

THE SCHOOL OF PHARMACY

February 1978



cord of The

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**RECORD OF THE UNIVERSITY
OF NORTH CAROLINA
AT CHAPEL HILL**

**THE ONE HUNDRED AND
EIGHTY-FOURTH SESSION**

THE SCHOOL OF PHARMACY

Announcements for the Session 1978-1979

**THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL
CHAPEL HILL, N.C.**

THE UNIVERSITY OF NORTH CAROLINA

Sixteen Constituent Institutions

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RICHARD H. ROBINSON, JR., A.B., LL.B., Assistant to the President

ROBERT W. WILLIAMS, A.B., M.A., Ph.D., Associate Vice President — Academic Af-
fairs

The University of North Carolina was chartered in 1789 and opened its doors to students at its Chapel Hill campus in 1795. Throughout most of its history, it has been governed by a Board of Trustees chosen by the Legislature and presided over by the Governor. During the period 1917-1972, the Board consisted of one hundred elected members and a varying number of *ex-officio* members.

By act of the General Assembly of 1931, without change of name, it was merged with The North Carolina College for Women at Greensboro and The North Carolina State College of Agriculture and Engineering at Raleigh to form a multicampus institution designated The University of North Carolina.

In 1963 the General Assembly changed the name of the campus at Chapel Hill to The University of North Carolina at Chapel Hill and that at Greensboro to The University of North Carolina at Greensboro and, in 1965, the name of the campus at Raleigh was changed to North Carolina State University at Raleigh.

Charlotte College was added as The University of North Carolina at Charlotte in 1965, and, in 1969, Asheville-Biltmore College and Wilmington College became The University of North Carolina at Asheville and The University of North Carolina at Wilmington respectively.

A revision of the North Carolina State Constitution adopted in November 1970 included the following: "The General Assembly shall maintain a public system of higher education, comprising The University of North Carolina and such other institutions of higher education as the General Assembly may deem wise. The General Assembly shall provide for the selection of trustees of The University of North Carolina. . . ." In slightly different language, this provision had been in the Constitution since 1868.

On October 30, 1971, the General Assembly in special session merged, without changing their names, the remaining ten state-supported senior institutions into the University as follows: Appalachian State University, East Carolina University, Elizabeth City State University, Fayetteville State University, North Carolina Agricul-

tural and Technical State University, North Carolina Central University, North Carolina School of the Arts, Pembroke State University, Western Carolina University, and Winston-Salem State University. This merger, which resulted in a statewide multicampus university of sixteen constituent institutions, became effective on July 1, 1972.

The constitutionally authorized Board of Trustees was designated the Board of Governors, and the number was reduced to thirty-two members elected by the General Assembly, with authority to choose their own chairman and other officers. The Board is "responsible for the general determination, control, supervision, management, and governance of all affairs of the constituent institutions." Each constituent institution, however, has its own board of trustees of thirteen members, eight of whom are appointed by the Board of Governors, four by the Governor, and one of whom, the elected president of the student body, serves *ex officio*. The principal powers of each institutional board are exercised under a delegation from the Board of Governors.

Each institution has its own faculty and student body, and each is headed by a chancellor as its chief administrative officer. Unified general policy and appropriate allocation of function are effected by the Board of Governors and by the President with the assistance of other administrative officers of the University. The General Administration office is located in Chapel Hill.

The chancellors of the constituent institutions are responsible to the President as the chief administrative and executive officer of The University of North Carolina.

UNIVERSITY CALENDAR

1978-1979

SUMMER SESSION, 1978

First Term

May 22, Monday	Registration.
May 23, Tuesday	First day of classes.
May 24, Wednesday	Last day — Late registration
May 29, Monday	Holiday — Memorial Day
June 6, Tuesday	Last day for undergraduates to drop courses.
June 16, Friday	Last day for graduates to drop courses.
June 23, Friday	Last day of classes.
June 26-27, Monday-Tuesday	Final examinations.

Second Term

July 5, Wednesday	Registration
July 6, Thursday	First day of classes.
July 7, Friday	Last day — Late registration.
July 19, Wednesday	Last day for undergraduates to drop courses.
July 31, Monday	Last day for graduates to drop courses.
August 7, Monday	Last day of classes.
August 8-9, Tuesday-Wednesday	Final examinations.

FALL SEMESTER, 1978

August 16, Wednesday	Fall Semester opens.
August 19, Saturday	Residence Halls open for freshmen.
August 19, Saturday	Orientation of all new freshmen according to schedule to be announced.
August 20, Sunday	Residence Halls open for transfer students.
August 21, Monday	Residence Halls open for returning students.
August 21-23, Monday-Wednesday	Registration according to schedule to be announced.
August 24, Thursday	Classes begin for all students. Late registration begins. Fee of \$5.00 charged for late registration.
August 30, Wednesday	End of late registration and change in schedules. No registration accepted after this date.
September 4, Monday	Holiday, Labor Day.
September 21, Thursday	Last day for Pass/Fail declaration and for dropping courses (undergraduates).
September 29, Friday	Last day for graduate students to file applications with Dean for degree to be awarded in December.
October 9, Monday	Progress reports for freshmen due.

October 10, Tuesday	Last day for filing application with Dean for degree to be awarded in December (undergraduate).
October 12, Thursday	University Day
October 13 5 P.M., Friday	Fall Recess — Instruction ends.
October 18 8 A.M., Wednesday	Instruction resumes.
October 30-November 3, Monday-Friday	Pre-registration for Spring Semester.
November 11, Saturday	Written examinations for master's candidates for December graduation may not be taken after this date.
November 17, Friday	Doctoral dissertations and master's theses for the December graduation must be filed in the Graduate School by this date.
November 21, Tuesday	Last Day for graduate students to drop a course.
November 22, 1:00 P.M., Wednesday	Thanksgiving Recess — Instruction ends.
November 27, 8:00 A.M., Monday	Instruction resumes.
December 2, Saturday	Last day for final oral examinations for master's or doctoral degrees for graduation in December.
December 8, Friday	Fall Semester classes end.
December 11, Monday	Fall Semester examinations begin.
December 20, Wednesday	Fall Semester examinations end.

SPRING SEMESTER, 1979

January 7, Sunday	Semester opens.
January 7, Noon, Sunday	Residence Halls open for new students.
January 8, Monday	Residence Halls open for returning students.
January 8-9, Monday-Tuesday	Registration/schedule changes.
January 10, Wednesday	Classes begin for all students. Late registration begins. Fee of \$5.00 charges for late registration.
January 16, Tuesday	End of late registration and change in schedules. No registration accepted after this date.
January 26, Friday	Last day for graduate students to file applications with Dean for degree to be awarded in May.
February 7, Wednesday	Last day for Pass/Fail declaration and for dropping courses (undergraduate).
February 9, Friday	Last Day for filing application with Dean for degree to be awarded in May (undergraduate).
March 2, Friday	Spring Recess — Instruction ends 5:00 P.M.
March 12, Monday	Instruction resumes — 8:00 A.M.
March 16, Friday	Doctoral dissertations and master's theses for May graduation must be filed in the Graduate School by this date.

April 9-13, Monday-Friday	Pre-registration for summer and fall.
April 12, Thursday	Last Day for graduate students to drop a course.
April 14, Saturday	Written examinations for master's candidates for May graduation may not be taken after this date.
April 16, Monday	Holiday, Easter Monday.
April 21, Satur'ay	Last day for final oral examinations for master's or doctoral degrees for graduation in May.
April 26, Thursday	Last day of classes for the Spring Semester.
April 27, Friday	Reading Day.
April 30, Monday	Spring Semester examinations begin.
May 9, Wednesday	Spring examinations end.
May 13, Sunday	Commencement.

THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL

NELSON FERESEE TAYLOR, LL.B., Chancellor

CLAIBORNE STRIBLING JONES, Ph.D., Executive Assistant to the Chancellor

SUSAN H. EHRINGHAUS, J.D., Assistant to the Chancellor

C. HUGH HOLMAN, Ph.D., Special Assistant to the Chancellor

H. BENTLY RENWICK, M.Ed., Special Assistant to the Chancellor

SARAH VIRGINIA DUNLAP, B.S., Secretary to the University

DONALD ARTHUR BOULTON, Ed.D., Vice Chancellor for Student Affairs

WILLIAM WILFRED COBEY, JR., M.Ed., Director of Athletics

CHRISTOPHER COLUMBUS FORDHAM, III, M.D., Vice Chancellor Health Affairs and
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DOUGLASS HUNT, LL.B., Vice Chancellor, Administration

LYLE VINCENT JONES, Ph.D., Dean of the Graduate School and Vice Chancellor

WILLIAM FREDERICK LITTLE, Ph.D., Vice Chancellor, Development and Public Service

JOHN CHARLES MORROW III, Ph.D., Provost

JOHN LEWIS TEMPLE, B.B.A., Vice Chancellor for Business and Finance

PHARMACY FACULTY AND STAFF

Administration

TOM S. MIYA (1977), Ph.D., Dean and Professor, School of Pharmacy; Professor of
Pharmacology

LEROY D. WERLEY, JR. (1967), M.H.A., Associate Dean; Associate Professor of
Pharmacy

GLORIA R. MANLEY, Librarian

NELLE B. BARBOUR, Administrative Secretary

STEPHANIE BREWINGTON, Accounting Technician

LINDA R. GOSWICK, Secretary to the Dean

GAIL R. MORIARTY, Administrative Assistant — Student Affairs

TINA PATILLO, Receptionist

CARLA SHUFORD, Secretary

LYNDA SMOAK, Accounting Technician

REBECCA S. WORK, Assistant to the Dean

Division of Pharmaceutics

JAMES L. OLSEN (1969), Ph.D., Associate Professor of Pharmacy and Chairman of
Pharmaceutics Division

MILTON ROBERT BLUM (1972), Ph.D., Associate Professor

B. WESLEY HADZIJA (1971), Ph.D., Associate Professor

JAMES HEYWARD HULL (1970), M.S., Assistant Professor

RICHARD J. KOWALSKY (1972), Pharm.D., Assistant Professor

ROBERT P. LAFFERTY (1975), B.S., Clinical Instructor

ALBERT M. MATTOCKS (1966), Ph.D., Professor

CLAUDE PAOLONI (1967), B.S., Associate Professor

HENRY L. SMITH (1972), B.S., Clinical Instructor

WILLIAM W. TAYLOR (1952), Ph.D., Assistant Professor

WILLIAM A. WARGIN (1977), Ph.D., Assistant Professor

NETTIE WILBURN, Secretary

Division of Medicinal Chemistry and Pharmacognosy

GEORGE H. COCOLAS (1958), Ph.D., Professor of Medicinal Chemistry and Chairman of Medicinal Chemistry Division
GEORGE P. HAGER (1966), Ph.D., Professor of Medicinal Chemistry
IRIS H. HALL (1970), Ph.D., Associate Professor of Medicinal Chemistry
KHALID S. ISHAQ (1970), Ph.D., Assistant Professor of Medicinal Chemistry
KUO-HSIUNG LEE (1970), Ph.D., Professor of Medicinal Chemistry
LARRY J. LOEFFLER (1971), Ph.D., Associate Professor of Medicinal Chemistry
CLAUDE PIANTADOSI (1957), Ph.D., Professor of Medicinal Chemistry
FRED SEMENIUK (1947), Ph.D., Professor of Medicinal Chemistry
JACK K. WIER (1961), Ph.D., Associate Professor of Pharmacognosy
YOSHIO SUMIDA (1977), Ph.D., Postdoctoral Fellow
RONG-YANG WU (1976), Ph.D., Postdoctoral Fellow
STEVEN D. WYRICK (1977), Ph.D., Postdoctoral Fellow
BETH AUSTIN, Administrative Secretary
SARAH CARR, Secretary

Division of Pharmacy Administration

JEAN P. GAGNON (1975), Ph.D., Associate Professor of Pharmacy Administration and Chairman of Pharmacy Administration Division
LEONARD BERLOW (1970), M.H.A., Director of Public Relations and Assistant Professor
MELVIN A. CHAMBERS (1959), Ph.D., Professor
RAY JANG (1977), Ph.D., Associate Professor
LEROY D. WERLEY, JR. (1967), M.H.A., Associate Professor
AUDREY AGNELL, Secretary
MARTHA LEE, Secretary

Division of Pharmacy Practice

FRED M. ECKEL (1966), M.S., Director of Clinical Pharmacy Services at N.C. Memorial Hospital; Professor of Hospital Pharmacy and Chairman of the Pharmacy Practice Division
STEVE N. ALMOND (1971), B.S., Clinical Assistant Professor
WILLIAM J. BICKET (1975), B.S., Clinical Assistant Professor and Director of Pharmacy Services at N.C. Memorial Hospital
CANDACE K. BRYAN (1972), Pharm.D., Assistant Professor
STEPHEN M. CAIOLA (1968), M.S., Associate Professor and Coordinator, Pharmacy Services, OCCHS and Primary Care, N.C. Memorial Hospital
GILLES CLOUTIER (1977), Ph.D., Clinical Assistant Professor
JANNET M. CARMICHAEL (1977), B.S., Clinical Instructor
BETTY H. DENNIS (1975), M.S., Instructor
MARTHA J. GABRIEL (1977), M.S., Clinical Instructor
LAWRENCE J. HAK (1973), Pharm.D., Assistant Professor
SANDRA H. HAK (1975), B.S., Clinical Instructor
PATSY S. HUFF (1974), B.S., Clinical Instructor
J. HEYWARD HULL (1970), M.S., Assistant Professor
JUDITH ANN LUDY (1977), M.S., Clinical Instructor
O. LEE MARSH (1976), B.S., Clinical Instructor
A. WAYNE PITTMAN (1972), B.S., Instructor
R. STEVEN PORTER (1976), Pharm.D., Instructor
RITA KAY PROCTOR (1977), B.S., Clinical Assistant Professor

RALPH H. RAASCH (1976), Pharm.D., Instructor
GEORGE DAVID RUDD (1977), M.S., Instructor and Director of Drug Information, N.C.
Memorial Hospital
BENJAMIN O. WILLIAMS (1976), M.S., Clinical Assistant Professor
ALI AVERY, Secretary
SANDRA WALDEN, Secretary

Adjunct Members of Faculty

ROBERT J. ALLEN, M.S., Adjunct Assistant Professor of Hospital Pharmacy
WILLIAM H. BRINER, B.S., Adjunct Assistant Professor of Pharmaceutics
H. SHELTON BROWN, B.S., Adjunct Assistant Professor of Clinical Pharmacy
ALLEN E. CATO, M.D., Adjunct Assistant Professor of Clinical Pharmacy
WAYNE A. COLBURN, Ph.D., Adjunct Assistant Professor of Pharmaceutics
ANDREW L. FINN, Pharm.D., Adjunct Instructor of Hospital Pharmacy
FREDERICK C. KULL, Ph.D., Adjunct Associate Professor of Pharmacy Administration
JAMES C. McALLISTER, M.S., Adjunct Instructor of Hospital Pharmacy
WILLIAM J. MURRAY, MD., Adjunct Associate Professor of Clinical Pharmacy
EDWARD O. OSWALD, Ph.D., Adjunct Assistant Professor of Medicinal Chemistry
VLADIMIR PETROW, D.Sc., Adjunct Professor of Medicinal Chemistry
BARBARA ROTH, Ph.D., Adjunct Professor of Medicinal Chemistry
JAMES R. SINGLETARY, Pharm.D., Adjunct Instructor of Pharmaceutics
MILTON SKOLAUT, B.S., Adjunct Assistant Professor of Hospital Pharmacy
FRED L. SNYDER, Ph.D., Adjunct Professor of Medicinal Chemistry
W. WAYNE STARGEL, Pharm.D., Adjunct Instructor of Clinical Pharmacy
WILLIAM J. TAYLOR, JR., Pharm.D., Adjunct Instructor of Clinical Pharmacy
WILLIAM T. VAUGHAN, B.S., Adjunct Instructor of Clinical Pharmacy
MONROE E. WALL, Ph.D., Adjunct Professor of Medicinal Chemistry
RICHARD M. WELCH, Ph.D., Adjunct Associate Professor of Pharmaceutics
DAVID R. WORK, J.D., Adjunct Associate Professor of Pharmacy Administration

Lecturers

BETTY SUE FRANCISCO — Pharmacy Administration
CHARLES C. PULLIAM — Pharmacy Practice

Joint Members of Faculties — School of Medicine and School of Pharmacy

HUGH J. BURFORD (1971), Ph.D., Associate Professor of Pharmacology
RICHARD J. KOWALSKY (1972), Pharm.D., Assistant Professor of Radiology and
Pharmaceutics
ARTHUR J. McBAY (1969), Ph.D., Professor of Pharmacy and Pathology
TOM S. MIYA, (1977), Ph.D., Dean and Professor, School of Pharmacy and Professor of
Pharmacology
CLAUDE PIANTADOSI (1957), Ph.D., Professor of Medicinal Chemistry and
Biochemistry

Area Health Education Center (AHEC) Program

CLAUDE U. PAOLONI, Associate Professor, Director of Pharmacy-AHEC

ROBERT L. SMITH, Clinical Assistant Professor and Assistant Director,
Pharmacy-AHEC

BRUCE R. CANADAY, Clinical Assistant Professor, Wilmington-AHEC

DAVID D. CLAYTOR, Clinical Assistant Professor and Assistant Director,
Pharmacy-AHEC

PAMELA U. JOYNER, Clinical Assistant Professor, Wake-AHEC

TIMOTHY E. POE, Clinical Instructor, Bowman-Gray & Northwest-AHEC

WILLIAM T. SAWYER, Instructor & Pharmacist, Charlotte-AHEC

STEPHEN W. SHEARER, Clinical Instructor and Pharmacist, Area L-AHEC

C. EDWIN WEBB, JR., Clinical Assistant Professor, Mountain-AHEC

DALE SNIPES, Secretary

Stockroom

CLIFTON I. STONE — Stockroom Manager

LEROY CLERK, Stock Clerk

Custodians

JAMES CHAPMAN

CHARLES STARNES

Drug Information Program

G. DAVID RUDD, Director

CAROLYN CLAYTON, Social Research Assistant

Drug Product Program

JAMES L. OLSEN, Director

JON LODGE, Research Analyst

HENRY L. SMITH, Assistant to the Director

WILLIAM W. TAYLOR, Assistant Professor

LEE KATAVOLOS, Secretary

Graduate Program

CLAUDE PIANTADOSI, Director

BETH AUSTIN, Secretary

Extension Program

CLAUDE U. PAOLONI, Director

LEONARD BERLOW, Associate Director

DALE SNIPES, Secretary

THE PHARMACY PROFESSION

Pharmacy is a unique profession with an unlimited future. Pharmacists are vital members of this nation's essential health team. Expanding opportunities exist in the research, preparation, preservation and dispensing of drugs and pharmaceuticals.

Each year the 72 schools of pharmacy in the United States graduate close to 7,400 pharmacists. This number is far from adequate to fill existing needs. In fact, it is estimated that the *minimum* requirement is at least a thousand more every year. North Carolina has an acute shortage of pharmacists due to the number of single pharmacist store operations and the expansion of other areas of specialization, such as manufacturing and hospital pharmacy practice.

What about women in pharmacy? It is estimated that 10% of all pharmacists and 31% of all pharmacy students in the United States are women. This is a rewarding profession offering excellent working conditions and salaries. At the School of Pharmacy of the University of North Carolina, 49% of its students are women — which exceeds the national average.

The University of North Carolina at Chapel Hill is committed to the principle of equal opportunity. It is the policy of this University not to discriminate on the basis of race, sex, color, national origin, religion, or handicap with regard to its students, employees, or applicants for admission or employment. Such discrimination is also prohibited by federal law. Any complaints alleging failure of this institution to follow this policy should be brought to the attention of the Assistant to the Chancellor.



Should You Be A Pharmacist?

Well, that depends. Do you have a very real and sincere interest in people? This is essential since the pharmacist works as a member of the health team in intimate contact with people — both sick and well. *The main purpose of this specialty is the relief of human suffering and the advancement of better health for all.*

Personal qualifications are important before considering a pharmacy career. You should have ability, aptitude and interest in science. This is quite natural since a pharmacist deals with drugs and chemicals and the ways these affect the human body. Do you strive for accuracy and order? These are other desirable attributes of the person who chooses pharmacy as a professional career.

Of course, you should have outstanding personal characteristics including high morals and good judgment.

THE UNIVERSITY

The University of North Carolina, the first state university in the United States to open its doors to students, is situated at Chapel Hill in the beautiful Piedmont section of hills and forests. Its environment of natural beauty and simple culture, of age and traditions, is impressive. Chapel Hill is ten miles from Durham, thirty miles from Raleigh, and fifty miles from Greensboro. It may be reached by bus lines which maintain frequent schedules from these three points.

THE SCHOOL OF PHARMACY

Definition of Purposes

The University was established in obedience to the first Constitution of the State which was adopted in December, 1776, and to the Charter which was granted by the General Assembly in 1789. A clause of section 41 of the Constitution declared that "all useful learning shall be duly encouraged and promoted in one or more Universities." In keeping with this Constitutional directive, the School of Pharmacy has the following purposes: to preserve, augment, criticize and transmit pharmaceutical knowledge; to advance and create pharmaceutical knowledge; to aid in conserving or improving the health and welfare of the public through influencing the patient, the health practitioner, or their common environment.

A thorough program of undergraduate instruction, graduate instruction, continuing education, and research is maintained. Every effort is made in the classrooms and laboratories, and through student organizations to develop character, personality and integrity to the purposes of responsible citizenship and leadership.

General Statement

The School of Pharmacy was established as an academic unit of The University of North Carolina in 1897 in response to urgent requests from the pharmacists of North Carolina. After many years in Howell Hall (named in honor of the School's first dean, Edward Vernon Howell), the School now occupies a modern, well-equipped building, Beard Hall (dedicated in 1960 and named in honor of the School's second dean, John Grover Beard). The School of Pharmacy is located in a medical center on the Chapel Hill campus and, with the Schools of Medicine, Dentistry, Public Health, and Nursing, it is a unit of the University's Division of Health Sciences.

The School benefits from excellent resources, both on and off campus, required for a center of excellence for pharmaceutical education, research and service.

In its educational program, emphasis is given to the curriculum required for the Bachelor of Science in Pharmacy degree (B.S. in Pharm). A five-year curriculum for this degree became mandatory in all schools of pharmacy starting in 1960 through actions taken by the American Association of Colleges of Pharmacy and the National Association of Boards of Pharmacy. This curriculum is designed and administered in accordance with the current and changing demands for pharmaceutical services in communities and institutions. The School's B.S. in Pharm. curriculum is up-to-date. It is broad and deep with respect to general education and professional principles and practices. The curriculum is distinctively interdisciplinary with major emphasis on physical sciences, biological and biomedical sciences, pharmaceutical sciences and professional studies requiring substantial preliminary training in physical and biological sciences. It is administered with the flexibility necessary to accommodate the varying aspirations of individual students as candidates for licensure as Registered Pharmacists and in every way for the important and expanding role of the pharmacist as a health professional. The graduate of the B.S. in Pharm. degree curriculum is qualified and motivated for the practice of clinical pharmacy (community pharmacy and institutional pharmacy), for professional and technical careers in industry and government, and for further study leading to advanced degrees in the pharmaceutical sciences and related physical, biological, and biomedical sciences.

The School offers M.S. and Ph.D. degree candidates and post-doctoral participants course work and research training and experience in the pharmaceutical sciences, especially pharmacy (biopharmaceutics, physical pharmacy, and hospital pharmacy) medicinal chemistry, and pharmacy administration.

The School also engages in the continuing education of pharmacists and pharmaceutical scientists and technologists, supporting their efforts to adapt to an expanding and dynamic science and technology.

The faculty, staff and students of the School of Pharmacy are actively involved in research and other scholarly pursuits in the professional, scientific and technological aspects of pharmacy. Through their work they contribute to the knowledge characteristic of the pharmaceutical sciences, the recording and communication thereof, and its application in the educational and service phases of the School's program.

In the third, or service, phase of the School's three-fold mission, the faculty and staff promote the disciplines and support the missions of the pharmacist in clinical practice and the pharmaceutical scientist in industry, government, or elsewhere. This is done particularly by motivating and providing for continuing education at all levels, by innovating and contributing to the development of expanding pharmaceutical services, by engaging in the exploratory research that leads to new and improved pharmaceutical services and new drug products, and in the practical application of the results of their work by the profession and the industry, by contributing to good relations of the pharmacy profession and the pharmaceutical industry with the public and with other health professionals and, in general, by initiating and assisting the programs that will be beneficial to the pharmaceutical services required by a modern society.

The School of Pharmacy was admitted to membership in the American Association of Colleges of Pharmacy in 1917. This organization was formed for the promotion of sound educational programs and productive research and scholarly efforts in pharmacy and the pharmaceutical sciences. It maintains high standards for membership based on the quality of the faculty of its member institutions and the excellence of their instructional programs and their resources for education and research.

The School of Pharmacy of The University of North Carolina is accredited by the American Council on Pharmaceutical Education. The School is also accredited by all State examining boards.

Students are admitted to a three-year program of professional studies in the School of Pharmacy upon completion of at least two years (the prepharmacy years) of collegiate work in the General College of The University of North Carolina or in any accredited liberal arts college (2-3 program) and designated courses. The American Association of Colleges of Pharmacy stipulates for its member schools that students transferring from a college other than another

school of pharmacy must complete the required professional courses in proper sequence in the School of Pharmacy for the B.S. in Pharmacy Degree. Each application for admission must be approved by the Director of Admissions of the University. Application should be filed as early as possible, preferably before February 1st of the calendar year in which the student desires admission. Applications received later in the year will be given every consideration within the limits imposed by the number of students admitted at an earlier date.

For students who transfer to the School of Pharmacy from another accredited School of Pharmacy, the minimum residence required for the degree is one academic year, that is, two semesters within a twelve month period. Such students must complete at least thirty semester hours while in residence in the School of Pharmacy.

Graduate degrees offered through the School of Pharmacy are administered by the Graduate School of The University of North Carolina at Chapel Hill. These degrees include the Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) in pharmacy, medicinal chemistry, hospital pharmacy, and pharmacy administration.

The School of Pharmacy is considering an optional professional education and training program leading to an advanced professional degree (Doctor of Pharmacy). This program will involve professionally oriented courses in different specialty areas for a selected number (10-15) of students.

Pharmaceutical History

On July 1, 1957, the North Carolina Pharmaceutical Research Foundation, Inc. established a Research Historianship in the School of Pharmacy to develop the historical records of total pharmacy in North Carolina. Extensive files pertaining to pharmacy and pharmacists are maintained.

"The School of Pharmacy of the University of North Carolina: A History" by Alice Noble was published in 1961 by The University of North Carolina Press. Copies may be obtained from the North Carolina Pharmaceutical Research Foundation, Inc., c/o School of Pharmacy, The University of North Carolina at Chapel Hill.

GENERAL INFORMATION

Student Government

The student body of the University is self-governing. The functions of this government are both disciplinary and administrative. These functions are exercised by executive, legislative, and judicial branches of representative government under a student constitution.

Religious Interests and Activities

The interest of the University in the religious life of the community is expressed in the encouragement of foundations or centers supported by Protestant, Catholic and Jewish institutions in the community and the support of the YMCA-YWCA on campus. The foundations and the YMCA-YWCA are staffed by theologically trained persons who seek to minister to the religious interests and needs of the entire University.

Medical Attention

To provide proper medical attention for the student, the University employs nine full-time physicians and maintains a well-appointed infirmary, with a modern X-ray unit under the direction of a full-time technician, and with a laboratory for diagnostic purposes under the direction of two full-time technicians. The infirmary is under the immediate supervision of the Director of Student Health Services and is provided with seventeen experienced nurses who are under the general supervision of a head nurse. At the discretion of his attending physician a student may be admitted to its wards, and for such services as may be rendered by the staff no charges are made. However, the student will be required to pay for any additional service (consultation, special nurses, and operations) recommended by the attending physician and approved by the parent or guardian.

Physical Education

A physical examination is given to students at the time of entrance. All students are classified on the basis of the examination, and an effort is made to adapt the program of physical education to the individual's particular needs.

Physical education is required of all undergraduate students two periods each week for the first two years. Encouragement is given to participation in athletic sports and all kinds of physical activity throughout a full program of intercollegiate and intramural athletics.

Libraries

The School of Pharmacy Library, supervised by a trained librarian, a library assistant and 8 student assistants, is located on the main floor of the Pharmacy building. It includes a well lighted, spacious reading room, extensive stack space, and the librarian's office. The carefully selected collection contains over 17,000 books and bound volumes of periodicals pertaining to pharmacy and the collateral sciences. The Library holds subscriptions to 365 professional and scientific serials. A valuable pamphlet collection, including government documents, provides further facilities for research and study.

The Pharmacy Library is a part of the Division of Health Sciences Library, which has additional collections located in the North Carolina Memorial Hospital, the School of Nursing, and the School of Public Health Buildings. The combined collections total approximately 126,000 volumes specialized in Pharmacy, Dentistry, Medicine, Nursing, and Public Health.

The general University Library and ten specialized departmental libraries are also available to students of pharmacy. This collection contains approximately 2,109,448 volumes. Including manuscripts, pamphlets, maps, microfacsimiles, recordings, clippings, prints, etc., the count of holdings is more than 7,530,486 pieces. The rate of growth of the Library averages about 100,000 volumes a year through purchase, gift, and exchange. Periodical and other serial subscriptions number 14,500.

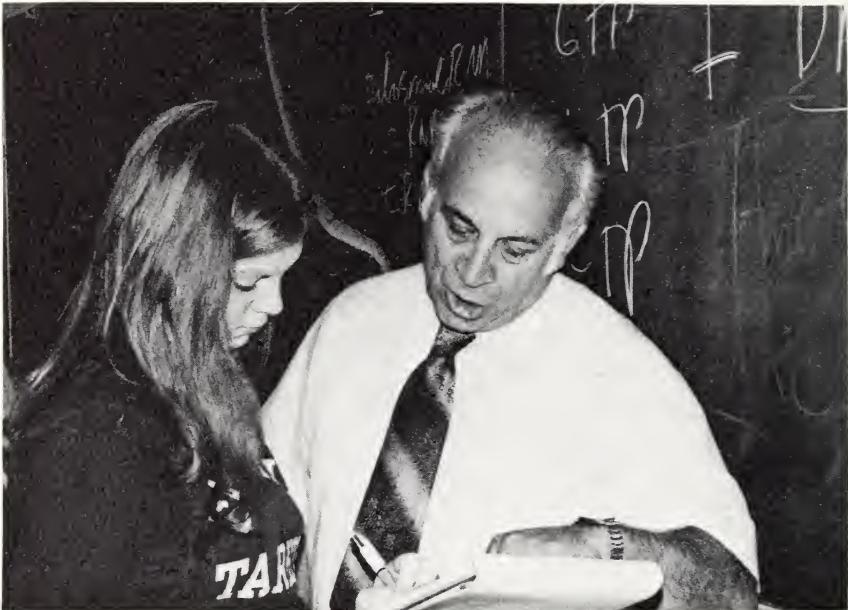
Committee on Admissions

The Committee on Admissions is composed of faculty members and students and is charged with the responsibility of selecting eligible students. Scholarship, character, industry, entrance examination scores, and priority of application are governing factors for admission. In addition, all students must complete the Pharmacy College Admissions Test (PCAT) for consideration for admission.

RESIDENCE STATUS FOR TUITION PAYMENT¹

General. Every applicant for admission is required to make a statement as to his or her length of residence in North Carolina. The

1. The information in this section comes from three sources: (i) North Carolina General Statutes, Sec. 116-143.1; (ii) *A Manual to Assist the Public Higher Education Institutions of North Carolina in the Matter of Student Residence Classification for Tuition Purposes, July 1977*; (iii) Chancellor's Rules and Procedures for Residence Classification of Students for Tuition Purposes.



tuition charge for legal residents of North Carolina is less than for nonresidents. To qualify for in-state tuition a legal resident must have maintained his domicile in North Carolina for at least 12 months immediately prior to his classification as a resident for tuition purposes. In order to be eligible for such classification, the student must establish that his or her presence in the State during such twelve-month period was for purposes of maintaining a bona fide domicile rather than for purposes of mere temporary residence incident to enrollment in an institution of higher education.

Domicile. Domicile means one's permanent dwelling place of indefinite duration, as distinguished from a temporary place of abode; synonymous with "legal residence."

Burden of Proof and Statutory Presumptions. The burden of establishing facts which justify classification of a student as a resident entitled to in-state tuition rates is on the applicant for such classification. For a student to be classified a resident for tuition purposes, the balancing of all the evidence must produce a clear preponderance of the evidence supporting the assertion of in-state residence. Proof of residential status is controlled, initially, by two statutorily prescribed and complementary evidentiary beginning points, which are stated in terms of *prima facie* evidence:

a. If the parents or court-appointed legal guardian of the student (without reference to the question of whether the student is a minor or an adult) are not domiciliaries (legal residents) of North Carolina,

under the Statute this fact constitutes *prima facie* evidence that the student is not a domiciliary (legal resident) of North Carolina, unless the student has lived in this State the five consecutive years prior to enrolling or re-registering. The student must assume the burden of overcoming the *prima facie* showing by producing evidence that he or she, independently, is in fact a domiciliary (legal resident) of North Carolina, in spite of the nonresident status of his or her parents;

b. Conversely, if the parents of the student are domiciliaries of North Carolina under the Statute, this fact constitutes *prima facie* evidence that the student is a domiciliary of North Carolina. This *prima facie* evidence may also be overcome by other evidence of legal residence. If the student has neither parents nor legal guardian, the prescribed *prima facie* evidence rule cannot and does not apply.

Statutory Exceptions

a. *Grace Period.* By virtue of the provisions of G.S. 116-143.1, if a student has been properly classified as a resident for tuition purposes, a change in that student's state of residence thereafter does not effect in all cases an immediate automatic loss of entitlement to the in-state tuition rate. To qualify for the grace period, the following conditions must be satisfied:

1. The student must have been properly classified as a resident for tuition purposes, on the basis of a valid finding that the student in fact was a legal resident of North Carolina and had been such for the requisite twelve-month period prior to classification;

2. At the time of subsequent change of legal residence to a state other than North Carolina, the student must have been enrolled in a public institution of higher education in North Carolina.

The extent of this grace period, during which the in-state rate is applicable in spite of the fact that the student is not a legal resident of North Carolina, is twelve months from the date of change in legal residence, plus any portion of a semester or academic term remaining, as of the expiration date of the twelve-month period, in which the student is enrolled.

b. *Qualifying Periods for Spouses.* By virtue of the provisions of G.S. 116-143.1, the prescribed twelve-month period of legal residence required for entitlement to classification as a resident for tuition purposes may be shortened on the basis of the marital status of the student, in specified circumstances. If a student otherwise can demonstrate compliance with the fundamental statutory requirement that he or she be a legal resident of North Carolina, the second statutory requirement relating to duration of residence may be satisfied derivatively, in less than twelve months, by reference to the length of the

legal residence of the spouse of the student, if the spouse has been a legal resident of the State for the requisite twelve-month period.

Married Persons. The domicile of a married person, irrespective of sex, is determined by reference to all relevant evidence of domiciliary intent. No person shall be precluded, solely by reason of marriage to a person domiciled outside of North Carolina, from establishing or maintaining legal residence in North Carolina. No person shall be deemed, solely by reason of marriage to a person domiciled in North Carolina, to have established or maintained a legal residence in North Carolina. The fact of marriage and the place of domicile of his or her spouse shall be deemed relevant evidence to be considered in ascertaining domiciliary intent.

Minors. A minor is any person who has not reached the age of eighteen years. The domicile of a minor is that of the father. With a few exceptions noted below, this presumption is virtually irrebuttable. If the father is deceased, the domicile of the minor is that of the surviving mother. If the parents are divorced or legally separated, the domicile of the minor is that of the parent having custody by virtue of a court order; or, if no custody has been granted by virtue of court order, the domicile of the minor is that of the parent with whom he lives; or, if the minor lives with neither parent, in the absence of a custody award, the domicile of the minor is presumed to remain that of the father. Even though a person is a minor, under certain circumstances the person may be treated by the law as being sufficiently independent from his parents as to enjoy a species of adulthood for legal purposes. The consequences, for present purposes, of such circumstances is that the affected person is presumed to be capable of establishing a domicile independent of that of the parents; it remains for that person to demonstrate that a separate domicile in fact has been established. The circumstances recognized as having the potentially emancipating effect are:

a. Marriage of the minor person;

b. Parental disclaimer of entitlement to the minor's earnings and the minor's proclamation and actual experience of financial independence from his parents, with the actual establishment and maintenance of a separate and independent place of residence.

Aliens. An alien holding a visa which will permit eventual permanent residence in the United States is subject to the same considerations as a citizen. An alien holding a visa which will not permit eventual permanent residence in the United States (for example, a student visa) cannot be classified as a resident. Indochina refugees paroled into the United States after March 31, 1975 may receive in-state tuition privileges if they have abided in North Carolina for 12 consecutive months.

Military Personnel. The domicile of a person employed by the Federal Government is not necessarily affected by assignment in or reassignment out of North Carolina. Such a person may establish domicile for himself by the usual requirements of residential act plus intent. No person shall lose his in-state residence status solely by serving in the armed forces outside of the State of North Carolina.

Property and Taxes. Ownership of property in or payment of taxes to the State of North Carolina apart from legal residence will not qualify one for the in-state tuition rate.

Change of Status. A student admitted to initial enrollment in an institution (or permitted to re-enroll following an absence from the institutional program which involved a formal withdrawal from enrollment) shall be classified by the admitting institution either as a resident or as a nonresident for tuition purposes prior to actual matriculation. In the absence of a current and final determination by the admitting institution that the student is a resident for tuition purposes, relative to the term of initial enrollment or re-enrollment, the student is classified a nonresident for tuition purposes prior to actual matriculation. A residential classification once assigned (and confirmed pursuant to any appellate process invoked) may be changed thereafter (with corresponding change in billing rates) only at intervals corresponding with the established primary divisions of the academic calendar.

Transfer Students. When a student transfers from one North Carolina public institution of higher education to another, he or she is treated as a new student by the institution to which he or she is transferring and must be assigned an initial Residential Classification for tuition purposes.

The transfer into or admission to a different component of the same institution (e.g., from an undergraduate to a graduate or professional program) is not construed as a transfer from one institution to another and, thus, does not by itself require a reclassification inquiry unless (1) the affected student requests a reclassification inquiry or (2) the transfer or enrollment occurs following the lapse of more than one quarter, semester, or term during which the individual was not enrolled as a student.

Responsibility of Students. Any student or prospective student in doubt concerning his residence status must bear the responsibility for securing a ruling by stating his or her case in writing to the admissions officer. The student who, due to subsequent events, becomes eligible for a change in classification, whether from out-of-state to in-state or the reverse, has the responsibility of immediately informing the Office of Admission of these circumstances in writing. Failure to give complete and correct information regarding residence constitutes grounds for disciplinary action.

It is the responsibility of the student to pay tuition at the rate charged and billed while an appeal is pending. In effect, the student who is classified as a nonresident at the time of tuition billing should pay the nonresident rate. Conversely, if a student is classified as a resident at the time of billing, he or she should pay the resident rate. Any necessary adjustments in the rate paid will be made at the conclusion of the appeal.

Appeals of Ruling of Admission Officers. A student appeal of a classification decision made by any admissions officer shall be filed by the student with that officer in writing and shall be transmitted to the Residence Status Committee by that officer, who shall not vote in that Committee on the disposition of such appeal. The student shall be notified of the date set for consideration of the appeal and, on request of the student, he or she shall be afforded an opportunity to appear and be heard by the Committee. Any student desiring to appeal a decision of the Residence Status Committee shall give notice in writing of that fact within 10 days of receipt by the student of the decision of the Residence Status Committee, and the basis for such appeal, to the Chairman of the Residence Status Committee, and the Chairman shall promptly transmit the appeal to the State Residence Committee.

A complete explanation of the statute and the procedures under the statute is contained in *A Manual to Assist the Public Higher Education Institutions of North Carolina in the Matter of Student Residence Classification for Tuition Purposes*. This manual and other information concerning the application of this law is available for inspection in the Admissions Offices of the University.

All students are responsible for knowledge of the contents of the statute and the *Manual*.

Students or prospective students who believe that they are entitled to be classified residents for tuition purposes should be aware that the processing of requests and appeals can take a considerable amount of time and that applications for classification should not be delayed until registration, when the number of applications make impossible accelerated handling.

DIRECTORY INFORMATION

The University of North Carolina at Chapel Hill has routinely made public certain information about its students. Some typical ways this has been done include the following: names of students who are selected by the various honorary societies, who receive scholarships, who make the Dean's List, who hold offices, or who are members of athletic teams are frequently made public. To facilitate campus communication the University annually publishes the *Campus Directory*.

Some professional and graduate school student groups publish directories of students in their departments or schools. The annual commencement program publishes the names of persons who have received degrees during the year.

The Family Educational Rights and Privacy Act defines the term "directory information" to include the following categories of information: the student's name, address, telephone listing, date and place of birth, major field of study, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, degrees and awards received, and the most recent previous educational agency or institution attended by the student. The University will make public information about each student limited to these categories in ways such as those described above. Of course, information from all these categories is not made public in every listing. The *Campus Directory* for example, publishes only names, addresses and telephone numbers.

Students who do not wish to have any or all of such "directory information" made public without their prior consent must notify the Office of Records and Registration, The University of North Carolina at Chapel Hill of this fact in a signed and dated statement specifying items that are not to be published. This notice must be received by the Office of Records and Registration by the end of the registration period for the semester or session of first enrollment or, after an absence, of re-enrollment and by the end of each fall registration period thereafter.

Delayed Registration

Any student registering later than the time appointed for his registration must pay an additional fee of five dollars (\$5.00). No appeal from the late registration charge will be granted, unless the delay results from circumstances clearly beyond the student's control. Such an appeal must be made in writing to the Chancellor, must show justification for the delay in registering, and must bear the approval of the Dean of the School of Pharmacy.

EXPENSES

Tuition and Fees for Each Semester

	N.C. Resident	Non- resident
Tuition	\$211.00	\$1,037.00
Fees	86.25	86.25
Total	\$297.25	\$1,123.25

The University reserves the right to make changes in tuition and any other fees at any time. A late registration fee of \$5.00 will be charged to any student registering after the appointed time.

Laboratory Breakage Deposit: Students taking laboratory courses are required to pay for breakage of equipment, use of more than normal expendable supplies and materials, and depreciation on unusual equipment. These fees are payable at the end of each semester prior to taking the final examination in these courses. Failure to pay breakage fees will result in the withholding of grades.

Summary of Estimated Expenses for the College Year of an Average Student Who Is a Resident of North Carolina

Tuition (School of Pharmacy)	\$ 422.00
Fees	172.50
Board estimated	1,046.00
Residence Hall room (average)	580.00
(See "Room to Live" booklet.)	
Miscellaneous expenses (clothing, travel, spending)	525.00
Books and supplies, estimated for year	275.00
Total for North Carolina Resident	\$3,020.50
Total for Nonresident	\$4,672.50

Payment of Bills

Bills for each semester may be paid in advance but are due no later than the first day of classes. Checks should be made payable to The University of North Carolina at Chapel Hill and mailed to the University Cashier, 103 Bynum Hall 008-A, Chapel Hill, N.C. 27514. Failure to pay results in the assessment of a late fee.

Housing, Food, Laundry, and Linen Service

The University reserves the right to approve the housing of all students whether they live on or off the campus. Each University student is required to maintain a correct local address with the University. By Trustee action the administration is authorized to establish minimum standards of health, safety, and general welfare in regard to housing and to require that students maintain their residence in quarters which comply with these standards.

Housing

The primary objective of the Department of University Housing at Chapel Hill is to provide a physical and psychological atmosphere conducive to each and every student having opportunity to develop to the utmost his or her personality, ability and sensitivity. The University provides residence hall accommodations for approximately 6600 registered students — undergraduate, graduate and professional men and women. Three hundred and six apartments are available for married students.

Information regarding residence hall accommodations is available by writing to: Department of University Housing, Contracts Office, Carr Building, The University of North Carolina at Chapel Hill, Chapel Hill, North Carolina 27514.

Information regarding married student housing is available by writing to: Manager, UNC Married Student Housing, Odum Village, Branson Street, Chapel Hill, North Carolina 27514.

Student Dining Facilities: Dining facilities are operated in locations convenient to residence halls and meals are offered at reasonable rates.

Privately Owned Residence Hall Accommodations — University Square.

Approximately 800 women and 700 men are housed in privately owned Granville Towers. The location is just off the UNC campus about one block from the Carolina Inn.

These supervised residence halls, one for women, one for men, and one coeducational have a cafeteria-dining commons. The fee charged includes room and board. Further information is available from Granville Towers, University Square, Chapel Hill, North Carolina 27514.

Arrangements for these accommodations should be made directly with Granville Towers Business Office.

Laundry, Linen, Pillow, and Blanket Services

Laundry Service: Finished laundry service at reasonable cost is provided by the University Laundry Department to students who wish to use it. This service is available on a Cash-and-Carry basis at any of the eight Laundry Call Offices. (Students desiring to do so may use the deposit system in lieu of Cash-and-Carry.)

Additional Laundry Services: Wash-Dry-Fold service (nothing finished) is available at any of the University Laundry Call Offices. This is an economical, Cash-and-Carry service and is separate from the finished laundry service.

Linen Rental Service: For students who do not wish to provide their own linen, the University Laundry will furnish two sheets, one pillow case, and three bath towels each week on an exchange basis. This service is available at all Laundry Call Offices. A fee of \$40.00, which includes a \$5.00 refundable deposit, for the school year (September through May) is payable when service is requested.

Pillows may be rented for \$1.50 for the school year. Blankets are available for a deposit of \$3.50 each, with provision for a refund of \$2.00 when the blanket is returned in good condition.

Dry Cleaning: Complete dry cleaning service is available at all University Laundry Call Offices on a Cash-and-Carry basis.

Coin-Op-Service: Coin-Op service is available at Avery, Connor, Craig, Ehringhaus, James, Joyner, Morrison, Spencer, Odum Village, and Winston.

Financial Aid

The University has certain funds which may be granted as scholarships or be loaned to worthy students who can show definite need. In addition, there are part-time jobs involving various kinds of work which enable some students to earn a part of their expenses. Information about all these types of assistance may be obtained by writing to the Director of Student Aid, Vance Hall, U.N.C., Chapel Hill.

Pharmacy students who are residents of North Carolina and have successfully completed the sophomore year are eligible to apply for loans appropriated by the General Assembly. The student agrees upon (1) completing requirements for the Degree of Pharmacy, and (2) becoming Board registered to repay the loan by practice in North Carolina in either (1) a rural community of 10,000 or less population or (2) a State-owned mental, tuberculosis or rehabilitation facility one year for each academic year of assistance. The maximum loan available is \$1,000 per academic year or \$3,000 for a three year period. Detailed information may be obtained from the Department of Human Resources, Division of Facility Services, P.O. Box 25459, Raleigh, North Carolina 27611.

Students from farm homes may be eligible for loans to a limit of \$1,000 per year from the North Carolina Rural Rehabilitation Corporation, P.O. Box 2504, Raleigh, North Carolina.

Pharmacy students are eligible for loans to cover tuition, fees, and books not exceeding \$500 per semester from the John W. Dargavel Foundation, 5787 N. Lincoln Avenue, Chicago, Illinois 60659. Loans are made only to complete the three years of pharmaceutical education. The applicant must be recommended by the Dean of the School of Pharmacy. Two co-signers are required. The loan is free of

interest and is repayable in reasonable monthly installments after graduation. The loan, however, becomes payable immediately if the student withdraws from the School of Pharmacy for any reason whatsoever.

SPECIAL LOAN FUNDS

EDWIN H. SMITH, JR., LOAN FUND — Annual loans of up to \$2,000 are available to students who have been residents of Halifax County for at least two years and who are enrolled in the curriculum at the UNC School of Pharmacy. Interest is at two percent; loans are payable within four years after graduation. Application should be made to the Edgecombe Bank & Trust Company, P.O. Box 1259, Tarboro, North Carolina 27870.

Scholarships

Other scholarships and loans are available to students of pharmacy. They are listed on pages 54-58.

Veteran's Adviser

Questions concerning educational benefits under the GI Bills should be taken up with the Veteran's Adviser, Room 1, Hanes Hall.

Registration

All Students are expected to present themselves for registration in accordance with the plan of registration established for the current year. A student registering for the first time will report for a physical examination to the Infirmary and present at registration a clearance card from the Director of Student Health Services. Failure to attend to this matter before registering causes extra expense to the University and entails for the student the payment of an extra charge of five dollars (\$5.00).

Students who expect to register for the first-year class should be in Chapel Hill in time for the first Orientation meeting. The time between this date and formal registration is devoted to placement tests and to a systematic plan of acquainting new students with their surroundings. All students begin their registration with their advisers in Beard Hall.

Registration for credit for any course is limited to the first three full days of instruction in a semester, unless the late registration is approved by the instructor concerned and the Dean.

The listing of a course in the catalogue does not obligate the University to give the course in any particular year.

Changes in registration are limited to the first three days of a semester.

Attendance Regulations

"Regular class attendance is a student obligation, and a student is responsible for all the work, including tests and written work, of all class meetings. No right or privilege exists which permits a student to be absent from any given number of class meetings.

If a student misses more classes than the instructor deems advisable, the instructor will report the facts to the Office of the Assistant Dean for Student Affairs for appropriate action. Instructors should explain their attendance regulations during the first week of every class and report promptly to the Office of the Assistant Dean for Student Affairs the name of any student who exceeds the number of absences deemed advisable. If the student misses without excuse more classes than the instructor deems advisable, the instructor may request that the Dean drop him from the course with grade F.

The appearance of a student's name on the Infirmary List constitutes an excuse for the student for absences from classes during the period the student is in the Infirmary. This list is circulated to the School of Pharmacy, and in cases of doubt the instructor may check with the Dean's office.

Students who are members of regularly organized and authorized school activities and who may be out of town taking part in some scheduled event are to be excused during the approved period of absence.

Absences from class for valid reasons are excused only by the instructors. A student should present the explanation for any absences to his instructor at the next meeting of the class."

Examinations

Regular written examinations are required at the end of each term in all courses except those whose nature makes written examinations unnecessary.

Special examinations for students who have been excused by the instructor from regular examinations on account of sickness or at the September period, or at a regular term examination period may be held at suitable times fixed by the Office of Records and Registration and the instructors concerned. Such examinations must be taken within twelve months from the date of absence.

To be entitled to take a special examination within a term, or at the September period, or at a regular term examination period, the student is required to file a written request with a recorder in the Office of Records and Registration at least one week before the time for the examination.

Students absent from an examination without an excuse, or present and failing to submit examination papers, are reported absent. This mark is equivalent in every respect to grade *F*, or failure, and is so recorded in the Office of Records and Registration.

Each student is required to subscribe his name on the following pledge or its equivalent on every paper: "I hereby certify that during this examination I have neither given nor received aid." The instructor will not report a grade for any student whose examination paper lacks this pledge.

Papers handed in at a special examination by students who have been excused by the instructor from the regular examination will be graded by the usual system; all others will be marked *passed* or *failed*.

By action of the faculty, quizzes are not to be given during the last six days of instruction of any term.

Standing

At the close of each term, reports of the standing of all students in all of their studies are sent to parents or guardians. The reports are based upon the following system of grading:

A — Excellent, *B* — Good, *C* — Fair, *D* — Barely passed; *F* — Failure, or *I²* — Work incomplete.

Rank of Classes

A student must attain a grade of *D* or better to pass any course.

The right of appeal to the Committee on Petitions of the School of Pharmacy is allowed with respect to grading, provided the appeal is made within three months.

Any student who is denied promotion or readmission but who offers evidence of extenuating circumstances is permitted to make a written and personal appeal to the Committee on Petitions. The Committee will meet each year at a time to be designated by the Dean to consider petitions of students who have definite and convincing reasons on which to base a request for readmission.

2. The grade *I* may be converted into one of the other grades by completing within a period of twelve months such additional assignments as may be required by the instructor in the course. A grade of *I* not so converted becomes *F*.

Eligibility and Progression

A student must maintain a minimum 2.0 grade point average in order to progress through the B.S. in Pharmacy Degree Program, commencing upon completion of the fifth semester.

If, from that time onward, a student's grade point average drops below a 2.0 in the professional courses, he is placed on academic probation. Eligibility to proceed in the program must be regained by the end of the next regular semester (fall, spring). (A third-year student may not take fourth or fifth-year courses while making up a third-year course deficiency, and a fourth-year student may not take fifth-year courses while making up a fourth-year course deficiency.) (Under these guidelines, students should automatically maintain the University's minimum standards: 1.75 grade point average to begin a fifth semester, 1.90 to begin a seventh or subsequent semester.)

A review board will be established to monitor student progression through the B.S. in Pharmacy Degree Program.

If a student who has been placed on academic probation does not regain his eligibility by the end of the next semester, the case will come before the review board. This board will determine: (a) if the student will be allowed to continue in the B.S. in Pharmacy Degree



Program, or (b) if the student is allowed to continue with a deficiency, specify the provisions for making up the deficiency. Eligibility may be regained by repetition of courses (with no grade lower than "C") or taking of courses to be specified by the review board. If a student fails a professional course, he must repeat the course to get a minimum grade of "C." If a student makes a "D" in a professional course, he may repeat the course to get a minimum grade of "C." If a student makes a "C" or higher in a professional course, he cannot repeat the course for a letter grade.

A student will not be allowed to register for the Pharmacy 92L (Off-Campus Clinical Rotation) until his cumulative grade point average is 2.0.

If a student is placed on probation, regains eligibility and is placed on probation a second time, he must come before the review board for evaluation and disposition.

In view of its responsibility to the public, the pharmacy faculty reserves the right to drop a student from the School at the end of any semester providing he does not in its judgment show sufficient promise to justify continuing the study of pharmacy regardless of his grades.

Requirements for Graduation

A "C" average, corresponding to a quality point average of 2.0 is required for graduation with the degree of Bachelor of Science in Pharmacy. A "C" average is required also in professional courses to qualify for graduation; professional courses include all work taken in the Divisions of Medicinal Chemistry, Pharmaceutics, Pharmacy Practice, Pharmacy Administration, Pharmacognosy, the required Pharmacology courses and allied option courses from the approved list. Quality points are earned as follows: 4 for each credit hour of "A", 3 for each credit hour of "B", 2 for each credit hour of "C", and 1 for each credit hour of "D". The calculation of the quality point average is based only on the work taken at this University; grades transferred from another institution are not included in the calculation.

Withdrawals

If a student wishes to withdraw at any time other than the end of a semester, a formal withdrawal, which is prerequisite to honorable dismissal or re-entrance to this institution, must be approved by the Dean in order to be valid. Such a withdrawal will be approved only after full investigation of the circumstances and after the lapse of twenty-four hours from the time the first application is filed with the

Dean. The withdrawal form after approval by the Dean must be filed promptly with the Office of Records and Registration, 1 Hanes Hall.

If a student withdraws after mid-term and is reported as below passing in two or more courses, that will be counted as a semester in residence in all computation of his requirements for readmission. If a student withdraws before mid-term, it will be left to the discretion of the Dean whether that semester is to be counted as a semester in residence. The Dean's decision will be indicated specifically on the form used for withdrawal. Students withdrawing from the School of Pharmacy may lose the privilege of re-entering at a certain time, since the numbers admitted to classes are limited.

In case of withdrawal from the University, tuition and fees will be prorated over a period of nine weeks from the date of registration. The student pays one-tenth of his semester bill for each week he remains in the School. No refund will be made after the ninth week of the semester.

Description of Curriculum

The School of Pharmacy recognizes that its graduates may elect to pursue one or another of a number of related but definitely different forms of pharmaceutical practice. They may practice clinical pharmacy in community pharmacies as proprietors or employees. They may also practice pharmacy in hospitals or other medical care institutions. The graduate of the School of Pharmacy is also in demand in the various divisions of the pharmaceutical industry: research, development, production, control, and marketing. Positions are open to the graduate in various government agencies, for example, the United States Public Health Service and the Veterans Administration. Each of these different careers requires a specialized type of training, and the School attempts to provide such specialization. Certain subject matter, however, is basically necessary regardless of the careers which the student may expect to follow after graduation. The School has one basic curriculum. Specialization is possible by the judicious selection of electives in the last three years. Students, particularly those considering graduate study, who are interested in specialization should consult the Dean before registering for elective courses. The curriculum is given on page 37. Statements about graduate work are given on pages 13 and below.

Degree of Bachelor of Science in Pharmacy

To be recommended for the degree of Bachelor of Science in Pharmacy the student must have completed the five-year course of

study outlined on page 37. A minimum residence of three years in the School of Pharmacy is required except for students who transfer from another school of pharmacy with advanced standing in professional courses (minimum residence of one year as given under the *General Statement*, page 13.)

GRADUATE WORK IN PHARMACY

The degrees of Master of Science and Doctor of Philosophy will be conferred upon students who have completed satisfactorily approved graduate work extending over not less than one year for the master's degree and not less than three years for the doctor's degree. Students will be considered for admission to graduate study only if they satisfy the requirements of the Graduate School and have a B.S. degree in pharmacy, chemistry or the biological sciences from an accredited college or university. The major fields of study include pharmacy, physical pharmacy, industrial pharmacy, hospital pharmacy, clinical pharmacy, biopharmaceutics, and medicinal chemistry and pharmacy administration. The minor fields of study may be selected with the departments of the University. The graduate degree programs of the School of Pharmacy benefit considerably from the relations of the faculty with the School of Medicine, the Research Triangle Institute (especially the Life Science Laboratory) and the Oak Ridge Institute of Nuclear Studies. The graduate courses are administered by the Graduate School, and information concerning them may be obtained by addressing the Dean of the Graduate School or the School of Pharmacy.



REQUIREMENTS FOR ADMISSION

Freshman and Sophomore

Applicants of either sex may be admitted to the General College for the two years of study (prepharmacy), provided they meet the requirements for entrance. Application blanks for admission may be secured by writing to the Director of Admissions, The University of North Carolina at Chapel Hill, who upon approving the application will undertake to secure directly from the proper high school official an appropriate certification of the applicant's record.

A non-refundable application fee of \$10.00 must be submitted with the application for admission. An applicant who has been offered admission reserves his place by the payment of \$25.00 non-refundable deposit which is credited toward the first semester's tuition.

Freshmen are admitted to the General College by certificate from accredited schools or by examination, and they must show satisfactory scores on an entrance examination consisting of the College Entrance Examination Board. *The Dean of the School of Pharmacy should be advised when formal application for admission is made to the Director of Admissions.*

Admission to the General College is ordinarily based on the completion of four years of high school or preparatory school work and acquisition of fifteen or more units of credit according to the following distribution:

English	4 units	A Natural Science	1 unit
History of the United States	1 unit	Latin, German	
Algebra	2 units	French or Spanish ..	2 units
Plane Geometry	1 unit	3Electives to make total of	16 units

Registration in the prepharmacy curriculum on the UNC at Chapel Hill campus or elsewhere does not automatically assure the student of a place in the third year class of the School of Pharmacy. Enrollment is limited and students must be selected on a competitive basis. Final selections of students are made by the Admissions Committee of the School of Pharmacy.

3. Of the 5 elective units counted in the total of 16, not more than 4 may be vocational subjects. Experience has shown that physics and typing are some useful electives for prospective pharmacy students.

Transfer Students

Candidates for admission as transfer students with third-year standing must have credit for the courses in the two-year prepharmacy curriculum. Transfer students are required to submit transcripts of their college work at the time of their formal application for admission. Each application for admission or readmission must be approved by the Director of Admissions at the University before the application can be considered by the Committee on Admissions of the School of Pharmacy. Applicants for admission as transfer students may be requested to appear at the School of Pharmacy for a personal interview. All applications should be filed as early as possible in the period before February 1. No applications will be reviewed by the Admissions Committee if received after March 1.

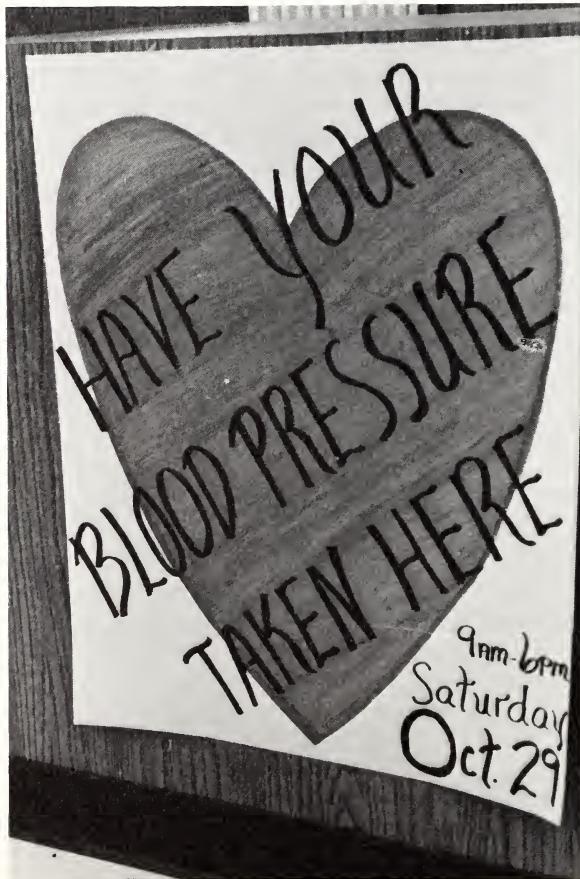
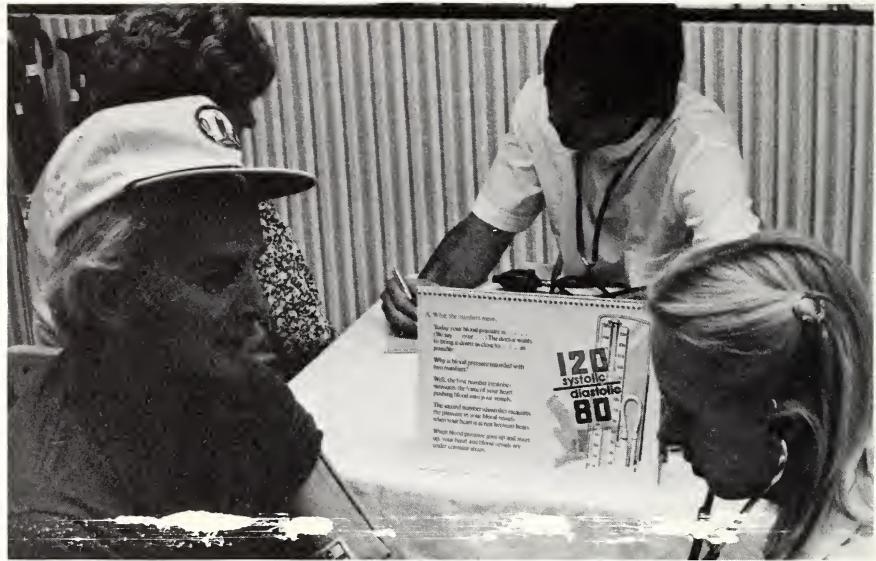
Readmissions

A student leaving the University with an academic deficiency must restore his eligibility before applying for readmission as a regular student. Restoration of eligibility may only be accomplished by enrolling at The University of North Carolina at Chapel Hill in summer sessions or through correspondence instruction from this campus.

Students who have become academically ineligible on more than one occasion will not be considered for readmission.

Industrial Trip

A planned visit is scheduled during the Fourth year to one of the major pharmaceutical industrial plants. This trip is designed to introduce the students to an educational experience involving modern methods of research, quality control, production and marketing of pharmaceuticals. Students are required to participate in this trip and they are encouraged to plan in advance for it.



Requirements for Two Year Prepharmacy Program##

English Composition	6
General Chemistry	8
Math (including Calculus)	6*
Biology — Vertebrate Zoology	8
Economics	3
Organic Chemistry and Advanced Analytical Chemistry	8-12
Electives	9
Humanities	3
Social Science	3
Physics	4-8**
Physical Education	2

*Recommended that other Math requirement come from following UNC at Chapel Hill equivalents: Math 2, 30, 32; Stat 12, 23; Computer Science 14, 16.

**Physics 20 if taken at UNC at Chapel Hill — if taken elsewhere Physics 24 and 25 (or their equivalents). (Most schools do not have an equivalent for Physics 20 given at UNC at Chapel Hill.)

##A minimum of 62 academic credit hours exclusive of physical education activity courses required for admission to the 2-3 Professional Program.

Three Year Professional Program (Leading to B.S. in Pharmacy Degree)

	Lec.	Lab.	Cred.		Lec.	Lab.	Cred.
Med. Chem. 65	3	0	3	Pharmacy 67	3	0	3
Phar. Prac. 21	2	0	2	Pharmacy 67L	0	3	1
Pharmacy 30	1	0	1	Med. Chem 66	3	2	4
Pharmacy 31	2	0	2	Bact. 51	3	2	4
Pharmacy 31L	0	3	1	Pharmacy 81	3	0	3
Phar. Prac. 75	3	0	3	Phar. Adm. 90	3	0	3
Physiol. 93	3	2	4		15	7	18
	14	5	16				
Phar. Prac. 76	4	0	4	Phar. Admin. 96	3	0	3
Med. Chem. 68	3	0	3	Pharmacol. 56	3	0	3
Pharmacol. 55	3	0	3	Med. Chem 69	3	0	3
Pharmacog. 61	2	0	2	Pharmacy 72	3	0	3
Pharmacy 71	2	0	2	Pharm. Prac. 77	4	0	4
Pharmacy 71L	0	3	1		16	0	16
	14	3	15				
Fall or Spring				Fall or Spring			
Professional Electives	12	0	12	Phar. Prac. 92L	0	40	12
Phar. Adm. 99	2	0	2				
Pharmacy 72L	0	3	1		0	40	12
	14	3	15				

COURSES OF INSTRUCTION

MEDICINAL CHEMISTRY AND PHARMACOGNOSY

Number	Description	Prerequisites	Credit	Sem.	Hours/Week	
					Lec	Lab
64	PHARMACEUTICAL ANALYSIS AND QUALITY CONTROL. Deals with analytical methods and quality control aspects for drugs. Lee, Semeniuk.	Chem 61 or equivalent	4	Sp	3	3
65	INTRODUCTION TO MEDICINAL CHEMISTRY. Initiates the student into functional group classification schemes of drug molecules and draws correlations between chemical, physical and pharmacodynamic characteristics of drugs. Hager, Ishaq.	Chem 61, 62 or equivalents	3	F	3	
66	BIOCHEMISTRY. The chemistry of biological molecules important in the processes of the living organism primarily as a basis for understanding drug action. Pantadosi; staff.	MedC 65, Chem 61, 62	4	Sp	3	Recitation
68 69	MEDICINAL CHEMISTRY. Introduction to the study of the chemical and physical properties of drugs and their relationship to biological activity. Cocolas, Loeffler, Ishaq.	Chem 62, MedC 65, MedC 66 or equivalents (Physiology 93 prerequisite to MedC 69)	3	F, Sp	3	
PHCG 61	PHARMACOGNOSY. Natural products for prevention and control of disease. Emphasis on natural production of drugs and special emphasis on those natural products effective against infectious disease. Wier.	Zool 11, Chem 61, Chem 62	2	F	2	1
PHCG 62	MODERN METHODS OF PLANT ANALYSIS. Principles and techniques applicable to the chemical investigation of drug plants, including determination of sources, preparation, extraction and fractionation. Also, principles of determination of biosynthetic pathways giving rise to secondary metabolites in plants. Wier.	MedC 66 Permission of Instructor	2	Sp	2	
PHCG 63	IMMUNOLOGY AND BIOLOGICAL PRODUCTS. A study of the principles of infectious disease and immunology as well as the principles of production, distribution, and clinical use of biological products. Wier.	Bact 51, MedC 66, Phcg 61	3	Sp	3	

Number	Description	Prerequisites	Credit	Sem.	Hours/Week Lec Lab
Courses for Graduates and Advanced Undergraduates					
121	CHEMISTRY OF NATURAL PRODUCTS. An introduction to the isolation, structure determination, biosynthesis and synthesis of natural products; emphasis on aspects relating to medicinal chemistry. Lee; staff.	Chem 61, 62 or equivalents	3	Sp	3
141, 142	INTRODUCTION TO RESEARCH IN MEDICINAL CHEMISTRY. Staff.	Chem 61, 62 & permission of professor	1-3	F & Sp	1 or more 3
151	BIOMEDICINAL CHEMISTRY. Principles/genetic regulation and disease which alter drug handling by the body. The effects of drugs on the regulatory mechanisms of cell metabolism, immunodefense, reproduction and disease states. Hall; staff.	MedC 69, MedC 66 or equivalents & permission of instructor.	3	F or Sp	
152	MECHANISM OF ADVERSE DRUG REACTIONS. Introduction to mechanisms of drug interactions using major drug groups as examples with some case histories. Hall; staff.	MedC 68, 69 Pharm 81, Phar. Prac. 77	3	F or Sp	
153	BASIC CONCEPT OF CANCER AND ITS THERAPY. The etiology, pathogenesis, types, metabolic and biochemical differences, detection, prevention, management therapy, adverse effects of cancer therapeutic agents are discussed. Hall.	MedC 66 or Biochem 100, Phco 55, 56 or 216, Phar. Prac. 76, 77, Physiol.	3	F or Sp	3
165	DRUG INFORMATION ANALYSIS AND RETRIEVAL. Description and application of modern methods of handling information in areas of chemistry and biomedical sciences. Hager.		2	F or Sp	
168	MEDICINAL CHEMISTRY. Basic concepts of structure-activity-relationships of chemotherapeutic agents and drugs affecting metabolic disorders. A survey of the important drug classes, discussion of their mechanism of action and rationale of molecular modification of prototype drugs. Loeffler.	Chem 62, Biochem 100	4	F	4
169	MEDICINAL CHEMISTRY. An introduction to the structure-activity-relationships of pharmacodynamic agents. A study of various classes of drugs acting on the nervous system and cardiovascular system. Cocolas.	Chem 62, Physiol. 102	4	Sp	4

Number	Description	Prerequisites	Credit	Sem.	Hours/Week Lec Lab
Courses for Graduates					
241, 242	SPECIAL PROBLEMS IN MEDICINAL CHEMISTRY. Feasibility studies in a potential research area. Staff.	Chem 61, 62 or equivalent. Permission of instructor.	1-5	F or Sp	
243	SELECTED TOPICS IN SYNTHETIC ORGANIC MEDICINAL CHEMISTRY. Discussions from current literature on the theory and techniques involved in the synthesis of biologically active compounds. Staff.	Chem 166 or equivalent	3	F or Sp	
244	SELECTED TOPICS IN NATURAL PRODUCTS CHEMISTRY. Discussions of important recent development in the chemistry of natural products of biomedical significance. Lee; staff.	Chem 166, 168	2		
245	SEMINAR IN CANCER CHEMOTHERAPY. Piantadosi, Hall.	Biochemistry 105, 106	2		
270	ADVANCED MEDICINAL CHEMISTRY. Special topics in Medicinal Chemistry dealing with chemotherapy and metabolic disorders. Course will cover antimicrobial chemotherapy, cancer chemotherapy and chemistry of hormones and drugs used in metabolic disorders. Staff.	MedC 168, 169	1-3	F or Sp	1-3
271	ADVANCED MEDICINAL CHEMISTRY. Biochemical aspects of drug activity and development of drugs including drug metabolism, enzyme inhibitors and immunology. Staff.	MedC 168, 169	1-3	F or Sp	
272	ADVANCED MEDICINAL CHEMISTRY. Special topics in Medicinal Chemistry stressing physical-chemical principles of drug action, drug design, and drug receptor interactions. Staff.	MedC 168, 169	1-3	F or Sp	
361, 362	SEMINAR. Staff.		0-1	F & Sp	
391, 392	RESEARCH IN MEDICINAL CHEMISTRY. Consists of laboratory work, conferences with the major professor, and library investigations relating to research. The professor in charge is responsible for the assignments and approval of the subject and character of the thesis. Staff.		1-5	F & Sp	1
					9

Number	Description	Prerequisites			Hours/Week
			Credit	Sem.	Lec
393	MASTER'S THESIS. Staff.		1-5	F or Sp	
394	DOCTORAL DISSERTATION. Staff.		1-5	F or Sp	

PHARMACY PRACTICE

Courses for Undergraduates

21	DRUGS, THE PHARMACIST AND THE HEALTH CARE SYSTEM. This course will provide an introduction to the pharmacist's role in the health care system. Major issues in health care and drug use control will be discussed. The pharmacist's responsibilities in various environments will be explored. Eckel; staff.		2	F	2
75	INTRODUCTION TO CLINICAL PHARMACY PRACTICE. The student is expected to accomplish a number of objectives that will contribute to his professional expertise. The student will: 1) be able to administer a number of pharmaceutical dosage forms (injections, tablets and capsules, nasal and otic preparations, eye solutions and drops, etc.), 2) demonstrate that he can properly educate patients in drug use, 3) monitor the effect of specific drug therapies and distinguish these from disease progression (monitor vital signs), 4) be able to use the health team language in his professional work, and 5) integrate drug therapy and disease through the case study method. Pittman; staff.	Phar. 30	3	F	3
76 77	PATHOPHYSIOLOGY AND THERAPEUTICS. Didactic courses in clinical pharmacy which emphasize the pathophysiology and treatment of those disease states most frequently encountered in pharmacy practice. Selection and dosing of drugs most frequently used in these disease states and the recognition of significant therapeutic and adverse drug effects are considered. Raasch, Pulliam.	Phar. Prac. 75, Phar. 81 Physio. 93	4	F, Sp	4

Number	Description	Prerequisites	Credit	Sem.	Hours/Week Lec Lab
92L	ACADEMIC EXTERNSHIP PROGRAM. A course designed to complete the senior pharmacy students' undergraduate education by means of a structured, supervised program of participation in pharmacy practice. Students will gain experience in the application of basic and pharmaceutical sciences to direct patient care and to the solution of professional problems. This course is a full-semester, 15-week rotation away from the University campus and is approved for externship experience credit with the North Carolina Board of Pharmacy. Paoloni; staff.	Phar. Prac. 76, 77 All preceding coursework thru 5th year	12	F, Sp	40
94	INSTITUTIONAL PHARMACY PRACTICE. Through seminars, lectures, case studies and discussion, the student will gain an understanding of institutional pharmacy practice. Eckel.	Permission of Instructor (limited no.)	3	F, Sp	3
108	CLINICAL PHARMACY CLERKSHIP. Through assigned responsibility in Clinical Pharmacy Services students are exposed to and learn how to solve drug therapy problems. Porter, staff.	Permission of Instructor	3-6	F, Sp	10-20
132, 133	TOPICS IN HOSPITAL PHARMACY. Various topics of interest to the students and faculty are presented in a seminar format. Topics presented are related to pharmacy management and/or clinical practice. Eckel.	Graduate standing or permission of instructor.	1-3	F, Sp	
134	CLINICAL THERAPEUTICS CONFERENCE. Course utilizes lectures, seminars and case presentations to introduce the student to the knowledge system of clinical pharmacy. Didactic skills in laboratory methods, physical assessment, medical terminology and utilization of the medical record are taught. Individual case presentations are utilized to emphasize oral and written communication skills. Porter.	Physio. 93, Phar. Prac. 76, 77	3	F, Sp	3
135, 136	INTRODUCTION TO RESEARCH IN PHARMACY PRACTICE. Students participate in ongoing faculty projects. Involvement varies from laboratory work, literature searches, to patient studies. Pulliam; staff.	Permission of instructor.	1-3	F, Sp	3-10

Number	Description	Prerequisites	Credit Sem.	Hours/Week Lec Lab
Courses for Graduates				
201 202	ADVANCED CLINICAL PHARMACY. Discussions, workshops and lectures to develop the student's skills and abilities to make therapeutic recommendations, utilize the drug literature, educate patients and health professionals and record observations, plans and actions in a problem-oriented record. Hak; staff.	Grad. standing	3	F & Sp 3
249	HOSPITAL PHARMACY AND THE HOSPITAL ORGANIZATION. This course discusses the principles of health care delivery and their impact on the role of the hospital. The hospital as an organized unit for the delivery of health care is discussed. How the pharmacist might contribute to the hospital's role is reviewed. Eckel.		3	F 3
250	PRINCIPLES OF PHARMACY PRACTICE. The modern roles of the pharmacist in the organized health care setting are explored. Progressive management techniques to support innovative services are discussed. The problems with implementing these programs are reviewed. Eckel.	Phar Prac 249	3	Sp - 3
361, 362	SEMINAR. Pittman.		0-1	F, Sp
391, 392	RESEARCH IN PHARMACY PRACTICE. Graduate course consisting of laboratory work, conferences with the major professor, and library investigations, relating to research. Eckel.		1-5	F, Sp
393	MASTER'S THESIS. Staff.		3 or more	F or Sp

PHARMACEUTICS**Courses for Undergraduates**

30	PHARMACEUTICAL CALCULATIONS. Calculations necessary in the modern practice of pharmacy involving the various systems of weights and measures, dosage calculation. Mattocks.	1	F
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Number	Description	Prerequisites	Credit	Sem.	Hours/Week	Lec	Lab
31	BASIC PHARMACEUTICS I. Introduction to pharmaceutical dosage forms and principles of dispensing. Paoloni.	Pharm 30 (prereq. or coreq.)	2	F	2		2
31L	BASIC PHARMACEUTICS I LAB. Lafferty; staff.		1	F			3
67	PHYSICAL PHARMACY. A study of physico-chemical principles applied to pharmacy. Hadzija.	Phar. 30, 31	3	F	3		
67L	PHYSICAL PHARMACY LAB. Hadzija.		1	F			3
71	BASIC PHARMACEUTICS II. Solid pharmaceutical dosage forms, powders, tablets, capsules, aerosols, and injections. Olsen.	Phar. 67	2	Sp	2		
71L	BASIC PHARMACEUTICS II LAB. Lafferty.		1	Sp			3
72	NON-PRESCRIPTION DRUGS. A survey of non-prescription drugs classified by therapeutic use. Emphasis is on the pharmacological properties, dosage forms, and the role of the pharmacist in providing these medical agents. Wargin.	Phar 67	3	F	3		
72L	DISPENSING LAB. Lafferty, Taylor, R. Smith.		1	F	3		
80	FIRST AID. The American Red Cross Standard and Advanced Courses in first aid. Wier, Chambers.		1	F	1	1	
81	PHARMACOKINETICS AND BIOPHARMACEUTICS. A basic study of the concentration-time course of drugs and their metabolites, methods of pharmacokinetic analysis, bioavailability, design of dosage regimens, influence of disease states on drug kinetics, and pharmacokinetic drug interactions. Blum.	Phyi 93	3	Sp	3		
88, 89	PRESCRIPTION SPECIALTIES. Distinctive classes of pharmaceutical forms, important pharmacotherapeutic groups, and individual drugs in relation to current professional practice. Lafferty.	Chem. 62 Phar. 72	3	F, Sp	3		
103	STERILE PHARMACEUTICAL PRODUCTS. A study of the preparation and properties of parenteral drug forms along with required control procedures. Mattocks.	Permission of instructor	3	Sp	3		

Number	Description	Prerequisites	Credit	Sem.	Hours/Week Lec Lab
104	TOXICOLOGY AND DRUG ABUSE. Introduction to drug and chemical adverse reactions including important aspects of toxicology and industrial hygiene. McBay.	MedC 69, MedC 66	3	F	3
105	ANALYTICAL TOXICOLOGY. McBay.	Permission of instructor	1	Sp	1
106	RADIOPHARMACEUTICALS. Principles and techniques of radioisotopes, the dispensing and control of radiopharmaceuticals. Kowalsky.		3	F	3
106L	RADIOPHARMACEUTICALS LABORATORY. Kowalsky.	Permission of Instructor	2	Sp	1
162	PHARMACEUTICAL TECHNOLOGY I. Study and manufacture of pharmaceuticals on a large and semicommercial scale. Olsen.	Pharmacy 67, 71, 72	3	F	2
163	PHARMACEUTICAL TECHNOLOGY II. Continuation study of pharmaceutical manufacturing and the development of new products. Olsen.	Pharmacy 162	3	Sp	2
171, 172	INTRODUCTION TO RESEARCH IN PHARMACY. These two courses provide one or two semester assignments of special research problems in pharmacy. Mattocks, Olsen, Blum, Hadzija.	Permission of instructor	1-3	F & Sp	
181	PHARMACOKINETICS AND BIOPHARMACEUTICS. A basic study of concentration-time course of drugs and their metabolites, methods of pharmacokinetic and bioavailability analysis, design of dosage regimens, pharmacokinetics drug interactions and influence of disease on drug kinetics. Blum.	Phyi 93	3	Sp	3
191, 192	PRODUCT FORMULATION. Development and evaluation of pharmaceutical and cosmetic products. Olsen.		5	F & Sp	2
251, 252, 253, 254	ADVANCED PHARMACEUTICAL TECHNOLOGY. Tablets, similar drug forms, parenteral products, and the basic relevant processes are intensively studied. The laboratory consists of the preparation of tablets and parenterals. Field trips are made to observe the large scale production of pharmaceuticals. Pertinent literature is reviewed. Olsen, Hadzija; staff.		5	F, Sp in cons. years	6

Number	Description	Prerequisites	Credit	Sem.	Hours/Week	
					Lec	Lab
255	ADVANCED PHARMACOKINETICS I. Advance considerations on classical linear multicompartment models. Emphasis on mathematical methods, assessment of absorption and disposition parameters from blood and urinary data, multiple dosing and design of dosage regimens. Blum.	Phar 181	3	F	3	
256	ADVANCED PHARMACOKINETICS II. Consideration of special topics including bioavailability assessment, nonlinear and perfusion modeling, and analog and digital computational methods in pharmacokinetics. Mattocks.	Phar 255	3	Sp	3	
291, 292	ADVANCED PHYSICAL PHARMACY. Intensive study of the application of fundamental physical and chemical principles to the study of drug decomposition and formulation of acceptable dosage forms. Laboratory work includes the application of chemical kinetics to drug stability, the use of buffers, particle size analysis, antioxidants and molecular addition compounds for the stabilization of pharmaceutical products. Mattocks, Hadzija.		5	F & Sp	3	6
361, 362	SEMINAR. Staff.		0-1	F & Sp	1	
391, 392	RESEARCH IN PHARMACY. Graduate course consisting of laboratory work, conferences with the major professor, and library investigations relating to research. Mattocks, Olsen, Hadzija, Blum.		1-5			
393	MASTER'S THESIS. Mattocks, Olsen, Hadzija, Blum		1-5	F or Sp		
394	DOCTORAL DISSERTATIONS. Mattocks, Olsen, Blum, Hadzija.		1-5	F or Sp		

PHARMACY ADMINISTRATION

Courses for Undergraduates

90	FINANCIAL AND PERSONNEL MANAGEMENT. Course acquaints students with the managerial principles of personnel and organizational management. In addition it presents the basic principles and techniques of financial management. Gagnon.	3	Sp	3
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Number	Description	Prerequisites	Credit	Sem.	Hours/Week Lec Lab
93	PHARMACY PUBLIC RELATIONS. Exposure of students to the public and human relations aspects of pharmacy practice including individual communicative skills, techniques and related topics. Berlow.		2	F, Sp	2
96	PHARMACY IN HEALTH CARE. Provides general perspective necessary for taking an active role in planning and implementing pharmaceutical services in health care. Reviews basic facts on consumers, providers, facilities, costs, financing and organization of health care services. Gagnon, Jang.		3	F	3
97	MODERN PHARMACY INFORMATION TECHNIQUES. Major trends in computer-based information handling and the pharmacist's relationships and responsibilities. Orientation will be provided in systems designed to handle prescriptions and third-party payment records; adverse drug reactions, chemical structure searching and other data pertinent to pharmacy. Laboratory sessions provide familiarization with techniques in the use of computer-derived information services. Wier; staff.	Permission of instructor	2	F or Sp	2
98	PHARMACY MANAGEMENT. Community pharmacy in the distribution of pharmaceutical products through study of personnel policies and training; store layout, design, location, and organization; merchandise operations and control; and expense control and analysis. Chambers.	Phad. 90	3	Sp	3
99	PHARMACEUTICAL LAW. Describes pharmacy professional practice and controlled substances laws in depth. Gives introduction to business law, e.g., anti-trust, contracts and liability and other laws affecting contemporary pharmacy practice. Gagnon.		2	F or Sp	2
180	PHARMACEUTICAL MARKETING AND ECONOMICS. A survey of the U.S. drug distribution system from pharmaceutical manufacturer to community pharmacy operation. Marketing strategies, management practices, pricing, research and development, promotion and advertising, and the structure of the drug industry are analyzed. Gagnon.	Grad. standing	3	F	3

Number	Description	Prerequisites	Credit	Sem.	Hours/Week	
					Lec	Lab
201	PHARMACEUTICAL SERVICES AND HEALTH CARE SYSTEMS. Pharmacy's current and future position in America's health care system is the underlying topic of this course. Special emphasis is placed on evaluative studies and pharmacy's role in third-party prescription plans, drug utilization review, governmental programs and other health organizations. Gagnon.	Grad. standing	3	Sp	3	
202	PHARMACY MANAGEMENT. Assigned readings in financial and personnel management followed by discussion, lectures, oral and written reports, a research project, case studies and visitations to drug companies and chain store organizations will form an important part of this course. Topics to be covered include: automation, in retailing and in pharmacy, buying, merchandising, pricing and others. Gagnon.	Grad. standing	3	F or Sp	3	
203	ATTITUDINAL RESEARCH METHODS. The principles and theories of attitudinal research in the evaluation of services delivered in pharmacy practices are presented. Included in this course are lectures on survey and questionnaire development and use of various attitudinal measurement devices, e.g. semantic differential, likert scale, etc. Gagnon.	Grad. standing	3	F or Sp	3	
361, 362	SEMINAR. Staff.	Grad. standing	1	F, Sp		
391, 392	RESEARCH IN PHARMACY ADMINISTRATION. Gagnon.	Grad. standing	1	F, Sp		

THE BASIC SCIENCES

51	BACTERIOLOGY. The general principles and techniques of bacteriology and the relations of microorganisms to sanitation, agriculture, medicine and industry. Straughn, Manire.	Chem. 11-21	4	Sp	3	2
93	PHYSIOLOGY. A general course in mammalian physiology with emphasis on the various organ systems and their interrelationships. Staff.	Zool 41 Chem 11-21	4	F	3	2-4

Number	Description	Prerequisites	Hours/Week		
			Credit	Sem.	Lec
55,	PHARMACOLOGY. General principles as they apply to the major drug classes will be stressed. Staff.	All preceding courses in Chem., Zool, Bact, and Physiology	3	F & Sp	3
56					

COURSES IN ACADEMIC DEPARTMENTS

Chemistry

11	GENERAL DESCRIPTIVE CHEMISTRY. Staff.	Corequisite, Chemistry 11L	3	F & Sp	3
11L	QUANTITATIVE CHEMISTRY LABORATORY Staff.	Corequisite, Chemistry 11	1	F & Sp	3
21	GENERAL DESCRIPTIVE CHEMISTRY. Staff.	Chem. 11, Corequisite 21L	3	F & Sp	3
21L	QUANTITATIVE CHEMISTRY LABORATORY. Techniques for quantitative acid-base redox, and complexometric titrimetry. Gravimetric analysis. Total salt ion exchange analysis. (Transfer students who have not had quantitative analysis in their previous courses will take this laboratory.) Staff.	Chem. 11, Corequisite 21	1	F & Sp	3
41	MODERN ANALYTICAL METHODS FOR SEPARATION AND CHARACTERIZATION. The basic prerequisite or corequisite, Chemistry 61 (2 hour course). The basic principles of chemical separations, including chromatography and electrophoresis, and an introduction to analytical spectroscopy (visible, ultraviolet, and infrared) from a quantitative and structural viewpoint. Buck, Bursey, Knight, Murray, Reilley, Isenhour.	Chem. 21, Corequisite 41L	2	F & Sp	2
41L	LABORATORY IN SEPARATIONS AND ANALYTICAL CHARACTERIZATION OF ORGANIC AND BIOLOGICAL COMPOUNDS. Applications of separation and spectroscopic techniques to organic compounds, including some of biological interest. Principles of chromatography and absorption, spectroscopy; correlation of spectra with structure. (This laboratory serves as an organic chemistry laboratory for premedical and dental students.) Analytical and organic Staff.	Corequisite, Chem. 41, Prerequisite or corequisite, Chem. 61	2	F & Sp	4

Number	Description	Prerequisites	Credit	Sem.	Hours/Week Lec Lab
42	MODERN ANALYTICAL METHODS FOR SEPARATION AND CHARACTERIZATION: SECOND COURSE. Intermediate analytical spectroscopy (magnetic resonance and mass spectroscopy); principles of Nernstian electrochemistry; acid-base solvent concepts; analytical coordination chemistry; analysis of kinetics and equilibria; radiochemical techniques. Buck, Bursey, Knight, Murray, Reilley, Isenhour.	Chem. 41, Corequisite Chem. 42L; Prerequisite or Corequisites Chem. 62.	2	F & Sp	2
42L	LABORATORY IN SEPARATIONS AND ANALYTICAL CHARACTERIZATION OF ORGANIC AND BIOLOGICAL COMPOUNDS. Applications and illustrations of modern analytical spectroscopic techniques; quantitative investigation of chemical properties through electrochemical, radio-chemical, and new titrimetric techniques (some preparative experience is included with these studies.) (This course serves as an organic chemistry laboratory for premedical and predental students.) Analytical and organic Staff.	Prerequisite or Corequisite, Chem. 62; Corequisite, Chem. 42	2	F & Sp	4
61	INTRODUCTION TO ORGANIC CHEMISTRY. Molecular structure and its determination by modern physical methods, correlation between structure and reactivity and the theoretical basis for these relationships; classification of "reaction types" exhibited by organic molecules using as examples molecules of biological importance. (Course for students on new Chemistry curriculum). Hiskey, Little, McKee, Coke, Whitten, Rieke, Harrison, Kropf, Brookhart, Eiel, Evans.	Chem. 21	2	F & Sp	2
62	INTRODUCTION TO ORGANIC CHEMISTRY. Molecular structure and its determination by modern physical methods, correlation between structure and reactivity and the theoretical basis for these relationships; classification of "reaction types" exhibited by organic molecules using as examples molecules of biological importance. (This course is for students on the new Chemistry curriculum). Hiskey, Little, McKee, Coke, Whitten, Rieke, Harrison, Kropf, Brookhart, Eiel, Evans.	Chem. 21	2	F & Sp	2

Number	Description	Prerequisites	Credit	Sem.	Hours/Week Lec Lab
ECONOMICS					
31	GENERAL ECONOMICS I. The organization and underlying principles of modern economic life. The production, exchange, distribution and consumption of wealth and auxiliary economic problems. Staff.		3	F & Sp	3
ENGLISH					
1	ENGLISH COMPOSITION AND RHETORIC. Required of all students, except those qualifying by placement test for English 2. Betts, Director; staff.		3	F & Sp	
2	ENGLISH COMPOSITION AND RHETORIC. Required of all students except those qualifying by placement test for English 21. Betts, Director; staff.		3	F & Sp	
MATHEMATICS					
31	CALCULUS WITH ANALYTIC GEOMETRY. An integrated treatment of analytic geometry and the differential and integral calculus of functions of one variable. Staff.		3	F & Sp	
PHYSICAL EDUCATION					
	PHYSICAL EDUCATION. Required of freshman men and women. Two semesters. Staff.		1	F & Sp	4 hrs week
ZOOLOGY					
11	PRINCIPLES OF ZOOLOGY. Prerequisite to all other courses in Zoology. Principles, problems and experimental methods of animal biology; basic similarities of all living organisms; organ systems and their physiology; embryology, genetics, organic evolution, ecology; survey of the major animal phyla. Staff.		4	S & Sp	3
41	INTRODUCTORY VERTEBRATE ZOOLOGY. Especially designed for premedical, dental, and pharmacy students. Fundamentals of vertebrate anatomy, physiology, histology, embryology, classification, and homology. Staff.	Zool. 11	4	F & Sp	3

SPECIAL SCHOOL OF PHARMACY PROGRAMS

Pharmacy Experience

The requirements for licensure as a pharmacist in North Carolina provide that the candidate must submit satisfactory evidence of at least 1500 hours of practical pharmacy experience under the supervision of a licensed pharmacist in a program approved by the North Carolina Board of Pharmacy. The structure of the practical pharmacy experience program necessary to meet requirements is described in the *Extern/Internship Program Instructions* of the North Carolina Board of Pharmacy. Such experience may be acquired in a community or hospital pharmacy. Up to 600 hours of experience credit may be acquired concurrent with college attendance when gained in an approved pharmacy course or demonstration project. No practical experience can be credited prior to completion of two years of college work.

In order to validate any practical experience, it is necessary for the candidate to register with the North Carolina Board of Pharmacy at the time he begins his practical experience training and to discharge the requirements of a program of supervised experience. The Board of Pharmacy will not allow credit for claims of practical experience required under the pharmacy laws unless such claims can be corroborated by records on file in the Board office showing the beginning and ending of each period of practical experience claimed as supplied by the applicant during his training period and by the pharmacist who supervised the practical experience. Full details may be secured from the North Carolina Board of Pharmacy, P.O. Box 471, Chapel Hill, N.C.

PROFESSIONAL LIABILITY INSURANCE FOR 5/5 STUDENTS

To be eligible for participation in required course Pharmacy 92L, the School's Academic Externship Program, all fifth year students are required to secure professional liability insurance. Although the School has made arrangements with an insurance company for a group policy and rate, each student is responsible for the payment of his individual premium. The School will notify you during your fourth year about the amount of the premium and the method and deadline for its payment. Students may elect, on their own initiative, to secure individual professional liability insurance with the same or another insurance carrier, but they must be prepared to show evidence of such insurance coverage prior to participation in the Academic Externship Program.



SCHOLARSHIPS, FELLOWSHIPS, LOAN FUND

Undergraduate Scholarships

The scholarships that follow are awarded to worthy and needy students of pharmacy who subscribe to the requirements of the donors. A "C" or better average must be maintained each semester in order to be eligible for most of these scholarships throughout the year. Application for a scholarship must be submitted to the Office of Student Aid before March 1. Financial need is determined by the Office of Student Aid. Scholarship awards are determined by the Committee on Scholarships of the School of Pharmacy.

The values of these scholarships range from \$200 to \$500 per year. The tenure of these scholarships is one year, provided the recipient maintains a "C" average. Application must be made each year as set forth above for any scholarship.

The David Astor Dowdy Pharmacy Scholarship. (Established in 1948). Endowed by the Mann Drug Stores of High Point. The fund maintains a number of pharmacy scholarships annually. The tenure of the scholarship is for one year, provided the holder of the award maintains high standards both in character and in scholarship, but it may be renewed each year until graduation at the end of five years. The basis for selection shall be high scholastic rank, character, promise of professional aptitude and financial need.

The Justice Drug Company Scholarships. Three in number. Established in 1931 by the Justice Drug Company of Greensboro.

The Vivian Spradlin Smith Scholarship. (Established in 1932 by William Julius and the Woman's Auxiliary of the North Carolina Pharmaceutical Association as a loan fund and converted in 1946 as an endowed scholarship. It was named to honor William Julius and Vivian Spradlin Smith in 1977.) This scholarship is given annually to a deserving pharmacy student who shows both need and ability.

C.B. Miller Memorial Scholarship. Established in 1945 by Mr. B.R. Ward of Goldsboro, in memory of Mr. C.B. Miller, of Goldsboro.

Owen, Minor & Bodeker Scholarship. Established by the parent organization in 1945 and continued by Owens, Minor & Bodeker, Inc., of Richmond, Virginia.

The Virginia Townsen Hayes Scholarship. Established in 1954 by the Greensboro Drug Club Auxiliary and named in 1963 to honor Mrs. P.A. Hayes.

The McKesson & Robbins Scholarships. Two in number. Established in 1955 by McKesson & Robbins, Inc., of Charlotte.

The Eckerd Scholarships. Three in number. Established in 1957 by the Eckerd Drug Stores and continued by the Jack Eckerd Corporation.

The North Carolina Mutual Wholesale Drug Company Scholarships. Two in number. Established in 1960 by the North Carolina Mutual Wholesale Drug Company of Durham.

Lucille Swaringen Rogers Scholarship. Established in 1966 by the Women's Auxiliary of the N.C. Pharmaceutical Association. This scholarship is given annually to a deserving pharmacy student who shows both need and ability.

John W. Dargavel Foundation Scholarship. Valued at \$200 and established in 1964 by the National Association of Retail Drug-gists for a worthy student in the third, fourth or fifth year class.

The Hall Scholarship. Established in 1976 by Mr. J.B. Clay of Oxford in honor of John Perry Hall and Samuel Cannady Hall. An annual stipend of \$500 to be awarded either as a single scholarship or two smaller scholarships.

The North Carolina Pharmaceutical Research Foundation Scholarships. Number varies. Established in 1955. In addition, the following three scholarships are administered by The North Carolina Pharmaceutical Research Foundation.

The Beard Scholarship. Established in 1960 by a gift from Mrs. Gladys A. Beard of the J.B. Beard Memorial Fund of the North Carolina Pharmaceutical Research Foundation as an endowment to support undergraduate scholarships.

The May Scholarship. Established in 1960 through a bequest by T.H. May of Wake Forest to the North Carolina Pharmaceutical Research Foundation, endowing the Thomas H. and Bertie Redford May Memorial Fund, with its income designated for financial aid to worthy undergraduate students.

The Myra Kinlaw Memorial Scholarship Award. Established in 1962 by contributions to the North Carolina Pharmaceutical Research Foundation from the members of the graduating class for an endowed scholarship to the memory of a classmate who lost her life in an auto accident just before Commencement. The annual scholarship is designed for a member of the rising senior class, preferably a woman student, who best qualifies on the basis of scholarship, moral character, professional and general student activities, promise of professional attainment and financial need.

The North Carolina Pharmaceutical Association Scholarship Loans. The N.C. Pharmaceutical Association makes available a number of short term tuition loans which do not usually exceed \$125 per semester and which bear no interest. Application is made to W.J. Smith, Institute of Pharmacy, Chapel Hill, N.C.

See Financial Aid, page 26, for information on other loan funds.

For the past several years the United States Department of Health, Education and Welfare has made available to the School of Pharmacy funds which support loan programs. Recent experience indicates that these funds may be sharply decreased in the future.

Health Professions Scholarship and Loan Program. Federal law provides that the Surgeon General shall make grants to each accredited school of medicine, osteopathy, dentistry, optometry, pharmacy and podiatry for loans to be awarded to eligible students. These loans are available only to students who without this financial assistance would not be able to pursue the required studies. Loans are to be awarded to full-time students who meet the year-class requirements in addition to financial need. Application for these loans is to be made to the Office of Student Aid, Vance Hall. Financial need is determined by that office. Awards are determined by the Committee on Scholarships of the School of Pharmacy. The loan may cover such portion of the cost of the student's tuition, fees, books, equipment, and living expenses as the school finds necessary, but it may not exceed \$3500 for any year. Financial eligibility is determined by analysis of the Parents' Confidential Statement.

North Carolina Pharmaceutical Research Foundation, Inc.

In December, 1946, the North Carolina Pharmaceutical Research Foundation was established by the pharmacists of North Carolina through their state association. Under the terms of its charter the "Foundation is a non-profit, charitable corporation carrying no capital stock and will have the full power to receive donations and bequests; can purchase, lease and otherwise acquire property; and can pay in full or supplement salaries of persons engaged in pharmaceutical research and education. It can also donate equipment, materials or other facilities for the development, expansion and extension of educational, research and service projects thereby promoting the pharmaceutical service of the State and the South through the University at Chapel Hill." The general purposes of the Foundation are to foster and promote the growth, progress, and general welfare of pharmaceutical education and research at the School of Pharmacy

and throughout the State. Its main objectives are (1) research fellowships of \$3,000 a year to worthy graduate students for specialized training in pharmacy; (2) special equipment and library materials; (3) experimental culture of drug plants; (4) great teachers secured through salary supplements; and (5) an information bureau at the School of Pharmacy to act as liaison between the new discoveries and the practicing pharmacists.

Graduate Assistants

A number of graduate assistantships have been established in the School of Pharmacy by the University at Chapel Hill. The stipend for the assistantships is determined annually and covers a nine-month period. Holders of these assistantships are expected to devote from twelve to fifteen hours a week in the supervision of laboratory classes and the checking of reports. This allows assistants to carry approximately two-thirds of the regularly scheduled graduate program each semester.

Graduate Scholarships and Fellowships

Teaching Assistantships: Provide a basic stipend of \$2,700 to \$3,700 for nine months service. Recipients of certain appointments may be entitled to pay tuition at a lower rate at the discretion of the Board of Trustees. Total teaching time required is 12 to 15 hours per week. Additional support is available for the summer months (\$400-\$1,000). Positions are also available for predoctoral students as research assistants on specific research grants. These furnish up to \$4,800 for the calendar year and waiver of out-of-state tuition.

Research Fellowships: The North Carolina Pharmaceutical Research Foundation, Inc., sponsors a number of fellowships for qualified graduate students. Recipients receive an annual stipend of \$3,000 plus tuition. This is a non-service award.

Post-Doctorate Fellowships: A number of post-doctorate fellowships in Medicinal Chemistry are available for holders of doctoral degrees in medicinal chemistry or in a related field of the pharmaceutical sciences — organic chemistry, biochemistry, etc. — providing the candidate has appropriate minimal academic training and experience to conduct exploratory research on medicinal agents of synthetic or natural origin. Appointments are on a 12-month basis. Stipends vary depending upon experience and are in the range of \$7,200-\$11,000 for twelve months with additional allowances for travel and University fees. Inquiries should be addressed to the School of Pharmacy, The University of North Carolina at Chapel Hill, Chapel Hill, North Carolina 27514.

Hospital Pharmacy Residency: Provides a stipend of \$9,200 for 24 months service and training. Total time required is 20 hours per week during academic year and 40 hours per week during the summer months.

American Foundation for Pharmaceutical Education Fellowships

The Foundation offers a limited number of fellowships for students seeking graduate degrees in pharmaceutical subjects. These fellowships are open to students (men and women) qualified for registration in approved graduate schools or colleges for one or more of the following major fields: pharmacy, medicinal chemistry, pharmacy administration, pharmacology, and pharmacognosy. Each fellow will receive from the Foundation a stipend to cover the year of his appointment, plus an allowance for tuition and miscellaneous fees in cases where these expenses are not remitted. Information regarding these fellowships may be obtained by writing to the American Foundation for Pharmaceutical Education, 777 Fourteenth St., N.W., Washington, D.C. 20005.

AWARDS

Distinguished Service Award. — (Established in 1961.) An engraved mortar and pestle is presented to an individual other than a student or member of the Pharmacy Faculty who has made outstanding contributions to the instruction, research, and/or service function of the School of Pharmacy.

Syntex Preceptor of the Year Award. — Made annually to a Practitioner-Instructor for outstanding contribution to the Pharmacy Externship Program. Nominations are made by Pharmacy Externs, and the recipient is selected by a special committee composed of students and faculty members. Sponsor: Syntex Laboratories.

The Pharmacy Faculty Award. — (Established in 1958.) An engraved bronze mortar and pestle is given annually by the faculty of the School of Pharmacy and awarded to the student in the graduating class making the highest average during the four years of study.

The Buxton Williams Hunter Award. — (Established in 1937.) Offered annually in memory of the late Mr. Buxton Williams Hunter, of New Bern, to that graduating student who excels in campus citizenship and scholarship.

The Lilly Achievement Award. — (Established in 1966.) This gold medal is given by Eli Lilly and Company of Indianapolis and awarded to a graduating student for superior scholastic and professional achievement. The recipient is determined by the faculty.

Upjohn Achievement Award. — Awarded to a graduating student for performance of outstanding services to the School of Pharmacy in an effective and exemplary manner. This award is sponsored by the Upjohn Company.

Bristol Award. — (Established in 1951.) An award consisting of a useful reference work is given annually by Bristol Laboratories, Inc., to a graduating student for noteworthy achievement in pharmacy. The recipient is determined by the faculty.

Merck Awards. — (Established in 1941.) Two awards, each consisting of two reference works, are given annually by Merck & Co., Inc. to graduating students for noteworthy achievement in pharmacy. The recipients are determined by the faculty.

The M.L. Jacobs Memorial Award. — (Established in 1957.) In honor of the memory of Dr. M.L. Jacobs, Dean of the School of Pharmacy from 1946 to 1950, the Xi Chapter of Rho Chi annually awards a prize in the form of a gold key to that student demonstrating the greatest excellence in medicinal chemistry.

The Rexall Award. — (Established in 1958.) A mounted replica of an antique bronze mortar and pestle is given annually by the Rexall Drug Company and awarded to a graduating student for high achievement in the pharmacy administration courses.

Johnson & Johnson Award. Awarded annually to a fourth year student for outstanding performance in Pharmacy Administration studies. The winner of this award is eligible to compete for a \$1500 prize in a Scholarship Essay Contest prior to the senior year. Sponsor: Johnson & Johnson.

Division of Pharmacy Practice Achievement Award. An award to a graduate who has demonstrated a high degree of professional motivation and concern about the role of the pharmacist in the delivery of health care.

Smith Kline & French Award. An award for academic excellence with demonstrated ability to apply this expertise to clinical practice. Sponsor: Smith Kline & French Laboratories.

Rho Chi First Year Award. — (Established in 1933.) The Xi Chapter of Rho Chi annually awards a prize in the form of a suitable reference work to that student who shows the highest scholarship in the first year of the pharmacy curriculum.

Fraternity Scholastic Award. — (Established in 1964.) A plaque is presented annually to the pharmacy fraternity whose members attain the highest scholastic average in the preceding two semesters. The three professional fraternities, Kappa Epsilon, Kappa Psi, and Phi Delta Chi, who participate in the competition, sponsor the award to stimulate academic achievement.

The School of Pharmacy Student Body Award. — (Established in 1948.) A mortar and pestle plaque is given annually by the student body of the School of Pharmacy to the member of the graduating class who has demonstrated the highest qualities of character, deportment, scholarship, participation in extra-curricular activities, and promise of future distinction in the profession. The winner of the plaque is determined by a special committee composed of representatives from each recognized organization in the School of Pharmacy.

Kappa Epsilon Award. — (Established in 1947.) The Lambda Chapter of Kappa Epsilon, national pharmaceutical fraternity for women, awards annually a silver tray to a fourth or fifth year woman student in the School of Pharmacy who has demonstrated qualities of leadership, character, service, and scholarship. The recipient is selected by a special committee of students and faculty members from a slate of nominees determined by Lambda Chapter of Kappa Epsilon.

Best Instructor Award. — Awarded to that member of the School of Pharmacy Faculty selected by the Senior Class as representing the highest qualities of instructional ability. This award is sponsored by the Pharmacy Senate.

McKesson & Robbins Award. — Presented on behalf of McKesson & Robbins, Inc., to the President of the Student Chapter, American Pharmaceutical Association.

APhA Certificate. Presented to a graduating student on behalf of the American Pharmaceutical Association for outstanding services to the Student Chapter at the University of North Carolina at Chapel Hill.

The Fannie Jackson Andrews Awards. — Funds have been made available through the North Carolina Pharmaceutical Research Foundation to establish monetary awards each year for one or more students who have made outstanding positive contributions to the profession of pharmacy. The selection of recipients of the awards will be made by a special committee which will include representatives of the faculty and the student body of the School of Pharmacy and the North Carolina Pharmaceutical Research Foundation. The awards will

be announced late in the Spring Semester; the monetary awards will be presented at the beginning of the ensuing Fall Semester. If, in the opinion of the selection committee, there is no student deserving of the award in a given year, no award will be made.

STUDENT ORGANIZATIONS

The Xi Chapter of Rho Chi. — (Established in 1929.) Charters for chapters of this national pharmaceutical society are granted only to groups in colleges that are members in good standing of the American Association of Colleges of Pharmacy. Eligibility for membership in the society is based on high attainment in scholarship, character, personality, and leadership. All candidates selected for membership must have completed 105 semester hours, or the equivalent, of college work, and they must be approved by the Dean of the School of Pharmacy.

The University of North Carolina Students' Branch of The North Carolina Pharmaceutical Association. — (Established in 1936.) The aim of the organization is to unite students of pharmacy for mutual assistance, encouragement, and improvement, and to advance the science and art of pharmacy.

The University of North Carolina School of Pharmacy Students' Chapter of The American Pharmaceutical Association. — (Established in 1952.) It is the purpose of this organization to increase interest in pharmaceutical problems and progress at the national level. The group holds joint meetings with the Students' Branch of the North Carolina Pharmaceutical Association.

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