
Leroy Ervin, Jr., *Assistant Vice President and Director of Development Studies*  
Ernest W. Smith, *Assistant to the Vice President*

### Vice President for Research

Robert C. Anderson, *Vice President*  
Nathan W. Dean, *Assistant Vice President*  
William Oates Burke, *Assistant Vice President*  
Ernest W. Harrison, *Assistant to the Vice President*  
William C. Lee, III, *Assistant to the Vice President*

### Vice President for Services

S. Eugene Younts, *Vice President*  
John D. Burke, *Assistant Vice President*  
Henry H. Logan, *Assistant to the Vice President*

### Vice President for Development and University Relations

H. Perk Robins, *Vice President*  
J. Donald Elam, *Associate Vice President*  
Louis T. Griffith, *Assistant Vice President*

### Vice President for Business and Finance

Allan Wedford Barber, *Vice President*  
Jenkins Comer Whitehead, *Assistant to the Vice President*

### Vice President for Student Affairs

Dwight O. Douglas, *Vice President*  
William R. Mendenhall, *Associate Vice President*  
T. David Fletcher, *Assistant to the Vice President*

### Registrar

Bruce T. Shutt, *Registrar and Associate Vice President for Student Affairs*  
Gary D. Moore, *Associate Registrar*  
William C. Marshall, *Associate Registrar*

### Admissions

Morris Overton Phelps, *Director*  
Claire C. Swann, *Associate Director*

### Libraries

David F. Bishop, *Director*





ROBERT C. WILSON  
PHARMACY BUILDING

SCHOOL OF PHARMACY



# THE SCHOOL OF PHARMACY

## OFFICERS OF ADMINISTRATION

Ansel, Howard Carl, *Professor Pharmaceutics and Dean of the School of Pharmacy*  
B.S. Pharmacy, Toledo; M.S., Ph.D., Florida

Entrekin, Durward Neal, *Professor of Pharmaceutics and Associate Dean of the School of Pharmacy*  
B.S. Pharmacy, Georgia; M.S., Ph.D., Florida

Blanton, Charles Dewitt, Jr., *Professor of Medicinal Chemistry and Director of Research and Graduate Studies*  
B.S., Western Carolina; Ph.D., Mississippi

Wickliffe, Billie Winell, *Assistant to the Dean and Assistant Professor of Pharmaceutics*  
B.S., B.S. Pharmacy, M.S., Ph.D., Georgia

Hammond, Alfred Gene, *Assistant to the Dean for Fiscal Affairs*  
B.B.A., Georgia

Waters, Kenneth Lee, *Professor Emeritus and Dean Emeritus of the School of Pharmacy*  
A.B., Lynchburg; M.S., Georgia; Ph.D., Maryland

## THE FACULTY

### Department of Pharmaceutics

Cadwallader, Donald Elton, *Professor of Pharmaceutics and Head, Department of Pharmaceutics*  
B.S. Pharmacy, Buffalo; M.S., Georgia; Ph.D., Florida

Capomacchia, Anthony Cessare, *Associate Professor of Pharmaceutics*  
B.S. Pharmacy, Ph.D., Florida

Hardee, Gregory Eugene, *Assistant Professor of Pharmaceutics*  
B.S. Pharmacy, Florida

Jun, Hung Won, *Associate Professor of Pharmaceutics*  
B.S. Pharmacy, Korea; Ph.D., Alberta

Price, James Clarence, *Associate Professor of Pharmaceutics*  
B.S. Pharmacy, Arkansas; M.S., Utah; Ph.D., Rhode Island

Snively, Michael J., *Temporary Instructor of Pharmaceutics*  
B.S. Pharmacy, Georgia

Tebo, Lestina Smith, *Instructor of Pharmaceutics and Advisor to Pre-Pharmacy Students*  
B.S. Pharmacy, M.S., Georgia

Vallner, Joseph Jerome, *Associate Professor of Pharmaceutics*  
B.S. Pharmacy, M.S., Ph.D., Wisconsin

Whitworth, Clyde Weydell, *Professor of Pharmaceutics*  
B.S. Pharmacy, M.S., Georgia; Ph.D., Florida

Wickliffe, Billie Winell, *Assistant Professor of Pharmaceutics*  
B.S., B.S., Pharmacy, M.S., Ph.D., Georgia

### Department of Pharmacy Practice

Cooper, James Weaver, Jr., *Associate Professor of Pharmacy Practice and Head, Department of Pharmacy Practice*  
B.S. Pharmacy, Ph.D., Georgia

Brown, Robert Herbert, Jr., *Clinical Pharmacy Associate and Coordinator of Externship Programs, Co-staffed with Georgia Mental Retardation Center*  
B.S. Pharmacy, M.S., Georgia

Brown, Walter John, *Professor of Therapeutic Medicine, Part-time, Co-staffed with the University Health Services*  
M.D., Medical College of Georgia

Chaffin, James Theodore, Jr., *Clinical Pharmacy Associate, Part-time, Co-staffed with University Health Services*  
B.S., Pharmacy, Georgia

Cobb, Henry Herbert, III, *Clinical Pharmacy Associate of Pharmacy Practice*  
B.S., M.S., Georgia

Dickerson, Joe Bill, *Instructor of Pharmacy Practice*  
B.S. Agriculture, B.S. Pharmacy, Georgia

DiPiro, Joseph T., *Assistant Professor of Pharmacy Practice*  
B.S. Pharmacy, Connecticut; Pharm.D., Kentucky

Erwin, W. Gary, *Assistant Professor of Pharmacy Practice*  
B.S. Pharmacy, Auburn; Pharm.D., Kentucky

Francisco, George, *Assistant Professor of Pharmacy Practice, Co-staffed with St. Mary's Hospital*  
B.S. Pharmacy, North Carolina; Pharm.D., Kentucky

Hartley, Martha C., *Clinical Pharmacy Associate of Pharmacy Practice, Co-staffed with St. Mary's Hospital*  
B.S. Pharmacy, Georgia

Johnson, Mary Wallace, *Adjunct Lecturer of Pharmacy Practice*  
B.S. Pharmacy, South Carolina

Longe, Robert Leon, *Assistant Professor of Pharmacy Practice*  
B.S. Pharmacy, Georgia; Pharm.D., Tennessee

McCall, Charles Yates, *Assistant Professor of Pharmacy Practice, Co-staffed with Athens General Hospital*  
B.S. Pharmacy, Pharm.D., Medical University of South Carolina

McKeller, Billie Ray, *Instructor of Pharmacy Practice, Part-time, Co-staffed with Athens General Hospital*  
B.S. Pharmacy, Auburn

Meunier, James Frank, *Clinical Pharmacy Associate of Pharmacy Practice, Part-time, Co-staffed with Athens General Hospital*  
B.S. Pharmacy, Georgia

Spruill, William J., *Assistant Professor of Pharmacy Practice*  
B.S. Pharmacy, Georgia; Pharm.D., Medical University of South Carolina

Stegeman, John Foster, *Special Lecturer of Therapeutics*  
B.S., Georgia; M.D., Emory

Taylor, Andrew Thomas, *Assistant Professor of Pharmacy Practice*  
B.S. Pharmacy, Georgia; Pharm.D., Medical University of South Carolina

Thomas, Patricia Cole, *Clinical Pharmacy Associate of Pharmacy Practice*  
B.S. Pharmacy, Georgia

Wade, William Elton, *Clinical Pharmacy Associate of Pharmacy Practice, Co-staffed with the Northeast Georgia Health District*  
B.S. Pharmacy, Georgia

## Department of Medicinal Chemistry and Pharmacognosy

LaRocca, Joseph Paul, *Professor of Medicinal Chemistry and Pharmacognosy and Head, Department of Medicinal Chemistry and Pharmacognosy*  
B.S. Pharmacy, Colorado; M.S., North Carolina; Ph.D., Maryland

Blanton, Charles DeWitt, Jr., *Professor of Medicinal Chemistry*  
B.S., Western Carolina; Ph.D., Mississippi

Chu, Chung K., *Assistant Professor of Medicinal Chemistry*  
B.S. Pharmacy, Korea; M.S., Idaho; Ph.D., SUNY/Buffalo

Gibson, Coy Avery, *Assistant Professor of Pharmacognosy*  
B.S. Pharmacy, South Carolina; M.S., Georgia; Ph.D., Rhode Island

Honigberg, Irwin Leon, *Professor of Medicinal Chemistry*  
B.S. Pharmacy, Connecticut; Ph.D., North Carolina

Millikan, Francis Ford, *Professor Emeritus of Medicinal Chemistry*  
B.S. Pharmacy, M.S. Pharm., Colorado; M.S. Chemistry, Brooklyn Polytechnic Institute

Ruenitz, Peter Carmichael, *Associate Professor of Medicinal Chemistry*  
B.S. Pharmacy, Minnesota; Ph.D., Kansas

Stewart, James Thomas, *Professor of Medicinal Chemistry*  
B.S. Pharmacy, M.S., Auburn; Ph.D., Michigan

Thompson, Bobby Blackburn, *Associate Professor of Medicinal Chemistry*  
B.S., Berry; M.S., Ph.D., Mississippi

## Department of Pharmacy Care Administration

Jowdy, Albert Willoughby, *Professor of Pharmacy Care Administration and Head, Department of Pharmacy Care Administration and Director of Pharmaceutical Services*  
B.S. Pharmacy, M.S., Ph.D., North Carolina

Beaman, Mark A., *Temporary Instructor of Pharmacy Care Administration*  
B.S. Pharmacy, Florida

Braucher, Charles Landis, *Professor of Pharmacy Care Administration and Director of the Office of Educational Development*  
B.S. Pharmacy, Philadelphia College of Pharmacy; M.S., Nebraska, Ph.D., Purdue



Carroll, Norman V., *Temporary Assistant Professor of Pharmacy Care Administration*  
B.S. Pharmacy; M.S., North Carolina

Dobbs, Willis Frank, *Associate Professor Emeritus of Pharmacy Care Administration*  
B.S. Pharmacy; M.B.A., Georgia

Fechtel, Edward John, Jr., *Lecturer of Pharmacy Care Administration, Part-time, Co-staffed with St. Mary's Hospital*  
B.B.A., Notre Dame; M.B.A., Emory

Kotzan, Jeffrey Anthony, *Professor of Pharmacy Care Administration*  
B.S. Pharmacy; M.S., Ph.D., Purdue

Singleton, James William, *Lecturer of Pharmacy Care Administration, Part-time, Co-staffed with Athens General Hospital*  
B.B.A., Emory

#### **Department of Pharmacology**

Wade, Adelbert Elton, *Professor of Pharmacology and Head, Department of Pharmacology*  
B.S. Pharmacy; M.S., Ph.D., Florida

Bunce, Opal Rebecca, *Assistant Professor of Pharmacology*  
B.S.A., M.S., Ph.D., Georgia

Iturrian, William Ben, *Associate Professor of Pharmacology*  
B.S. Pharmacy, Wyoming; Ph.D., Oregon State

Johnson, Henry Douglas, *Professor of Pharmacology*  
B.S. Pharmacy; M.S., Ph.D., Florida

Mokler, Corwin Morris, *Associate Professor of Pharmacology*  
B.A., Colorado College; M.S., Nevada; Ph.D., Illinois

Reigle, Thomas George, *Assistant Professor of Pharmacology*  
B.S. Pharmacy, Cincinnati; Ph.D., Ohio State

Tackett, Randall L., *Assistant Professor of Pharmacology*  
B.S., Jacksonville University; M.S., Auburn; Ph.D., Georgia

### **Pharmaceutical Services**

Gammill, Charles Goodrich, *Public Service Representative, Co-staffed with the Georgia Center for Continuing Education*  
B.S. Pharmacy, Samford

### **Learning Services**

Perey, Sheryl L. *Learning Services Coordinator*  
B.A., Canada



# 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 Dr. Waters' retirement in 1977, Dr. Howard C. Ansel was named Dean.



## PURPOSE

The purpose of The University of Georgia School of Pharmacy is to provide for the comprehensive academic needs of the profession of pharmacy. Manpower needs of the profession are supplied through the School'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 School'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 School 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; 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 nonpharmacy 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 School of Pharmacy. Nine quarters of residence in the professional baccalaureate program are required by the American Council on Pharmaceutical Education. The professional baccalaureate program is accredited by the American Council on Pharmaceutical Education.

The Doctor of Pharmacy degree is awarded to students who have satisfactorily completed a six quarter post baccalaureate program of study. Emphasis is placed on clinical pharmacy practice.

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

ADMISSION TO THE BACCALAUREATE PROGRAM

To be admitted to the professional baccalaureate program in the School 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.

Applicants to the professional baccalaureate 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 admissions committee will utilize the PCAT scores on Reading Comprehension and Chemistry. A minimum score on these two categories may be set by the committee.

The School of Pharmacy accepts students into its professional baccalaureate program for either summer or fall quarters. Those entering in the summer are expected to follow a continuous program, i.e., nine consecutive quarters.

Application to the School of Pharmacy should be submitted by February 1. Transcripts showing all college work taken should accompany the application. Students may make application to the Dean of the School of Pharmacy when they have completed four quarters of academic work.

Applicants for admission to the School 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 School by misrepresentation of facts may be dismissed immediately.

PRE-PHARMACY CURRICULUM

AREA I - HUMANITIES	Quarter Hours
ENG 101, 102	10
SPC 108	5
Literature—if literature is not included in the English courses, a course must be chosen from CML 121, 122, ENG 131, 132, 301, 302, or 323 or foreign languages (intermediate level)	5
AREA II - MATHEMATICS AND NATURAL SCIENCE	
MAT 116*	5
CHM 121-121L, 122-122L, 123-123L	15
AREA III - SOCIAL SCIENCE	
HIS 251 or 252	5
POL 101	5
ECN 105 or 106 (106 preferred)	5
Elective—may be chosen from ANT, HIS, POL, PSY, or SOC	5

AREA IV - MAJOR  
CHM 240-240L, 241-241L  
BIO 101, 102  
PCS 127, 128  
PEB 100-165

10  
10  
10  
5

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

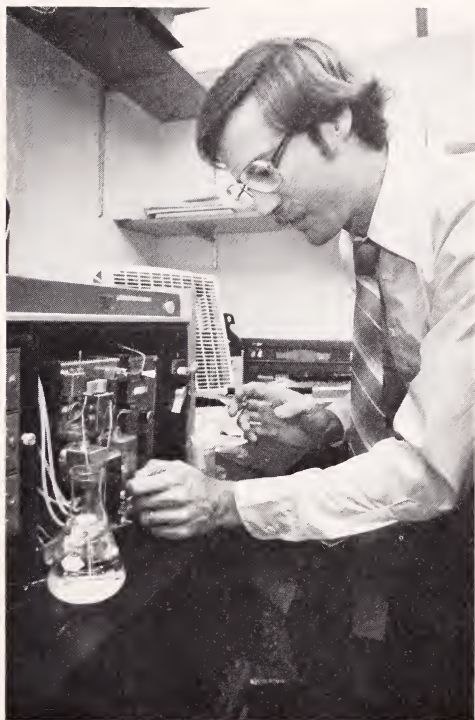
### **ADMISSION TO THE DOCTOR OF PHARMACY PROGRAM**

Persons holding a baccalaureate degree in pharmacy 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 the B.S. Pharmacy degree, the School of Pharmacy offers opportunities for advanced study in each of its five departments. These studies are open to individuals holding baccalaureate pharmacy degrees and in some cases to those 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 School of Pharmacy.

While the provisions of this bulletin will ordinarily be applied as stated, The University of Georgia 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 of changes will be available in the office of the Dean, School of Pharmacy, The University of Georgia, Athens, Georgia 30602. It is especially important that each student note that it is his or her responsibility to keep apprised of current graduation requirements for his or her particular degree program.



# REGULATIONS

## HOURS

In order to receive the Bachelor of Science degree from the School of Pharmacy, a student must have earned not less than 231 quarter hours of required credit, exclusive of P.E., with a cumulative grade point average of at least 2.0.

## ACADEMIC LOAD

All baccalaureate students in the School 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 a part of the baccalaureate curriculum, 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 hospitals 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 employee under the supervision of a pharmacist. Credit for internship may be received only after a student has completed pre-pharmacy requirements and been accepted into a School of Pharmacy. Students are encouraged to serve internship during the summers. A total of 480 hours of credit toward internship will be given for work performed while registered for academic credit in an authorized externship program. An intern license is required for participation in the externship program.

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\*This includes MIB 402, STA 300, ZOO 312-312L and all pharmacy courses.

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 supervision.

## SCHOLARSHIP REQUIREMENTS

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

All first professional year students must have earned a minimum grade point average of 1.8 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 School of Pharmacy in order to progress to the third professional year.

At least a grade of 2.0 must be earned in all required pharmacy courses before credit for the course will be given toward graduation.\*

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.

## LIMITATION OF STUDENT EMPLOYMENT

Since it is realized that classroom work must receive major emphasis by all students, they should not accept employment which will interfere with their scholastic program. Students who make a poor scholastic record as a result of working will be required to reduce their work load.



## 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 course work. This requires students to establish 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 School 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 to otherwise exemplify professional men and women at all times. Certain courses may require specific attire.

## ATTITUDE AND CONDUCT

A student whose attitude, actions or conduct, either on or off campus, are of a type which could discredit himself, the School of Pharmacy, The University of Georgia, and/or the pharmacy profession shall be subject to dismissal from the School of Pharmacy. Students in the School are also governed by the rules and regulations of The University of Georgia as outlined in the current general bulletin. Special attention is directed to provisions in the general bulletin and the student handbook.



As a future member of the profession of pharmacy each student has the duty to observe the law, uphold the honor of the profession and accept its ethical standards of conduct. Adhering to these principles is an integral part of the training. For these reasons the students of the School of Pharmacy have established a code of ethics so that no student will bring discredit or dishonor to the profession. A pharmacy ethics court comprised of pharmacy students will review breaches of ethical conduct by students and propose disciplinary action where necessary. On admission, students will be required to sign a pledge adhering to the code of ethics of the school and to abide by the decisions of the ethics court.

Any student dismissed from the School, but not from the University, may within 30 days submit a written request to the School's Academic Committee for a review of his case. *Each student is limited to one such review.* The reviewing board's decision, after review by the dean, is final.

# GRADING SYSTEM

For purposes of computing quarterly, yearly, and cumulative grade point averages, letter grades must be converted into numerical equivalents. The equivalents are:

A	4.0
B	3.0
C	2.0
D	1.0
F	0
WF	0

The following symbols are used in the cases indicated, but will not be included in the determination of the grade point average.

- I — This symbol indicates that a student was doing satisfactory work but, for non-academic reasons beyond his control, was unable to meet the full requirements of the course. The requirements for removal of an "I" are left to the respective institutions; however, if an "I" is not satisfactorily removed after three quarters of residence, 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 a specified date except in cases of verified hardship.
- S — This symbol indicates that credit has been given for completion of degree requirements other than academic course work.
- U — This symbol indicates unsatisfactory performance in an attempt to complete degree requirements other than academic course work.
- V — This symbol indicates that a student was given permission to audit this course. Students may not transfer from audit to credit status or vice versa.
- K — This symbol indicates that a student was given credit for the course via a credit by examination program approved by the faculty.

## 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. A student may remove himself or herself from academic probation by achieving a 2.0 cumulative average. Transfer credits are not included in the computation of the cumulative grade average.

\*Some schools and colleges within the University maintain academic standards specific to their degree requirements which may exceed University regulations. Students who fall below such standards should contact immediately the appropriate administrator in their respective Dean's office for academic counseling and program evaluation.

## ACADEMIC DISMISSAL

Pharmacy students will be dismissed after two quarters in residence at the University 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 - 120	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 his/her academic dean.

After a Second Dismissal, only through appeal to the University Academic 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 students. The following (not including travel, clothing, and incidentals) is an estimation of quarterly expenses.

Total Resident Fees	\$414.00
Total Non-Resident Fees	\$1,074.00
Residence Halls	\$249.00-\$363.00
Meals	\$312.00-\$371.00
Books	\$125.00
Lab Clothing and Equipment	\$50.00

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.

## 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 Aid, Academic Building, The University of Georgia 30602.

## LOCAL SCHOLARSHIPS AND LOANS

Certain hometown firms and organizations offer scholarships and loans to deserving students. Students are urged to investigate hometown possibilities.

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 School 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 Student Pharmaceutical Association 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 develop leadership and character.

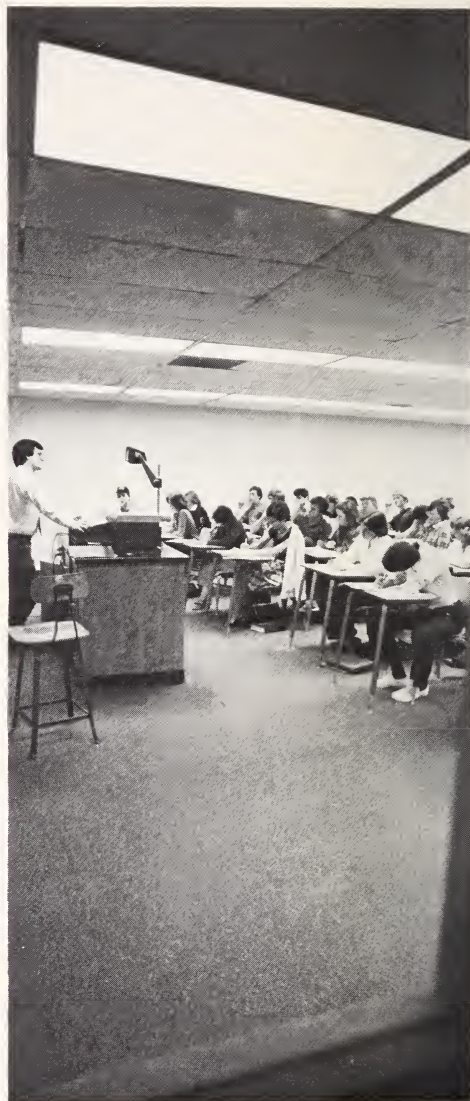
Efforts to advance the pharmacy profession educationally, fraternally, and socially led to the installation of chapters of two professional fraternities, Phi Delta Chi and Kappa Psi; a sorority, Lambda Kappa Sigma; and a leadership fraternity, Phi Lambda Sigma. These organizations instill in their members a respect for diligence, sincerity, and brotherhood and assist in developing leadership characteristics. They sponsor activities beneficial to the School, 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 School 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 cash. 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
STA 300 Statistical Methods for Pharmacy	3
PHR 310 Pharmacy Orientation	2
ZOO 312-312L Anatomical Basis for Medical Physiology	5
PHR 320 Pharmacy Calculations	3
PHR 321 Introduction to Dosage Forms	5
PHR 324-25 Introductory Medicinal Chemistry I & II	6
PHR 334 Medicinal Chemistry Laboratory	1
PHR 347 Biopharmacy I	4
PHR 349-50 Medical Physiology and Pathophysiology I & II	8
PHR 390 Pharmacy Law	3
PHR 393 Administrative Pharmacy I	2
PHR 396 Administrative Pharmacy II	4

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

PHR 400 Drug Information	1
MIB 402 Microbiology for Pharmacy Students	5
PHR 404 Pharmacognosy	3
PHR 406-7 Pharmaceutics I & II	10
PHR 433-4-5 Principles of Drug Action	15
PHR 445 Pharmacology Laboratory	1
PHR 437 Dispensing I	4
PHR 447 Biopharmacy II	3
Elective(s)	6

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

PHR 500ABCDE Pharmacy Externship	15
PHR 525 Clinical Pharmacokinetics	3
PHR 538 Dispensing II	5
PHR 540 Patient Assessment	2



PHR 575 Chemotherapy	5
PHR 585 Disease States and Therapeutics	5
PHR 593 Pharmaceutical and Health Care Systems	3
PHR 597 Pharmacy Communications	4
Elective(s)	6

<sup>1</sup>Classification of "First Year Pharmacy Student" means registered in the School for the first time.  
<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.

# COURSES OF INSTRUCTION

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.

### Required Professional 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 physiochemical 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.

STEWART AND 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.

GIBSON

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

Prerequisite: First Year Pharmacy Student.

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

**404. Pharmacognosy.** 3 hours.

Prerequisite: PHR 325, 347, 350.

The study of drugs of plant and animal origin with emphasis on their chemistry, pharmacological action, pharmaceutical and therapeutic uses. Major consideration is given to vitamins, naturally occurring oncolytic agents, plant gums, mucilages and resins used pharmaceutically, and those alkaloids, glycosides and enzymes currently used as drug products.

GIBSON

**433/633, 434/634, 435/635. Principles of Drug Action.** 5 hours each.

(See listing under Pharmacology)

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

(See listing under Pharmacology)

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

Prerequisite: MIB 402, PHR 435/635.

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, GIBSON

### Elective Courses

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

Prerequisite: PHR 433/633.

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

**506. Microscopic Pharmacognosy.** 3 hours.

Prerequisite: PHR 404 or P.O.D.\*  
Application of microchemical and specialized techniques in the detection, separation and microscopic identification of drugs.  
GIBSON

**507. Drug Assay.** 3-5 hours.

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

**509. Materia Medica.** 3 hours.

Prerequisite: PHR 404, 433/633.  
A study of the history, identification, collection, commerce and constituents of medicinal plants of the present and past.  
GIBSON

**511. Historical Prescriptives 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.  
LaROCCA

## Graduate Courses

**801. Medicinal Chemistry.** 3 hours.

Prerequisite: P.O.D.\*  
A detailed study of the theoretical aspects of medicinal chemistry designed specifically for the student of medicinal chemistry lacking a pharmacy background.  
LaROCCA

**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, infra-red and ultra-violet 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

**809AB. Advanced Medicinal Chemistry.** 4 hours each.

Prerequisite: PHR 435/635 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 physicochemical properties to biological response.  
BLANTON, HONIGBERG, RUENITZ

**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

**812. Mechanisms of Biological Degradations.** 3 hours.

Prerequisite: BCH 801, CHM 431/631 or P.O.D.\*  
Lectures discussing the chemical mechanisms of biochemical transformations of small molecules. Attention will be focused on research reports on mammalian systems.  
STAFF

**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.  
RUENITZ

**830. (FS) Radiation Principles.** 5 hours.

Two lectures and two 4-hour lab periods.  
Prerequisite: BCH 401/601 or equivalent.  
Principles and techniques of radiochemistry and radiobiology.  
LaROCCA

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\*Permission of Department





## 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.

### Required Professional 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. CADWALLADER, TEBO, WHITWORTH, WICKLIFFE.

#### 321. Introduction to Dosage Forms. 5 hours.

Prerequisite: PHR 320.

The various dosage forms, classes of pharmaceutical preparations, general methods of preparation and appropriate examples of currently used products are introduced. The laboratory stresses compounding techniques and the dispensing of prefabricated medications.

TEBO, WHITWORTH, WICKLIFFE.

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

Prerequisite for 406: PHR 321, 325, STA 300.

Prerequisite for 407: PHR 347, 350.

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. Prescription handling and dispensing experience at the University Health Service is a part of this sequence.

CAPOMACCHIA, HARDEE, JUN, PRICE, VALLNER.

#### 525. Clinical Pharmacokinetics. 3 hours.

Prerequisite: PHR 407/607, 435/635.

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

JUN, VALLNER.

### Elective Courses

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

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

One lecture and six to nine lab hours weekly. 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

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\*Permission of department.



**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

**526/726. 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

**530. Manufacture of Cosmetics.** 3 hours.

Prerequisite: PHR 407/607.

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

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

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

CADWALLADER, HARDEE, PRICE, VALLNER

**826. Pharmacokinetics.** 5 hours.

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

JUN

**827. Advanced Clinical Pharmacokinetics.** 5 hours.

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

Clinical pharmacokinetics deals with clinical applications of pharmacokinetics in patient care. The aims of the course are to provide graduate students specializing in hospital pharmacy with a clear understanding of the fundamental pharmacokinetic concepts and their practical applications.

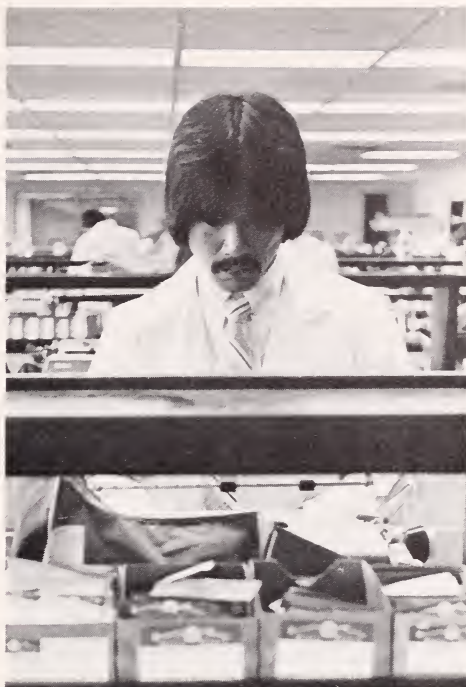
JUN

**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.

VALLNER



## PHARMACOLOGY

Pharmacology is the study of the action of chemicals on living organisms, the effects induced and their therapeutic applications. As a scientific discipline, it is based on the physical and biological sciences with particular emphasis on physiology and chemistry. Graduate programs are available in neuropharmacology, behavioral pharmacology, biochemical pharmacology, cardiovascular pharmacology and toxicology.

## Required Professional Courses

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

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

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

BUNCE, MOKLER.

**433/633, 434/634, 435/635. Principles of Drug Action.** 5 hours each.

Prerequisite for 433/633: PHR 325, 347, 350.

Prerequisite for 434/634: PHR 404, 447.

Corequisite for 435/635: PHR 445/645.

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

A study of the actions of drugs in current use, emphasizing the chemical and pharmacological principles related to stability, bioavailability, structure-activity relationship, pharmacologic action, therapeutic application and toxicology. The drug categories included in PHR 433/633 are an-

\*Permission of Department

thistamines and related drugs, 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. The courses are jointly taught by the pharmacology and medicinal chemistry faculties. HONIGBERG, ITURRIAN, JOHNSON, LaROCCA, REIGLE, RUENITZ, TACKETT, WADE.

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

Corequisite: PHR 435/635.

One three hour laboratory each week. Experiments designed to demonstrate the action of CNS, autonomic and cardiovascular drugs on laboratory animals.

STAFF

## Elective Courses

**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, ITURRIAN

## Graduate Courses

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

Prerequisite: BIO 102, CHM 241, 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

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

Prerequisite: BIO 102, CHM 241, 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

**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.

MOKLER, TACKETT

**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.

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.

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.

BOOTH, JOHNSON, JUN, WADE

## 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, public health, health care systems, pharmacy ethics, and patient communication skills and behavioral characteristics. Graduate studies are offered in pharmacy care administration with four options available for the students.

## Required Professional Courses

**390. Pharmaceutical Law.** 3 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.

STAFF

**393. Administrative Pharmacy I.** 2 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.** 4 hours.

Prerequisite: PHR 393.

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

JOWDY, SHEPHERD

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\*Permission of department.

**593/793. Pharmaceutical and Health Care Services.** 3 hours.

Prerequisite: Third Year Pharmacy Student or 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, legal and professional aspects and the study of the activities of providers and consumers of such services.

BRAUCHER

**597. Pharmacy Communications.** 4 hours.

Corequisite: PHR 538.

An intensive examination of the behavior of the pharmaceutical patient in terms of psychological and sociological dynamics. Communication models are employed to relate pharmacist response to difficult patient types. The course emphasizes the psychological component of patient-pharmacist interactions. Student-produced video tapes are employed for class presentation and evaluation.

KOTZAN.

## Elective Courses

**501/701. Public Health.** 3 hours.

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

A broad perspective of the philosophy of public health, the need for health services, and the efforts to provide those services through health and health-related programs in the United States.

BRAUCHER

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

Prerequisite: First Year Pharmacy Student.

This course deals with the problems faced by the community pharmacist as he 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

**599. Advanced Administrative Pharmacy.** 3 hours.

Prerequisite: PHR 396.

A study of administrative practices in community pharmacy.

JOWDY, CARROLL

## Graduate Courses

**727. Hospital Administration and Management.** 5 hours.

Prerequisite: PHR 524/724 or P.O.D.\*

A study of the history, types, organizational structure, and operational policies and procedures of hospitals. Emphasis is given to the role and function of each department and how it relates to the pharmaceutical services as well as problems arising from internal and external factors.

FECHTEL

**777. Institutional Pharmacy Administration Residency.** 15 hours.

Prerequisite: PHR 524/724 and Baccalaureate Pharmacy Degree or Pharm.D.

The application of administrative principles in the institutional environment. The residency involves observation and participation in a wide variety of institutional administrative functions. These include policy development and implementation, financial management activities, interdepartmental administrative activities, and the solution of representative administrative problems.

STAFF



**850. Problems in Pharmaceutical Marketing.** 5 hours.

Prerequisite: P.O.D.\*

An in-depth examination of drug marketing experiences. Special emphasis is placed on the problems which arise in seeking a satisfactory relationship between the manufacturer, wholesaler, retailer and the institutional sectors. A competitive pharmacy computer model is an integral portion of the course.

JOWDY

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\*Permission of department.



**851. Seminar in Medical Care Programs.** 5 hours.

Prerequisite: P.O.D.\*

A comprehensive examination of the state of the nation's health, the distribution of health care facilities, and the various programs, both public and private, designed to improve the quality and distribution of health care throughout the United States.

BRAUCHER

**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.

KOTZAN, SHEPHERD

## 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.

## Required Professional Courses

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

Prerequisite: Second Year Pharmacy Student.

Drug information retrieval, evaluation and communication.

COOPER

**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.

BROWN, COBB, DICKERSON, THOMAS

**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.

BROWN 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.

BROWN, COBB, COOPER, DICKERSON, THOMAS

**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.

COOPER, COBB

**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.

STEGEMAN AND STAFF

## Elective Courses

**503. Pharmacy Seminar.** 1 hour.

Prerequisite: Third Year Pharmacy Student.

Application of prior course material to patient cases from community and hospital practice.

COOPER

**508/708. 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

**524/724. Institutional Pharmacy.** 3-5 hours.

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

A study of the history, organization, structure, and operational policies and procedures of various types of health care institutions. Consideration is given to the pharmaceutical services rendered in hospitals, extended care facilities and nursing homes.

COPPOLA, JOHNSON

**560/760. Clinical Seminar.** 3-5 hours. May be repeated for a maximum of 20 credit hours.

Variable lecture and lab hours weekly.

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

\*Permission of department.





Lectures involve clinical case presentations including aspects of etiology, pathology, prognosis and treatment of disease. Laboratories involve teaching rounds and case work-up at local hospitals.

STEGEMAN

**570/770. 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 other health-related appliances.

THOMAS, MEUHIER

**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 drug store. Ethics, economic and legal aspects will be stressed.

DICKERSON

## INTERDEPARTMENTAL COURSES

### Required Courses

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

Prerequisite: First Year Pharmacy Student.

An introduction to the profession covering an historical perspective, current trends and future opportunities.

ANSEL, ENTREKIN

### Elective Courses

**496H, 497H, 498H. Independent 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 who must be an assistant professor or higher.

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

\*Permission of department.

**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

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

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

**930. Thesis.** 5-50 hours.

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 402. Microbiology for Pharmacy Students.** 5 hours.

**STA 300. Statistical Methods for Pharmacy.** 3 hours.

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

## 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

**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.  
BRAUCHER

**552. Advanced Drug Information.** 3 hours.

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

**554. Applied Pharmacokinetics and Drug Analysis.** 5 hours.

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

**555. Clinical Conference.** 1 hour.

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

**571ABCD. Advanced Clerkship I.** 571AB 4 hours each. 571CD 2 hours each.

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

**572ABCD. Advanced Clerkship II.** 6 hours each.

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

**573. Advanced Clerkship III.** 12 hours.

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

**574. Pharmacy Problem Solving I.** 3 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.  
COOPER AND STAFF

**576. Pharmacy Problem Solving II.** 4 hours.

Prerequisite: Admission to Pharm.D. program. The preparation and defense of a suitable project proposal involving innovative pharmacy systems.  
COOPER AND STAFF

**577, 578, 579. Doctor of Pharmacy Project I, II, III.** 3 hours 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 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

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

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

Information about graduate programs:

*Graduate Coordinator  
School of Pharmacy  
The University of Georgia  
Athens, Georgia 30602  
Telephone: (404) 542-4410*

Housing for single students:

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

Housing for married students:

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

