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THE DEPARTMENT OF  
PHARMACY

ANNOUNCEMENT FOR 1902-1903

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# THE DEPARTMENT OF PHARMACY.

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## FACULTY.

FRANCIS PRESTON VENABLE, PH.D., PRESIDENT.

EDWARD VERNON HOWELL, A.B., PH.G., *Dean and Professor of Pharmacy.*

JOSHUA WALKER GORE, C.E., *Professor of Physics.*

CHARLES BASKERVILLE, PH.D., *Professor of Chemistry.*

HENRY VAN PETERS WILSON, PH.D., *Professor of Biology.*

CHARLES STAPLES MANGUM, A.B., M.D., *Professor of Materia Medica.*

ISAAC HALL MANNING, M.D., *Professor of Physiology.*

ALVIN SAWYER WHEELER, PH.D., *Associate Professor of Organic Chemistry.*

....., *Associate Professor of Botany.*

JAMES EDWARD LATTA, A.M., *Instructor in Physics.*

JAMES EDWARD MILLS, PH.D., *Instructor in Chemistry.*

CLARENCE ALBERT SHORE, S.B., *Instructor in Biology.*

BENJAMIN FRANKLIN PAGE, *Assistant in the Pharmaceutical Laboratory.*

ROYALL OSCAR EUGENE DAVIS, PH.B., *Assistant in Chemistry.*

## FOUNDATION.

The Department of Pharmacy was established in 1897 and was opened for students in September of that year. Its location at the seat of the University assures to its students the most modern scientific instruction with all the laboratory facilities of the academic department, as well as the courses of instruction in allied branches. These opportunities will meet the requirements of the large number of students who were compelled

heretofore to obtain their pharmaceutical education in other states. Briefly stated, the advantages are as follows:

1. Thorough, careful, *individual* instruction.
2. The practical experience derived from active work in the laboratories.
3. Intimate association with the other departments of the University, to all of which the student of pharmacy has free access, and the daily contact with students pursuing various branches of learning.
4. The use of the large library and reading room and the well equipped gymnasium.
5. The comparatively small cost at which a two years course may be obtained.
6. The course here consists of two sessions of nine months each,—nearly a fourth longer than in many of the Colleges of Pharmacy.

The success of the students of this department in their examination before the State Boards has been very gratifying. Students of this department have been applicants before the State Boards of Maryland, Pennsylvania, and North Carolina. None of the graduates of this department applying for license before State Boards have failed to pass the examinations.

### ARRANGEMENT OF COURSES.

The courses are arranged for two sessions of nine months each, and lead to the degree of Graduate of Pharmacy (Ph.G.).

#### First Year.

The instruction includes:—

Theory and Practice of Pharmacy, Practical Course in Operative Pharmacy, Elementary Physics, Descriptive Chemistry, Physiology (optional), Lectures in Pharmaceutical Botany.

#### Second Year.

The instruction includes:—

Theory and Practice of Pharmacy, Practical Course in Operative Phar-

macy, General Biology (optional), Materia Medica and Toxicology, Qualitative Analysis, Urinary Analysis.

## COURSES OF INSTRUCTION.

### Pharmacy.

Professor HOWELL.

1. Theory and practice of Pharmacy. First year. *Five hours a week.*

This course consists of lectures upon the following subjects, with practical demonstration and the employment of proper apparatus whenever necessary.

Metrology: comminution, heat, evaporation, distillation, sublimation.

Fusion: calcination, granulation, oxidation, reduction, etc.

Solution: of solids, liquids, and gases, deliquescence, efflorescence, etc.

Colation: filtration, decolorization, clarification, precipitation, etc.

Maceration: expression, infusion, decoction, etc.

Percolation, and the preparation and study of the following: waters, syrups, honeys, glycerites, mucilages, mixtures, spirits, elixirs, liniments, collodions, tinctures, wines, vinegars and fluid extracts.

2. Theory and Practice of Pharmacy. Second Year. *Five hours a week.*

The senior course takes up in detail the official forms and preparations of drugs. Beginning with the inorganic compounds, the salts are considered with regard to their commercial qualities and pharmaceutical uses and preparations. The organic compounds are taken up, commencing with the salts of the organic acids, and passing to the natural and artificial organic compounds.

3. Lectures on Pharmaceutical Botany. *Two hours a week (spring term).*

This course is preparatory to the study of Materia Medica, and takes up the study of the flower, the various topics of fruits, seeds, etc., and a careful study of the descriptive terms as applied to leaves, stems and roots. This course includes the gathering and proper mounting of specimens of the various official herbs that grow in this vicinity.

### Materia Medica and Toxicology.

Professors HOWELL and MANGUM.

1. Materia Medica. Lectures on the geographical and botanical sources

of drugs, descriptions and uses of the same, together with their physical and toxic effects. *Three hours a week.*

Opportunity is given the student to familiarize himself with most of the crude drugs and their preparations.

2. Toxicology. Lectures on poisons and their specific action on the various parts of the body in their minimum and maximum doses. *Three hours a week.*

Attention is called to the symptoms exhibited in cases of poisoning, to the mode of action of chemical antidotes and physiological antagonistics, and to the relative values of mechanical treatments.

### Physics.

Mr. LATTA.

1. Elementary course. The fundamental facts of physics presented and the general laws illustrated by experiments. *Three hours a week (fall term).*

### Chemistry.

Professor BASKERVILLE, Dr. MILLS and Mr. DAVIS.

1. Descriptive Chemistry. Lectures with laboratory work. A study of the elements and their compounds, including an introduction to organic chemistry. *Three hours a week.*

Associate Professor WHEELER and Mr. DAVIS.

9. Qualitative Analysis and Toxicology. Laboratory work with lectures. *Three hours a week. (Five and a half months.) Second year.*

Associate Professor WHEELER.

10. Physiological Chemistry, including Urine Analysis. Lectures and laboratory work. *Three hours a week. (Three and a half months.) Second year.*

The following courses are not required of students in Pharmacy but may be elected profitably:

### Physiology.

Professor MANNING.

1. Lectures, laboratory work and demonstrations.

A brief but practical study is made of the skeleton, joints, muscles, heart, blood-vessels, brain, eye, ear, and viscera. Demonstrations are given of the blood-flow in the capillaries, phenomena of reflex action, and microscopic structure of the chief tissues.

### Biology.

Professor WILSON.

1. General Biology. Fundamental principles worked out in selected animal and plant types. Lectures and laboratory work. *Five hours a week.*

### Botany.

Associate Professor .....

1. Laboratory and field work with recitations. *Three hours a week (spring term).*

### Prescription Filling.

Professor HOWELL.

In order that students may gain experience in prescription filling, a course in the practical "every day work" of a drug store and in selling poisons and filling prescriptions is given. The prescriptions selected are those that will give the largest amount of practical experience. For this course a fee of ten dollars is required to cover the cost of ingredients, bottles, labels, etc.

### OPTIONAL COURSES.

The following optional courses may be taken by the payment of a small laboratory fee to cover cost of material, etc:—

Industrial Chemistry. Lectures. The application of chemistry to the arts and industries. *Three hours a week.*

This course includes metallurgy, glass making, pottery, foods, clothing, building materials, explosives, photography, etc.

Agricultural Chemistry. Lectures. *Three hours a week (spring term).*

This course includes the chemistry of the plant and the soil and the discussion of plant-food, etc. Many specimens have been collected in the Industrial Museum to illustrate these courses.

Quantitative Analysis. Laboratory work. *Three or five hours a week.*

The student in this course is led further into the study and practice of analytical methods. The work may take any special direction desired by him, fitting him to be an agricultural chemist, iron chemist, manufacturing chemist, physician, druggist, or teacher of chemistry. Encouragement is given to the student to make original researches.

Quantitative Analysis and Assaying. Laboratory work. *Three or four hours a week.*

This course is intended to give the student a thorough grounding in analytical methods and manipulations.

Determinative Mineralogy. Lectures with laboratory work. Dana's text-book on Mineralogy. *Two hours a week (fall term).*

Bacteriology.

The student learns by practical experience the methods of cultivating, staining and identifying the principal bacteria, and their pathological significance is explained by lectures and demonstrations by inoculation of animals. In this way the chief pathogenic bacteria are studied in pure culture on the various media, after which the methods of obtaining pure culture from mixtures of bacteria are learned. The necessary manipulations are carried out by the students, who thus obtain a practical knowledge of the subject which can be gained in no other way.

Pathological Histology.

In this course the various changes which may be produced in the tissues as a result of disease are discussed in the lectures and studied by means of the microscope. The laboratory is especially well provided with pathological material. During the last session each student stained, mounted, and studied over one hundred sections extending over almost the whole range of pathology. The sections become the property of the student and are of much use afterwards. The laboratory contains a library of standard works.

Students in Pharmacy have also the privilege of attending any of the regular academic courses.

### EXAMINATIONS.

All students matriculating in the School of Pharmacy are required to pass an examination in the usual rudimentary branches of an English education.

Final examinations are held at the end of each term on the subjects embraced in the course.

An average of 70 per cent. on the intermediate and final examinations is required to pass in the various branches.

### QUIZZES.

Quizzes upon the different branches are regularly held. Specimen quizzes upon *Materia Medica*, Chemistry and Pharmacy are held once a week, and consist in the recognition and correct writing of the official name of the specimen presented.

Students are required to make an average of 70 per cent. on the examinations given on specimens at the close of each term.

### THE PHARMACEUTICAL LABORATORY.

#### OFFICERS.

EDWARD VERNON HOWELL, A.B., PH.G., DIRECTOR and *Professor of Pharmacy.*

BENJAMIN FRANKLIN PAGE, *Assistant in the Pharmaceutical Laboratory.*

The rooms occupied as a Pharmaceutical Laboratory are admirably adapted to this purpose. They are conveniently situated on the the first floor, and are well lighted, and well equipped with water, electric lights, and gas. To each student is assigned a desk, provided with lock and key and containing all the apparatus necessary to the every day work of a pharmacist. In the store room is kept a supply of material for practical work as well as the apparatus for the more complex operations. Ample

space is provided for work at the prescription counter, where practical instruction in the compounding and dispensing of prescriptions is given.

A small deposit fee is required to cover the cost of breakage of apparatus. At the end of the session this amount will be returned, less the amount of breakage occurring during the term.

### **OTHER LABORATORIES.**

The laboratories of physics, chemistry and biology are open to students in Pharmacy. These laboratories are all equipped with the most improved apparatus for experimentation and illustration of lectures.

### **READING ROOM AND LIBRARY.**

The Pharmaceutical Department is provided with a well selected library and with a reading room, inaugurated by the class of 1897, in which are filed a large number of medical and pharmaceutical journals.

In addition to these advantages, students of this department enjoy the privileges of the University reading room, in which are filed all the leading newspapers and magazines, and have free access to the University library which numbers thirty-two thousand volumes and twelve thousand pamphlets.

### **REQUIREMENTS FOR GRADUATION.**

Every person upon whom the degree of Graduate in Pharmacy of this University shall be conferred must have completed the work of both years in the Department of Pharmacy of this University, or one course (the Senior) in this after one in another recognized college of Pharmacy. He must obtain satisfactory marking in attendance and make a general average of 70 per cent. in the various branches, and submit a satisfactory thesis.

He must also have had a practical experience of at least four years with

some qualified pharmacist or pharmacists in a dispensing store. Satisfactory evidence on this point must be submitted to the head of the department.

Students who have not had the full four years' experience will be permitted to stand examinations for graduation; but their diplomas will be withheld until they shall have satisfied this requirement.

No person will be entitled to a diploma until all his dues to the University have been paid.

### THESIS.

The thesis must be an original essay embodying the results of the student's personal research in some branch of pharmacy, which he has prosecuted under the direction of the professor, who has assigned him the subject. The thesis will be published at the discretion of the professor. The thesis, together with certificate of time of practical experience, must be deposited with the Registrar *on or before May 1.*

### PRIZES.

The Bradham Prize, offered by C. D. Bradham, of New Bern, N. C., will be given to the student making the highest general average during the two years of study.

The Gilpin Langdon Prize, offered by Gilpin Langdon & Co., of Baltimore, Md., will be given to the student making the best line of preparations in the pharmaceutical laboratory.

Prizes will also be given:

1. For the best thesis.
2. For the best collection of native medicinal herbs.
3. For the best exhibit of chemical salts made by a second year student.
4. For the best work in the recognition of materia medica specimens.
5. To the student recognizing the largest number of pharmaceutical preparations.

**EXPENSES.**

The charges for each term are payable at the beginning of the  $\frac{1}{2}$  term. They are as follows:

Tuition.....	\$30.00
Registration and incidental fees...	10.00

In the first year's chemistry class there is a fee of \$1.25; in the second year a fee of \$5.00. In the prescription course there is a fee of \$5.00.

The payment of these fees entitles the student to the use of the gymnasium, the library and reading room and, in case of sickness, to medical attention and the use of the infirmary.

**ADMISSION AND REGISTRATION.**

Candidates for admission into the School of Pharmacy should present themselves on the same days and at the same hours with candidates for admission into the College. For the next academic year, these days will be *Monday, Tuesday and Wednesday, September 8, 9 and 10, 1902*, and *Friday, Saturday and Monday, January 2, 3 and 5, 1903*. The session of the School of Pharmacy is the same length with the college year.

All members of the School of Pharmacy enjoy the same privileges with other students in the University.

**STUDENTS IN PHARMACY.***Second Year.*

Ahrens, Adolph George,	Wilmington.
Bitting, Numa Duncan,	Rural Hall.
Bolton, J. Cener,	Rich Square.
Bullock, David Archer,	Wilmington.
Fox, Ludolph Glenn,	Asheboro.

Galloway, Charles Ernest,	Mount Airy.
Greene, John Gustavus,	Marshville.
Hudson, John Edgar,	Glenwood.
McDonald, Alexander Milton,	LaGrange.
McNeill, George McKay,	Red Springs.
Page, Benjamin Franklin,	Asheboro.
Trotter, Lawson,	Mount Airy.
Worrell, William Charles,	Rich Square.

*First Year.*

Barnes, Edwin Wilmer,	Wilson.
Barnes, Henry Alonzo,	Proximity.
Bear, Moses,	Wilmington.
Cochran, George Thomas,	Troy.
Earle, Oliver Perry,	Greenville, S. C.
Gulick, James Wharton, Jr.,	Goldsboro.
King, Harris Lewter,	Durham.
McKesson, Louis Walton,	Morganton.
Moore, Walter Curtis,	Plains.
Patterson, Alois,	Chapel Hill.
Perry, William Morgan,	Elizabeth City.
Rice, Wilbur Calhoun,	Sydney, Fla.
Rhodes, Thomas Floyd,	East Stroudsburg, Pa.
Rowland, George James,	Durham.
Short, Frank Byard,	Fremont.
Tugwell, James Benjamin,	Farmville.

**THE UNIVERSITY OF NORTH CAROLINA.**

Fall session begins September 11, 1902. Students 565. Faculty 55. Scholarships and loans for the needy in academic courses. Send for illustrated Hand Book. For further information, apply to

F. P. VENABLE, *President,*  
Chapel Hill, N. C.





