### Calendar 1956-1957

**January 1956**
- 16, Monday
- 30, Monday

**March**
- 24, Saturday
- Easter Recess begins

**April**
- 2, Monday
- Easter Recess ends at 9:00 A.M.

**May**
- 21, Monday
- Final Examinations begin

**June**
- 13, Wednesday
- Commencement Day

**September**
- 4, Tuesday
- Opening Session for Freshmen
- Registration, Fall term
- Classes begin, Fall term

**November**
- 21, Wednesday
- Thanksgiving Recess begins at close of classes
- Thanksgiving Recess ends at 9:00 A.M.

**December**
- 19, Wednesday
- Christmas Recess begins at close of classes

**January 1957**
- 3, Thursday
- Christmas Recess ends at 9:00 A.M.

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Address all inquiries to the Dean, School of Veterinary Medicine, 39th Street and Woodland Avenue, Philadelphia 4, Pennsylvania.
History and Program

The importance of establishing a School of Veterinary Medicine at the University of Pennsylvania was originally urged by Dr. Benjamin Rush in 1807 in an address before the Philadelphia Society for Promoting Agriculture. No definite steps were taken until the year 1883 when the first buildings were erected at the intersection of 36th Street and what is now known as Hamilton Walk. Dr. Rush S. Huidekoper was chosen as the first Dean and the School was opened for the instruction of students on October 2, 1884.

A significant development in the history of the School took place in 1901 when the Trustees of the University purchased a tract of land on 39th Street extending from Woodland Avenue to Delancey Street. In the summer of 1901 the school was moved to temporary buildings on this site and in 1907 the first section of the present building was completed. During succeeding years additional sections of the building were erected, the most recent addition being a third floor containing laboratories and classrooms which was completed in the north wing in 1947. The School is now comprised of classrooms, teaching and research laboratories for the basic sciences, a library, and a hospital section containing medical and surgical facilities for large and small animals.

In 1952 an important addition was made to the research and teaching program at the Veterinary School with the acquisition...
THE INSTRUCTIONAL PROGRAM

The instructional program at the School of Veterinary Medicine enables the student to acquire the basic knowledge needed for the beginning of a scientific practice of veterinary medicine. Teaching methods and facilities are designed to place considerable responsibility upon the individual student so as to stimulate the development of a mature, independent and inquisitive scientific attitude.

The first two years of study are devoted chiefly to basic sciences. The major share of the student's time is spent in such courses as Anatomy, Biochemistry, Physiology, Bacteriology, Pathology, and Pharmacology. These courses, through lectures and laboratory work, form the foundation for the understanding of applied work encountered in the last two years. In addition to basic studies, courses in various phases of animal industry are offered in the first two years. These provide the student with a broader understanding of practical problems which face the practicing veterinarian.

The third year represents a transitional period in the curriculum. While the course in Parasitology is taught primarily at a basic level, most of the other courses are of a semi-applied or applied nature, and are designed to form a bridge between the basic work of the first two years and the clinical work of the senior year. These courses include Medicine, Surgery, Pharmacotherapy, Radiology, and Milk Hygiene. They offer the student an excellent opportunity to make correlations which will be invaluable in future clinical studies.

The entire fourth year is devoted to clinical studies. Students are assigned in small rotating groups for work on clinical Pathology, Medicine, and Surgery, and under the direction of clinicians are responsible for examining animals, carrying out diagnostic studies and treatment, and assisting in surgical procedures. Each small group spends from nine weeks to 12 weeks at New Bolton Center, where students work in the large animal clinic, travel with practitioners who are members of the clinical staff, and gain experience in the diagnosis, control, and treatment of poultry disease.
Admission Requirements

To qualify for admission to the School of Veterinary Medicine, an applicant must complete all of the courses listed below. The obligation to understand and to meet the requirements for admission rests solely with the applicant. Neither the Committee on Admissions, nor any member thereof, nor any other faculty member, has the authority to indicate to an applicant that he might be admitted to the School of Veterinary Medicine with qualifications less than those herein stated. Furthermore, the Committee on Admissions cannot accept responsibility for misinterpretation by any applicant of the requirements for admission. It should be understood that meeting all of the requirements for admission does not insure acceptance of an applicant. All of the applications for each Freshman class are reviewed by the Committee on Admissions, and candidates are chosen on a comparative basis. The number of students that can be admitted annually is limited. In making selections consideration is given the following: academic preparation, character, personality, and general fitness and adaptability for veterinary medicine.

REQUIRED SUBJECTS

Two years of work, totaling at least 60 credit hours, plus training in physical education or military science, are required. This work must be completed at a college or university approved by the Association of American Colleges and Universities, or by one of the regional associations. The two years of college work must include the following subjects with at least the number of semester hours indicated:

English 6
General Inorganic Chemistry 6
Organic Chemistry (must include aliphatic and aromatic compounds) 4
Physics 6
General Zoology 6
General Botany 3
Social Science 6
Electives to complete the total of 60 credit hours.

All of the foregoing courses, except English, Social Science, and electives, must include adequate laboratory exercises. It is suggested that among the electives a modern foreign language and mathematics be selected. Animal husbandry courses will not be accepted as part of the 60 hours required for admission. In order to have applications considered for the September term, all pre-veterinary courses must be completed by the preceding June.

APPLICATIONS

Applications for admission should be made to the Dean of the School of Veterinary Medicine on forms supplied by the School. Candidates are urged to submit their completed application forms at the earliest possible date and not later than April 1. Before final selection, qualified applicants are required to appear for a personal interview.

Information regarding the pre-veterinary course given at the University of Pennsylvania may be obtained by writing to the Dean of Admissions, Logan Hall.

SEVEN-YEAR COMBINED COURSE

A student in the course in arts and sciences at the University of Pennsylvania may, in the Senior year, and on the recommendation
School of Veterinary Medicine

of the Dean of the College, take the work of the first-year class in the School of Veterinary Medicine and upon graduation from the College enter the second year. Students wishing to avail themselves of this privilege should have completed by the end of the Junior year all of the group requirements for graduation, and have earned a total of 116 semester credits of purely college work, including Chemistry 1, 2 or 4, 11 and 15; nine semester credits in physics, including a laboratory course; six semester credits in zoology; six semester credits in botany; Mathematics 7, or its equivalent; six semester credits in French or German; English 102, 103, 130, and 140; six semester credits in history or philosophy; and two semester credits in physical education.

Upon completion of the 130 semester credits of college work the student will receive the degree of Bachelor of Arts, and on the completion of the three final years of the veterinary course will receive the degree of Doctor of Veterinary Medicine.

Honor System

An Honor System is in operation at the School of Veterinary Medicine. As a condition of acceptance to this School each applicant is required to sign a pledge stating that he will uphold and abide by the Honor System and accept the rulings of the Student Board of Ethical Relations. This Board is composed of eight representatives of the student body.

Pledge cards and a copy of Principles and Organization of the Student Honor System are distributed at the time of registration.

Advanced Standing

Students who have attended one or more sessions in an approved veterinary school may be allowed credit for subjects satisfactorily completed which are equivalent to similar subjects given in this School.

Financial Obligations

The Trustees of the University of Pennsylvania reserve the right at any time to amend or add to the regulations of the University, including those concerning fees and method of payment, and to make such changes applicable to students at present in the University, as well as to new students.

All payments of fees should be made at the Cashier's Office, 3320 Walnut Street. Office hours: 9:00 A.M. to 3:00 P.M. Saturdays, 9:00 A.M. to 12:00.

Payments due the University must be made in cash, or by check, bank draft, or postal money order, drawn to the order of the University of Pennsylvania for the exact amount due.

Fees and Deposit

Matriculation Fee. A fee of $5.00 is charged all new students entering the School.

Residents Fee. The fee for persons who are not residents of Pennsylvania is $700.00, and for Pennsylvania residents the fee is $150.00. This is payable in two equal installments prior to the beginning of classes for the respective terms.

Deposit. Upon entering the School, every student shall make a deposit of $25.00 to cover loss, damage, or breakage of University
property, library fines, laboratory material, or any charge not paid by the student in some other way. A student whose deposit is reduced by charges against it to one-half the original amount or less shall be required to pay a sum sufficient to restore the deposit to the original amount.

No deposit or balance remaining on a deposit shall be finally repaid to a student until he shall have been graduated, or shall have formally withdrawn from the University and shall have settled his liabilities of every kind, whether matured or unmatured, due and owing to the University.

**General Fee.** A general fee of $100.00 for the academic year is charged to each full-time student, of which the Trustees have approved the allocation of $45.00 for the physical development of the University. The general fee enables the University to maintain such essential facilities as a large library system, museums, and institutes, and special laboratories, and assures non-academic services such as the Student Health Service and the Placement Service from which the student may receive direct benefit both before and after graduation. The general fee is payable in two equal installments at the time the residents fee is due.

**SPECIAL FEES**

**Acceptance Fee.** Applicants who are admitted to the first-year class are required, upon receipt of notice of acceptance, to pay $25.00. This shall be credited to the first term's residents fee if the student registers by the date specified; otherwise the fee is forfeited.

**Late Payment Fee.** A student who fails to pay his residents fee or other charges by the seventh day following the opening date of the first or second term shall pay a late fee of $5.00.

**ESTIMATED EXPENSES FOR ONE YEAR***

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<tr>
<th>Description</th>
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<tr>
<td>Residents Fee</td>
<td>$700.00</td>
</tr>
<tr>
<td>General Fee</td>
<td>$100.00</td>
</tr>
<tr>
<td>Deposit</td>
<td>$25.00</td>
</tr>
<tr>
<td>Estimated minimum expenditure for board</td>
<td>$630.00</td>
</tr>
<tr>
<td>Estimated minimum expenditure for room</td>
<td>$250.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$1,705.00</strong></td>
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Books and instruments, including an approved microscope, in the first year will cost about $500.00; second year, $150.00; third year, $125.00; and fourth year, $250.00. All of the instruments used in the course will be required by the graduate in the practice of his profession.

*Each student is required to provide himself with an approved microscope.*

**SPECIAL RULES**

**Failure to Pay.** If a student fails to pay fees and other charges in accordance with the regulations, his name is dropped from the University rolls and he is excluded from lectures, recitations, practical work, examinations, and occupancy of dormitory quarters until payment is made. The student will be held accountable for all absences incurred through the operation of this rule. For continued delinquency the student will be dropped from the University. The enforcement of this penalty shall not relieve the student of the obligations to pay the term's fees and charges.

**Liability of Students.** A person who has registered or to whom a certificate of admission to any school of the University has been issued is in effect a student and is therefore liable for his residents fee and other charges under the following regulations:

1. A student who is registered in any undergraduate or professional school will be liable for his fees unless he gives notice

*For Non-Pennsylvania residents.*
of withdrawal in writing to the dean at least two weeks prior to the formal opening of the term.

2. In the event an applicant withdraws before or after matriculation the acceptance fee will be retained by the University, except when such withdrawal is caused by orders to active duty with the armed forces.

Withdrawals or Military Leaves of Absence. After two weeks of the term have elapsed there can be no return of residents fee except for the following reasons:

1. **Illness.** A student who withdraws on account of illness shall be given a refund which shall be such proportionate part of the term's residents fee as the number of weeks in which he is not in attendance bears to the number of weeks in the academic session, provided such proportionate part be not more than one half of the term's fee. Formal notice of withdrawal, together with a doctor's certificate, must be filed with the dean.

2. **Military Service.** A student who has not received full academic credit for the term and who is called to service through the draft law, or through enrollment in a military reserve unit, or through enlistment in the military service, shall be given a refund which shall be such proportionate part of the term's residents fee as the number of weeks in which he is not in attendance bears to the number of weeks in the academic session, provided a request, substantiated by proper evidence, is filed with the dean. On request this amount may be held on deposit and credited to the account of the student when he returns to the University for the resumption of his studies.

Leave of Absence. The dean may for good cause grant a leave of absence to students in good scholastic and financial standing. No refunds will be given in such cases but an allowance will be made upon the residents fee when the student re-enters the University. Such allowance shall be such proportionate part of the term's residents fee as the number of weeks in which he is not in attendance bears to the number of weeks in the academic session.

**Prizes**

The Leonard Pearson Prize is awarded to the member of the Senior Class who has shown, in the opinion of the Veterinary Faculty, by his scholarship, breadth of interest, personality, and high character, that he is most capable of dignifying and advancing Veterinary Science in research, in practice, in education, and in its relation to civilization.

The J. B. Lippincott Prize of $100.00 is awarded to the member of the Senior Class who, in the four years spent in the School, maintains the highest general average in examinations.

The Jeannette Blair Prize of $50.00 is awarded annually to the member of the Senior Class who does the best work in the Small Animal Clinic.

The 1930 Class Prize is awarded to the member of the Senior Class obtaining the highest average in the course in Surgery.
The Women's Auxiliary of the American Veterinary Medical Association Prize of $25.00 is awarded to the Senior who is deemed to have contributed most to forwarding the aims and activities of the Veterinary School.

The Ladies' Auxiliary of the Pennsylvania State Veterinary Medical Association Prize of $25.00 is awarded to the Senior who has done outstanding work in the Large Animal Clinic.

The Borden Award. The Borden Foundation has established an annual prize of $300.00 to be awarded at the beginning of the fall term to the Senior who has made the highest scholastic average during the previous three years.

The Arthur D. Goldhaft Prize of $50.00 is awarded to the student who prepares the best written essay on "The Care of Poultry and Their Diseases." Such essays shall consist of not more than 2000 words and must be submitted to the Dean of the Faculty at a date to be set before the close of each session.

The Anatomy Prize of the Class of 1926 is awarded to the member of the Sophomore Class who does the best work in the courses in Gross Anatomy.

The 1914 Class Medal is awarded to the member of the Freshman Class who attains the highest general average for the year.

Scholarships

The Trustees of the University have provided three scholarships of an amount to cover the residents fee. These are awarded to deserving students in any class on the basis of need. Scholarships are not given nor continued to any student whose scholastic standing or conduct is considered unsatisfactory.

Information pertaining to applications for scholarships may be obtained by writing to the Dean's office, School of Veterinary Medicine.
students are required to study systematically the histological structure of the various tissues and organs of domestic animals. Drawings from selected slides are required.

Anat. 3. DEVELOPMENTAL ANATOMY. Two hours a week for the first term of the first year.
Lectures and demonstrations afford the student a comprehensive view of the normal processes of development and the formation of foetal membranes. The various types of placentae exhibited by the domestic animals are considered in detail and the embryological basis of the common malformations and anomalies encountered in veterinary practice are discussed.

Anat. 4. APPLIED ANATOMY. Six hours of laboratory per week during the first term of the second year.
The anatomical regions in all domestic species which are of importance to the clinician and surgeon are covered in this course. Both cadavers and living animals are utilized, supplemented by prepared dissections, transparencies, and radiographs.

Animal Industry

Professor DeMOTT, Dr. WHITING, Mr. SHAW
It is not planned to duplicate in this course the work covered in Animal Husbandry courses of the agricultural colleges, i.e., the production, marketing, and use of horses, cattle, sheep, swine, and poultry, their products and by-products, but to give the student as much instruction along these lines as possible, and to teach feeds from the standpoint of nutrition, and breeding from the standpoint of genetics. The course is arranged as follows:

An. Ind. 1. BREEDS OF LIVESTOCK AND MARKET TYPES AND CLASSES. Three recitations per week, first year, first term.
The origin, history, and development of breeds of livestock, and values and uses of types and classes of animals on our livestock markets.

An. Ind. 2. STOCK JUDGING. Three hours each week, first year, second term.
Devoted to stock judging in the city stockyards and on stock farms in close proximity to Philadelphia.

Biochemistry

Professors JONES and LEAVER
Chem. 1. PHYSIOLOGICAL CHEMISTRY. Two lectures, one recitation and three laboratory periods of three hours each week during the first term, first year.
The course embraces a consideration of osmotic pressure, buffers, indicators, solubility product, carbohydrates, fat, proteins, digestion, blood, intermediary metabolism, and nutrition. In addition, the laboratory work includes a study of the chemical properties and quantitative volumetric analysis of foodstuffs, and quantitative analyses of blood and a few experiments on urine.

Botany

Dr. SHRIFT
Botany 2V. ECONOMIC AND SYSTEMATIC BOTANY. A lecture and laboratory course of two lectures and one two-hour laboratory period each week to the first-year class during the second term.
Consideration of the more important poisonous plants: taxonomic position; morphological characteristics; biochemistry of toxic constituents; toxicity to animals; antidotes.
The Field Services


Sections of the Senior Class, accompanied by a member of the faculty, receive practice and training in the application of veterinary science in the Philadelphia Field Service, and the New Bolton Center Field Service.

The Philadelphia Field Service, which is a large animal practice, is conducted from the School. Alternating groups of three Senior students live in the hospital dormitory for weekly periods. They are on 24-hour duty to accompany a clinician on calls to farms and stables in and around the city. Many of these calls are in consultation with other veterinarians, thus providing a number of unusual cases. These students also receive training in the operation of a hospital during this period of residence.

The New Bolton Center Field Service operates from its headquarters at New Bolton Center, Kennett Square, Pennsylvania. Senior students living at New Bolton Center for periods of two weeks (as will be noticed under the section of Hospital and Clinics), in addition to the hospital and clinic instruction at the farm, are alternately assigned to accompany four practitioners who have farm practices in the environs of the New Bolton Center Clinic. The clinicians at the farm also make calls in consultation with other veterinarians and are accompanied by the students on these calls.

Jurisprudence, Ethics, and Business Methods

Dr. Snyder and Mr. Williams

Jur. 1. JURISPRUDENCE. One one-hour lecture a week during the first term of the third year.

A survey of the legal aspects of the professional and business activities of a practicing veterinarian. The introductory part of the course considers the definition and source of law and the State and Federal judicial systems. There follows a consideration of the more important features of the branches of commercial law most frequently encountered by the practitioner. The subjects of contracts, agency, partnerships, corporations, bailments, sales of personal property, and sales, mortgages, and leases of real estate are discussed. Thereafter consideration is given to the ownership of and liability for keeping animals, veterinary malpractice, the veterinarian as an expert witness, fees, and methods for their collection, and accounting methods and practice. The concluding part of the course deals with the licensing of veterinarians and State and Federal regulatory statutes affecting the conduct of a veterinary practice.

Jur. 2. VETERINARY MEDICAL ETHICS; PROFESSIONAL OFFICE AND HOSPITAL PRACTICE METHODS AND RECORDS; IDENTIFICATION AND CERTIFICATION OF SOUNDNESS OF ANIMALS. One lecture a week during the second term of the third year.

The first eight lectures deal with the principles of Veterinary Medical Ethics, including the subject of professional deportment, ethical advertising, etc. Matters pertaining to the writing of professional articles for publication are among the principles considered. The remaining lectures are devoted to the study of the coats, markings, blemishes, defects, etc., of domestic animals. Horses in the clinic will be utilized and students are required to examine horses and write certificates of identification and soundness.

Medicine

Professors Beck, Sturbs, Kral, Mark, Boucher, Largrange, Hollister, and Scheidy; Drs. Snyder, Skelley, McCaion, Arnold, Taylor, Francella, and Woodhouse.

The Theory and Practice of Veterinary Medicine is taught to the first-, second- and third-year classes by lectures, demonstrations, and clinical instruction. In the fourth year more advanced demonstrations and clinical instruction are given, supplemented by conferences.

Med. 1. CLINICAL ORIENTATION. One hour of lecture and demonstration weekly during the second term of the first year, the first and second terms of the second year, and the first term of the third year.

Hospital cases are examined and discussed with emphasis on the application of the basic sciences.

Med. 2. PHYSICAL DIAGNOSIS. Lectures three hours a week and class sections in clinical procedure exercises two hours a week each during the second term of the second year.

In a systematic manner, the methods of diagnosis and the symp-
Four-Year Course of Study

**Microbiology** (Bacteriology, Immunology, and Hygiene)
Professors Live, Rake, Fagan, Crisman, and Sperling; Dts. Rosanoff and Diehl; Miss Nichols and Mr. Jaggard.

Microb. 1. General and Special Bacteriology. Two lectures and two three-hour laboratory periods a week for the second-year class during the first term.

The course has as its purpose the thorough grounding of the student in the fundamentals of bacteriology. The distribution, morphology, physiology, cultivation, identification, pathogenic properties, and reaction of bacteria to environment and chemical agents, as well as the reaction of the host to infection, are covered in a well balanced lecture and laboratory course.

Microb. 2. Immunology and Virology. Two lectures and two two-hour laboratory periods a week for the second-year class during the second term.

The course in immunology deals with the principles of infection and immunity, sensitization, and allergy, serological reactions, immunological tests, the production of toxins, antitoxins, vaccines, and immune seraums, and immunization procedures. In virology, filtrable viruses are considered from the standpoint of their probable nature, reproduction requirements, methods of recognition and identification, and their ability to produce disease with due consideration given to virus diseases of importance in veterinary medicine.

Hyg. 1. Milk Hygiene. Three lectures and two two-hour laboratory periods a week during the second term, third year.

This course deals with the physical, chemical, and biochemical properties of milk and the bacteriological examination of milk and dairy products. In addition, the lectures deal with the effect of sanitation and dairy methods upon the hygienic quality of milk; transmission of diseases to man by milk; pasteurization; methods of dairy farm inspection and the grading and inspection of butter and cheese. The inspection of dairy farms is demonstrated to the students in small sections on farms in the vicinity of Philadelphia. Furthermore, the students obtain field observation experience in general sanitation work as well as in the processing, pasteurization, and storage of milk and dairy products.

Hyg. 2. Meat Hygiene. One lecture each week during the first term and two lectures each week during the second term to the third-year class.

The lectures deal with the sanitation of slaughter-houses, the
physical and chemical properties of meats and meat products, the physiological and pathological conditions which affect the wholesomeness of meats, the parasites of importance in the judgment of meats, methods of slaughter, methods of inspection, the preservation of meats, preparation of meat products, etc. Instruction is also given in ante-mortem and post-mortem examination of poultry with special emphasis on the pathologic conditions affecting the wholesomeness of poultry used for food. Visits are made to slaughter-houses and practical demonstrations given in sanitation and inspection. Each student spends three days in an abattoir doing practical meat inspection work under a competent veterinary inspector.

Parasitology

Professors Martin and Graham

Parasitology 1. Four lectures and two two-hour laboratory periods a week during the first term of the third year.

The lectures are devoted to fundamental concepts of this science and to the morphology and life cycles of the important arthropod, helminth, and protozoan parasites of animals. The pathogenesis together with the morbid changes, the clinical aspects, the methods of control and treatment of parasitic infections, are also given due consideration. The lectures are supplemented by demonstrations of living and fixed specimens. Tissues and organs of animals with various infections are used for practice and observation. Methods of collecting and preparing parasitic material for study are indicated. A foundation is laid for work in meat inspection, general practice, and investigation in parasitic diseases.

Pathology

Professors Stubbs, Coman, Sheldon, Deubler, McGrath, Sperling, and Cronin; Drs. Cole and Elliott

Instruction in Pathology is given in the second and fourth years and includes the following courses:

Path. 1. General Pathology. Four lectures a week during the first part of the first term of the second year.

The course aims to give a familiarity, with alterations in normal structure and function that come within the meaning of disease together with the principles of etiology, classification, and nature of disease.

Four-Year Course of Study

Path. 2. Histopathology. Two three-hour laboratory periods a week during the first term of the second year are given to this subject.

The pathological processes are studied with the microscope. Slides of these processes are furnished each student together with a notebook containing a description of each slide and pertinent information in interpreting the basic pathologic change. The study in this course is correlated with the lectures in General Pathology.

Path. 3. Systemic Pathology. Four lectures a week during the second part of the first term of the second year following the completion of Path. 1 and continued in the first part of the second term.

The course includes the etiology, pathogenesis, and effects of special forms of disease in tissues, organs, and systems together with the pathology of non-infectious diseases.

Path. 4. Pathology of Infectious Diseases. Four lectures a week during the second part of the second term, of the second year, following the completion of Path. 3.

The course includes the occurrence, etiology, pathogenesis, and effects of infectious and transmissible diseases. Special attention is given diagnosis and descriptions with the use of museum specimens and fresh specimens.

Path. 5. Special Histopathology. One three-hour laboratory period each week in the second term of the second year, correlated with Pathology 3 and 4 so far as possible.

Slides of the various lesions and diseases are furnished each student together with notes describing the slides of study.

Path. 6. Postmortem Pathology. Instruction in Postmortem Pathology is given to the fourth-year students.

Small groups of students are assigned weekly to the Pathology Department where they receive instructions in the technique of necropsy procedures and writing of the necropsy protocol. Discussions of the necropsy with a review of fundamental physiologic-pathologic phenomena is also carried out. Senior students assigned to clinical cases that die are responsible for necropsying the animal under instructor's supervision and submitting written protocols to the Pathology Department.
Path. 7. **Clinical Pathology.** For fourth-year students.

Groups of students, by appointment, are assigned from the clinics to Clinical Pathology where instruction is given regarding methods of proper collection, submission, and examination of specimens. The examinations and correlation with diagnosis in infected animals are discussed with the students.

**Physiology and Pharmacology**

*Professors F. H. McCutcheon, Detweiler, Reynolds, J. E. Martin; Drs. Wilber, Houpt, Silverman, and Mr. Kramer*

**Phys. & Pharm. 1. Animal Physiology.** Two lectures, one three-hour laboratory period, and one conference a week during the second term, first year.

The mechanisms and their variations which are the basis for functional maintenance and adjustment in animals. Primary consideration is given to organ systems of vertebrates, particularly mammals, in a background of general physiology.

**Phys. & Pharm. 2. Advanced Physiology.** One two-hour conference and one four-hour laboratory period a week during the first term, second year.

Selected mechanisms and principles in animal physiology of particular importance to veterinary medicine. Reports and discussions are based on reference sources, including original papers, and on observations and data obtained from comprehensive laboratory experiments. Primary consideration is given to homoiothermic animals, with special attention to large animal technics.

**Phys. & Pharm. 3. Pharmacology.** Two lectures and one four-hour laboratory period a week during the second term, second year.

The physiological action of drugs, with some consideration of their sources, properties, and preparations.

**Phys. & Pharm. 4. Pharmacotherapeutics.** Three lectures and one conference a week during the first term, third year.

The use of drugs in the prevention and treatment of disease. A comprehensive written review of the literature on selected drugs is required.

**Preventive Medicine and Hygiene**

*Professors Fagan and Sinha*

The primary function of this department is to conduct research in infectious diseases of animals. The department is located at New Bolton Center where laboratory facilities and holding quarters for research animals are available. The research interests of this department are in part guided by the presence of disease in herds or flocks within the State of Pennsylvania and neighboring states.

**Surgery, Obstetrics, and Radiology**

*Professors Allam, Raker, Churchill, Jenny, Bartenslager, and Drs. Brodey, Wind, Krawitz, Loder, Schlosser, and Rhodes*

**Surg. & Obst. 1. General Surgery.** Three lectures and one two-hour conference period a week during the second term of the second year.

This course emphasizes basic principles of surgery and includes a discussion of anesthesia, restraint, wounds, asepsis, and a general consideration of surgical procedures.

**Surg. & Obst. 2. Special Surgery.** Four lectures a week during the first term and six lectures a week during the second term of the third year.

This course deals with specific surgical conditions of domestic animals and includes a discussion of operative procedures, lameness, pathological conditions of the foot and corrective and therapeutic shoeing. Illustrative materials and clinical cases are employed whenever possible.

**Surg. & Obst. 3. Obstetrics.** Two one-hour lectures per week during the first term of the third year.

Obstetrical anatomy, physiology, and obstetrical diseases and conditions are considered. The phenomena of reproduction as well as interferences with it in both male and female are discussed.

**Surg. & Obst. 4. Surgical Exercises.** Surgical exercises are conducted throughout the clinical (fourth) year and are devoted to major surgical procedures of all species.

**Surg. & Obst. 5. Obstetrical Exercises.** One two-hour laboratory period a week during the first term of the third year.

Students are given instruction in the physical examination of the genital tract and in the diagnosis of pregnancy. Diagnosis of normal and abnormal presentations, and partial and complete embryo-tomies are carried out in the hospital, clinics, at stock-yards, abattoirs, and through the use of an obstetrical manikin.
**School of Veterinary Medicine**

**Surg. & Obst. 6. Surgical Clinic for Large and Small Animals.**

In sections, fourth-year students are assigned to hospital cases, assist in necessary operations, carry out pre-operative and post-operative treatment under the personal direction of the professor and his assistants.

**Radiology 1.** One lecture a week during the second term of the third year.

Deals with fundamental principles of radiology. Techniques of radiography and fluoroscopy are discussed and demonstrated and regular exercises are held in interpretation of radiographs.

**Hospital and Clinics**

**Medical Services:** Professors Beck, Kral, Mark, Boucher, DeMott, Lagrange, and Hollister; Drs. Schedy, Snyder, Skelley, McCahon, Arnold, Taylor, and Francella

**Surgical Services:** Professors Allam, Raker, Churchill, Barten-Slager, and Jenny; Drs. Brodey and Wind

Daily clinical experience and instruction are provided for the members of the fourth-year class. Small and large animal surgery clinics and small and large animal medical clinics are conducted daily. Sections of the Senior Class attend these clinics and alternate every two weeks. The Seniors are assigned to cases, and under the direction of the clinicians keep the clinical records, administer the medicines, and attend to surgical dressings; in the surgical clinic they are allowed, under the supervision of the professor, to perform operations, insofar as this can be done with perfect safety to the animal. The large number of animals in the wards of the Hospital and those from the extensive out clinic of the Hospital furnish abundant material for clinical lectures, clinical conferences, and practical instruction.

The students collect and examine specimens from their hospital cases. These examinations are made in the autopsy room under the direction of the Department of Pathology.

In addition to the hospital and clinics at the school, there is also a clinic and field service at New Bolton Center, Kennett Square, Pennsylvania. Eight Seniors reside at the farm for alternate periods of two weeks. They receive instruction in the treatment and care of animals in the New Bolton Center clinics. The herd of dairy cattle, the poultry, swine, and horses owned by New Bolton Center, as well as animals kept there for experimental purposes, afford additional material for clinical instruction.

The Veterinary School and Hospital possesses the most modern radiological equipment. The plant includes a 220,000 volt X-ray therapy unit for the treatment of neoplastic diseases of animals; a 100,000 volt X-ray machine for fluoroscopic and radiographic diagnosis of animal diseases; a shock-proof portable X-ray unit for radiographic work in the Hospital and out in the field. These facilities are a valuable aid to all clinical branches of the Veterinary Hospital in that it provides diagnostic and therapeutic measures to the clinical staff not ordinarily found in veterinary schools or hospitals. These modern facilities are available to veterinary practitioners within a wide radius of Philadelphia.

**Examinations and Degree**

Examinations are held at the end of the first term and at the close of each session. Upon graduation the student receives the degree of Doctor of Veterinary Medicine (Veterinariae Medicinae Doctor; V.M.D.), which qualifies him for licensing examinations.

**Text and Reference Books**

**Anatomy**

Textbook of the Nervous System; Bradley's Structure of the Fowl; Gardner's Neurology.

Microscopic. Maximow and Bloom's Textbook of Histology; Ham's Histology; Cowdry's Special Cytology; Habel's Fundamentals of the Histology of the Domestic Animals; Bailey's Textbook of Histology.

Developmental. Patten's Embryology of the Pig; Nelson's Comparative Embryology of the Vertebrates; Arey's Developmental Anatomy; Weiss' Principles of Development; Bullough's Vertebrate Sexual Cycles.


Chemistry (Physiological). Wilson's Laboratory Manual of Physiological Chemistry; Cantarow and Schepartz's Biochemistry.


Medicine. Boddie's Diagnostic Methods in Veterinary Medicine; Malkmus' Clinical Diagnostics; Udall's Practice of Veterinary Medicine; Mohler's and Eichhorn's translation of Hutyra, Marek and Manninger; Van Es' Principles of Animal Hygiene and Preventive Veterinary Medicine; Hagan's Infectious Diseases of Domestic Animals; Kirk's Index of Diagnosis for the Canine and Feline Surgeon; Kirk's Index of Treatment in Small Animal Practice; Krať's Veterinary Dermatology.

Microbiology. Kelser and Schoening's Manual of Veterinary Bacteriology; Hagan's Infectious Diseases of Domestic Animals; Merchant's Veterinary Bacteriology; Zinser's Textbook of Bacteriology; Jordan-Burrow's Textbook of Bacteriology; Boyd's Fundamentals of Immunology; Raffel's Immunity.

Obstetrics. W. L. Williams' Veterinary Obstetrics; Asdell's Cattle Fertility and Sterility; Williams' Diseases of the Genital Organs of the Domesticated Animals; Benesch-Wright's Veterinary Obstetrics; Perry's Artificial Insemination of Farm Animals; Anderson's Semen of Animals and Its Use for Artificial Insemination.

Parasitology. Chandler's Introduction to Parasitology; Herms' Medical Entomology; Wenyon's Protozoology; Mönnig's Veterinary Helminthology and Entomology; Hegner Root, Augustine and Huff's Parasitology; Cameron's Parasites of Domestic Animals; Riley and Johanssen's Medical Entomology; Neveu-Lemaire's Traité D'Entomologie; Traité D'Entomologie; Traité de Protozoologie; Morgan and Hawkins' Veterinary Protozoology; Morgan and Hawkins' Veterinary Helminthology; Baer's Ecology of Animal Parasites; Matheson's Medical Entomology, 2nd edition.


Pharmacotherapeutics. Greig and Boddie, Hoare's Veterinary Materia Medica and Therapeutics; Milks, Veterinary Pharmacology, Materia Medica and Therapeutics; Grollman, Pharmacology and Therapeutics; United States Dispensatory; Jones, Veterinary Pharmacology and Therapeutics.

Physiology. Dukes', Physiology of Domestic Animals; Fulton, Textbook of Physiology; Evans, Human Physiology; Brody, Bioenergetics and Growth; Heilbrunn, An Outline of General Physiology; Prosser, Comparative Animal Physiology; Houssay, Human Physiology.

Podology. Lungwitz-Adams, A Textbook of Horseshoeing; Dollar's translation of Leisering and Hartman's Foot of the Horse; Reek's Diseases of the Horse's Foot.


Surgery. Hobday's Surgical Diseases of the Dog and Cat; Cecil French's Surgical Diseases and Surgery of the Dog; Markowitz's Textbook of Experimental Surgery; Frank's Veterinary Surgery Notes; Wright's Veterinary Anesthesia; Canine Surgery, edited by Hoskins & Lacroix; Christopher's General Surgery; Berman's Principles and Practice of Surgery; Guard's Surgical Principles and Technics; Williams' Surgical Operations by Danks.


Four-Year Course of Study

Course of Study in 1956-57

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<th>No. of Lecture Hours Per Week</th>
<th>No. of Laboratory Hours Per Week</th>
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* A credit hour represents one hour of lecture, conference or recitation, or two to three hours of laboratory work.
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** See credits for Hygiene 1, Third year, Second term.
Graduate Courses

The School of Veterinary Medicine offers to properly qualified individuals, opportunities for graduate work in the fields indicated below.

Approved candidates are registered in the Graduate School of Arts and Sciences, Division of Biological and Medical Sciences, or the Graduate School of Medicine.

BIOCHEMISTRY

Facilities are available for a small number of students to do graduate work in biochemistry leading to the M.S. and Ph.D. degrees.

Prerequisites for entrance to the Graduate School to work for the Ph.D. degree in biochemistry are: general chemistry, qualitative chemistry, quantitative chemistry, organic chemistry, physical chemistry.

A general course in physics and mathematics through calculus are desired.

Final acceptance to candidacy for the doctorate will depend upon the record made by the student in required graduate courses and in a comprehensive examination in biological chemistry taken after the required courses have been completed.

The degree of Master of Science may be given in biochemistry only to those students who plan to continue their work for the Ph.D. degree.

MEDICAL MICROBIOLOGY

(Veterinary Bacteriology, Immunology, and Virology)

The following courses are open to a limited number of well-qualified graduate students who desire to pursue work in this field with a view to qualifying for the M.S. or Ph.D. degree.

701. VETERINARY MICROBIOLOGY 1 (Bacteriology). 34 hrs. lect., 102 hrs. lab. Fall term.
Fundamentals of bacteriology; pathogenicity of microorganisms, with special emphasis on bacteria pathogenic for animals.

702. VETERINARY MICROBIOLOGY 2 (Immunology and Virology). 34 hrs. lect., 68 hrs. lab. Spring term.
Prerequisite, 701 or equivalent. Principles of immunology and their practical application; followed by consideration of basic virology with emphasis on diseases important in veterinary medicine.

703. RESEARCH IN VETERINARY MICROBIOLOGY.
Limited to qualified students for investigative work under the supervision of staff members.

PARASITOLOGY

This Department offers an opportunity to a limited number of properly qualified students interested in pursuing graduate work leading to the degree of Master of Science or Doctor of Philosophy.

It is the purpose of this department to train qualified individuals for teaching and research in educational institutions, various governmental agencies and other organizations engaged in research in the field of parasitology.

Students interested in graduate work leading to the degree of Master of Science or Doctor of Philosophy are required to present, as a prerequisite, evidence of broad fundamental training in zoology or proper evidence that applicant has completed, in a superior manner, the pre-clinical subjects, including zoology, required for admission to a recognized veterinary or medical school. Individuals seeking admission as majors for graduate study in
parasitology will be required to submit their prerequisites for approval by the Chairman.

501. GENERAL PARASITOLOGY. Fall term. 4 hrs. lect., 4 hrs. lab. Prerequisite, a minimum of three years of zoology including invertebrate zoology or equivalent.
A laboratory lecture and quiz course dealing with the morphological, biological and economic aspects of parasitism as it relates to the various groups of parasites of domestic animals.

601. HELMINTHOLOGY. Spring term. Hours and credits to be arranged. Prerequisite, parasitology or equivalent. A. Nematoda. B. Trematoda and Cestoda.

650. RESEARCH IN PARASITOLOGY. Subject, time and credits to be arranged individually.

VETERINARY PATHOLOGY

Graduate work in Veterinary Pathology leading to the degrees of Master of Science and Doctor of Philosophy is offered in the Veterinary School to a limited number of selected students. The training includes lectures and laboratory work and individual routine and investigative work in general and special pathology. Attention is given to the needs of individual students who have a broad foundation in veterinary anatomy, physiology, bacteriology, and pathology.

Supplemental work is available in the medical school in general and special pathology through the cooperation of the faculty of the medical school. Opportunity is offered in the Veterinary School for the study of gross and microscopic pathology and the selection of research problems in diseases of lower animals. Routine and investigative work may be done in Clinical Pathology with the selected research problems in the field of Clinical Pathology.

PHYSIOLOGY AND PHARMACOLOGY

Work is offered by the Department of Physiology and Pharmacology for qualified students who are interested in Physiology.
General Information

NEW BOLTON CENTER

In 1952 a significant addition was made to the research and teaching facilities of the School of Veterinary Medicine with the acquisition of New Bolton Center. The Center is located in the rich agricultural district of Chester County, near Kennett Square, Pa., and is approximately 35 miles from the Veterinary School. It comprises a tract of 220 acres on which are located laboratories, clinical and hospital facilities for farm animals, a normal complement of farm buildings and dormitories. A herd of purebred cattle and representatives of other species of domestic animals are maintained at the Center.

A clinic for farm animals and a poultry diagnostic laboratory are operated at New Bolton Center. Students are assigned here for a total of nine to 12 weeks of the Senior year and they have an excellent opportunity of studying common clinical problems which confront the practicing veterinarian.

Basic and applied research on diseases of domestic animals and poultry is conducted at the Center. An important aspect of the research facilities is the location of laboratories and housing for livestock and poultry within the same unit.
SCHOOL OF VETERINARY MEDICINE

SOCIETY OF THE ALUMNI OF THE SCHOOL OF VETERINARY MEDICINE

President: BRIG. GEN. JAMES A. MCCALLUM

Secretary-Treasurer: DR. E. T. BOOTH, 39th Street and Woodland Avenue, Philadelphia 4, Pa.

The objects of the Society are to sustain and advance the interests of the Veterinary School, to collect and preserve records of the graduates, to promote friendly relations between the Alumni, and to further the progress of Veterinary Science. All graduates of the Veterinary School are eligible to membership. The dues are $6.00 per annum, which includes membership in the General Alumni Society as well as in the Alumni Society of the Veterinary School. Alumni are requested to keep the Secretary of the Society informed as to change of address, etc.

STUDENT CHAPTER OF THE AMERICAN VETERINARY MEDICAL ASSOCIATION

The Student Chapter of the American Veterinary Medical Association is an organization representing the entire student body and functions as the undergraduate body of the American Veterinary Medical Association. The Student A.V.M.A. chapter at the Veterinary School holds regular meetings at which time outstanding members of the veterinary profession are guest speakers. It provides a means for expression of student opinion and, through training received in conducting affairs of the chapter, it develops characteristics of leadership.

A recently inaugurated function of the Student A.V.M.A. is the publication of a handbook to act as a guide for new students.

The Student A.V.M.A. Auxiliary is an organization open to wives of veterinary students. It holds regular monthly meetings to hear speakers or view films on topics related to the veterinary profession. In addition it sponsors certain social and fund-raising events of interest to all students and faculty.

GENERAL INFORMATION

RESEARCH ADVISORY COMMITTEE

A Research Advisory Committee by action of the Executive Committee of the University and in cooperation with the Pennsylvania State Council of Farm Organizations was appointed in November 1952. This Committee meets upon call from its chairman and acts as a liaison between the livestock and poultry industries of the State and the Veterinary School of the University of Pennsylvania. The Committee members are identified in interest with the various species of farm animals and poultry and contribute much in the planning of important research projects.

The membership consists of: Guy Newcomb, Downingtown; Homer Bicksler, Palmyra; M. P. Tait, Orefield; Ralph Culver, Laceyville; M. Reed Welch, Burgettstown; Joseph W. Hallowell, Ivyland; J. Collins McSparran, Drumore; G. Emerson Work, Unontown; and Earl L. Horst, Myerstown.

LIBRARY

The C. J. Marshall Memorial Library, located within the school building, contains over 8,700 volumes, a collection of approximately 75,000 unbound pamphlets and about 245 current periodicals from all parts of the world—about 140 of which are bound. Included are the collections of Huidekoper, Pearson, Adams, Fairman Rogers, Kimball, McNeil, and Marshall. These special collections contain many items on the history of veterinary medicine and agriculture that are unique in the country. New acquisitions include most of the important world literature on veterinary medicine which makes this library outstanding in current as well as in historical material.

CONFERENCE OF VETERINARIANS

A Conference for veterinarians of Pennsylvania and nearby states, and to which upperclassmen are invited, is held each year during the early part of January. This Conference follows a custom started by Dr. Leonard Pearson who called the first Conference in 1900. Speakers with wide experience are obtained to address
the Conference in the broader aspects of Veterinary Science. Quoting from Leonard Pearson “It is natural that such knowledge should be expected of veterinarians but in order to have it in available form and always up to date, the brightening, freshening instructive influence of a Conference with experts appears to be necessary.”

**Museums**

The specimens in the various museum collections occupy an important place in teaching and demonstration. Museums are maintained in the Veterinary building in anatomy, farriery, pathology and parasitology. The faculty and students also have access to the museums of the Medical School, the Wistar Institute of Anatomy, Departments of Zoology and Botany, and the Museum of Comparative Pathology of the Philadelphia Zoological Society, the largest of its kind in this country. In addition, the University Museum with its extensive archaeological and ethnological collections, the largest and most valuable in this country, is conveniently located for veterinary students.

**Student Health Service**

The Student Health Service, located in the Hospital of the University of Pennsylvania, maintains a staff of physicians who advise and treat students. Dispensary and in-patient service is provided as follows:

**Dispensary Service**

**Location:** Gates Pavilion, First Floor (opposite the Spruce Street entrance to Houston Hall).

**Hours:** By appointment (can be made in person or by telephone). **Monday through Friday:** 1:00 to 5:00 P.M. **Saturday:** 9:00 A.M. to 12 Noon. **Nights, Weekends, Holidays:** Acutely or urgently ill students report to the same site. Acutely ill students who require attention between the hours of 9:00 A.M. and 12 Noon on weekdays, or at night, on weekends or holidays should report to the Gates Pavilion, First Floor.

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**General Information**

Any student who pays the General Fee of the University, or who pays a Health Fee specifically at the time of registration, is entitled to the services provided by the Student Health Department, provided he executes the medical forms of the Student Health Service.

**In-Patient Department**

**Location:** Main Hospital Building (36th and Spruce Streets), Administration Section, Third Floor.

**Visiting Hours:** 2:00 to 8:00 P.M. daily.

**Charges:** No charges are made for the medical or nursing services furnished by the Student Health Department, or for room and board for the first three (3) days. After three (3) days, room and board is billed at the rate of $14.00 per day. Drugs, diagnostic, and therapeutic procedures, and any other special charges are the responsibility of the student. Hospitalization insurance held by the individual student may be used to defray costs within the conditions of the policy.

**Student Residence**

Students in the School of Veterinary Medicine may live in any residence of their choice. However, the University, through the Dean, may deny a student the privilege of living in a residence which is considered unfit.

The Graduate House in the University dormitory system is limited in capacity and can accommodate only a few students in each graduate division. Information may be obtained from the Assistant Dean of Men, Dormitory Office, 37th and Spruce Streets.

Lists of rooms and apartments in the immediate vicinity of the University are maintained in the Dormitory Office.

**Houston Hall**

Houston Hall, first College Union in the United States, offers men students a place to conduct their social and recreational activities in a pleasant and comfortable atmosphere.
SCHOOL OF VETERINARY MEDICINE

Throughout the year hundreds of meetings are held by students, faculty, and organized University groups in the specially appointed meeting rooms.

Houston Hall provides comfortable and spacious lounges with numerous newspapers and periodicals, the University store, a post office, barber shop, check cashing service, three cafeterias, a soda grille, and other services.

VETERANS CONTACT OFFICE

The University is approved for training veterans under all appropriate Public Laws.

All veterans are required to register with the Veterans Contact Office at the time of registration in the University. Here complete information may be obtained about the educational benefits provided to veterans by the Federal Government. This Office also serves as liaison with the Veterans Administration, and it is here that the veteran presents appropriate certificates and completes all forms pertaining to his government subsidy.

Veterans desiring advice or information in advance of registration may write to the Veterans Contact Office, located in the Comptroller's Office, 3320 Walnut Street.

UNIVERSITY PLACEMENT SERVICE

The University Placement Service acts as a medium through which graduating students and alumni may be assisted with their employment problems and interests and provides a service to employers that enables them to be brought in touch with University-trained men and women qualified for positions that are available in their organizations.

Students who are interested in securing employment after graduation in business, industry, or the teaching profession are invited to file their applications with the Placement Service in the Fall semester of their graduating year. Alumni who are desirous of utilizing the Department's services are welcome to register their qualifications at any time.

Application forms and further information may be obtained in Room 220, Logan Hall.

STUDENT EMPLOYMENT

Because of the intensive nature of the course in veterinary medicine, extra-curricular employment should be undertaken only in exceptional circumstances. In such cases it should be limited in amount. Further particulars may be obtained from the Dean or from the Office of Scholarships and Student Aid, 200 Logan Hall.

PATENTS ON INVENTIONS AND DISCOVERIES

The Trustees have declared it to be the policy of the University of Pennsylvania that any invention or discovery which may in any manner affect the public health, such as a new drug, process, or apparatus intended primarily for medical or surgical use, shall not be patented for profit, either by an individual in the employ of the University or by the University itself. In order to prevent the capitalization and exploitation by others of any such discoveries or inventions, and in order to protect the public it may, however, from time to time, be considered advisable by the Executive Committee of the Executive Board to patent such inventions or discoveries with the sole intention of protection without profit.

Where researches, in fields other than those affecting public health are carried out on University time or at University expense by special grants or otherwise, patents may, with the approval of the President of the University, be applied for on inventions or discoveries, in which case the inventor shall assign his rights in the patent to the University upon the payment to the patentee of his expense in securing the patent. The University will then exercise its ownership of such patent, with or without profit, with due regard for the interests of all persons concerned.
Administration and Faculty

ADVISORY BOARD


OFFICERS OF THE UNIVERSITY

President: Gaylord P. Harnwell, Ph.D., LL.D.
Provost: Jonathan E. Rhoads, M.D., D.Sc. (Med.).
Vice-President for Medical Affairs: Norman H. Topping, A.B., M.D.
Vice-President for Engineering Affairs: Carl C. Chambers, Sc.D.
Vice-President for Student Affairs: Gene D. Gisburne, B.S. in Ed.
Secretary: John C. Hetherston, B.S. in Econ.

FACULTY AND STAFF

Dean: Mark W. Allam, V.M.D.
Office open: 9:00 a.m. to 5:00 p.m.; Saturday, 9:00 a.m. to 1:00 p.m.

Professors, Associate Professors, Assistant Professors

Mark W. Allam, V.M.D., Professor of Veterinary Surgery and Dean of the Faculty.
Arthur V. Bartenslager, V.M.D., Assistant Professor of Veterinary Surgery and Obstetrics.
**School of Veterinary Medicine**

**Administration and Faculty**

**William F. McLimans, B.A., Ph.D., Research Associate Professor of Microbiology in Veterinary Medicine.**

**Robert M. Nims, D.V.M., Maj. V.C., U. S. Army, Assistant Professor of Military Science and Tactics.**

**Geoffrey Rake, M.R.C.S., M.B., B.S., Research Professor of Pathology.**

**Charles W. Raker, V.M.D., Associate Professor of Veterinary Surgery; Chairman, Department of Surgery; Head, Large Animal Clinic.**

**Herbert Ratcliffe, M.S., Sc.D., Professor of Comparative Pathology.**

**Shyamal K. Sinha, V.M.D., M.S., Ph.D., Research Assistant Professor of Preventive Medicine and Hygiene.**

**F. George Sperling, V.M.D., Assistant Professor of Veterinary Pathology.**

**Evan L. Stuebs, V.M.D., Professor of Veterinary Pathology.**

**Edwin D. Tuckerman, V.M.D., Assistant Professor of Regulatory Veterinary Medicine.**

**Associates**

**Robert S. Brodey, D.V.M., Associate in Veterinary Surgery.**

**Carlos España, Ph.D., Research Associate of Microbiology in Veterinary Medicine.**

**Donald J. Loder, B.S., M.S., Ph.D., Visiting Associate in Chemistry.**

**Anna C. Nichols, B.S., M.S., Associate in Bacteriology.**

**Eugene I. Rosenoff, B.S., M.S., Ph.D., Associate in Microbiology.**

**Joseph S. Skelley, V.M.D., Associate in Veterinary Medicine.**

**Anna R. Whiting, B.A., Ph.D., Associate in Animal Industry.**

**Charles C. Wilber, B.S., M.A., Ph.D., Visiting Associate in Physiology and Pharmacology.**

**Clarence A. Woodhouse, D.V.M., M.S., Visiting Associate in Veterinary Medicine.**

**Instructors, Assistant Instructors**

**Maurice W. Arnold, V.M.D., Instructor in Veterinary Medicine.**

**Everett J. Cole, B.S., M.S., Instructor in Bacteriology.**

---

**Peter H. Craig, V.M.D., Research Assistant Instructor in Veterinary Pathology.**

**J. Ellis Croshaw, Jr., B.Sc., D.V.M., Instructor in Veterinary Pathology.**

**Chester F. Diehl, V.M.D., Instructor in Meat Hygiene.**

**George A. Elliott, D.V.M., Instructor in Veterinary Pathology.**

**John R. Francella, V.M.D., Instructor in Veterinary Medicine.**

**Thomas N. Haviland, A.B., Instructor in Anatomy; Director, Veterinary School Museums.**

**T. Richard Houpit, V.M.D., M.S., Instructor in Physiology and Pharmacology.**

**George Jaggard, B.S., Instructor in Milk Hygiene.**

**Stanley Z. Kramer, A.B., Assistant Instructor in Physiology and Pharmacology.**

**Leonard Krawitz, V.M.D., Instructor in Veterinary Surgery.**

**James V. McCallon, V.M.D., Instructor in Veterinary Medicine.**

**William H. Rhodes, V.M.D., Assistant Instructor in Veterinary Surgery.**

**Raymond Schlosser, Jr., V.M.D., Instructor in Veterinary Surgery.**

**Alex Schrift, A.B., M.A., Ph.D., Instructor in Botany.**

**George F. Shaw, B.S., Instructor in Animal Industry.**

**Marvin J. Silverman, B.Sc., M.Sc., D.V.M., Instructor in Pharmacy.**

**Raymond C. Snyder, V.M.D., Instructor in Veterinary Medicine.**

**Lawrence H. Taylor, B.S., V.M.D., Instructor in Veterinary Surgery.**

**George P. Williams, III, B.S. in Econ., LL.B., Instructor in Veterinary Jurisprudence.**

**Alida Wind, M.V.D., Assistant Instructor in Veterinary Surgery.**

**Librarian**

**Miss Suzanne R. Cross, B.A., M.L.S.**

**Special Lecturers**

**Dr. F. J. Mulhern, Chief, Vesicular Exanthema Eradication Section, U. S. Department of Agriculture, Agricultural Research Service, Washington 25, D. C.**

**Dr. Frank A. Todd, Assistant to the Administrator, U. S. Department of Agriculture, Agricultural Research Service, Washington 25, D. C.**

**Dr. Howard C. H. Kernkamp, Professor of Veterinary Pathology, University of Minnesota, St. Paul, Minnesota.**
SUMMARY OF STUDENTS FOR THE YEAR 1955-56

<table>
<thead>
<tr>
<th>Class</th>
<th>Count</th>
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<tbody>
<tr>
<td>Senior Class</td>
<td>45</td>
</tr>
<tr>
<td>Junior Class</td>
<td>46</td>
</tr>
<tr>
<td>Sophomore Class</td>
<td>49</td>
</tr>
<tr>
<td>Freshman Class</td>
<td>54</td>
</tr>
<tr>
<td>Graduate Students</td>
<td>9</td>
</tr>
<tr>
<td>Special Students</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>206</strong></td>
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</tbody>
</table>
The Veterinary Hospital is supplied with facilities for the handling and care of sick and injured animals of all kinds. Animals are admitted into the Hospital at any time, day or night.

A dispensary clinic is conducted by the members of the Hospital Staff daily, except Sundays and Holidays, between 9:00 and 10:30 A.M.

The animals are under the professional care of the Hospital Staff.

<table>
<thead>
<tr>
<th>CLINICS FOR SMALL ANIMALS</th>
<th>In Cases</th>
<th>Out Cases</th>
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<tbody>
<tr>
<td>Birds</td>
<td>3</td>
<td>83</td>
</tr>
<tr>
<td>Bobcat</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Canines</td>
<td>1,722</td>
<td>3,442</td>
</tr>
<tr>
<td>Chicken</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Chinchillas</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Ducks</td>
<td>4</td>
<td>359</td>
</tr>
<tr>
<td>Felines</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Hamster</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Kangaroo</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Leopard</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Mice</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Mink</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Monkeys</td>
<td>3</td>
<td>16</td>
</tr>
<tr>
<td>Rabbids</td>
<td>2</td>
<td>4</td>
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<td>Skunks</td>
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<td>2</td>
</tr>
<tr>
<td>Squirrel</td>
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<td>1</td>
</tr>
<tr>
<td>Turtles</td>
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</tr>
<tr>
<td><strong>Total</strong></td>
<td>1,968</td>
<td>3,922</td>
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| Total In | 1,968 |
| Total Out| 3,922 |
| **Total**| 5,890 |

<table>
<thead>
<tr>
<th>CLINICS FOR LARGE ANIMALS</th>
<th>In Cases</th>
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<tbody>
<tr>
<td>Antelope</td>
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<tr>
<td>Caprine</td>
<td>4</td>
<td>4</td>
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<tr>
<td>Cattle</td>
<td>67</td>
<td>15</td>
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<tr>
<td>Deer</td>
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<td></td>
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<tr>
<td>Donkeys</td>
<td>4</td>
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<tr>
<td>Equines</td>
<td>213</td>
<td>211</td>
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<tr>
<td>Ovines</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>Porcines</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>296</td>
<td>235</td>
</tr>
</tbody>
</table>

| Total In | 296 |
| Total Out| 235 |
| **Total**| 531 |
## Clinical Pathology

<table>
<thead>
<tr>
<th></th>
<th>Dogs</th>
<th>Cattle</th>
<th>Horses</th>
<th>Sheep</th>
<th>Cats</th>
<th>Chickens</th>
<th>Pigs</th>
<th>Goats</th>
<th>Misc.*</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacteriology</td>
<td>321</td>
<td>575</td>
<td>117</td>
<td>32</td>
<td>29</td>
<td>22</td>
<td>26</td>
<td>1</td>
<td>70</td>
<td>1193</td>
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<tr>
<td>Chemistry</td>
<td>367</td>
<td>239</td>
<td>53</td>
<td>6</td>
<td>9</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>6</td>
<td>680</td>
</tr>
<tr>
<td>Hematological</td>
<td>964</td>
<td>104</td>
<td>287</td>
<td>643</td>
<td>52</td>
<td>—</td>
<td>15</td>
<td>6</td>
<td>15</td>
<td>2080</td>
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<tr>
<td>Parasitological</td>
<td>621</td>
<td>37</td>
<td>110</td>
<td>1</td>
<td>12</td>
<td>11</td>
<td>6</td>
<td>4</td>
<td>802</td>
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<tr>
<td>Postmortem</td>
<td>2</td>
<td>31</td>
<td>3</td>
<td>—</td>
<td>—</td>
<td>25</td>
<td>—</td>
<td>—</td>
<td>49</td>
<td>110</td>
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<tr>
<td>Serological</td>
<td>5</td>
<td>434</td>
<td>62</td>
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<td>—</td>
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<td>2</td>
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<tr>
<td>Urinalysis</td>
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<td>21</td>
<td>21</td>
<td>1</td>
<td>5</td>
<td>—</td>
<td>—</td>
<td>2</td>
<td>326</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>2256</td>
<td>1441</td>
<td>653</td>
<td>683</td>
<td>107</td>
<td>58</td>
<td>47</td>
<td>1</td>
<td>148</td>
<td>5694</td>
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## Histo-Pathology

<table>
<thead>
<tr>
<th></th>
<th>Chinchilla</th>
<th>Fox</th>
<th>Mink</th>
<th>Monkey</th>
<th>Mouse</th>
<th>Rabbit</th>
<th>Raccoon</th>
<th>Parakeet</th>
<th>Skunk</th>
<th>Woodchuck</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equine</td>
<td>62</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Bovine</td>
<td>49</td>
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<td></td>
<td></td>
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<tr>
<td>Porcine</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ovine</td>
<td>27</td>
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<td></td>
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<td></td>
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<td></td>
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<tr>
<td>Avian—Duck</td>
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<td></td>
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<td></td>
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<tr>
<td>Canine</td>
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<td>Feline</td>
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<tr>
<td><strong>Total</strong></td>
<td>815</td>
<td></td>
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**Postmortem Pathology**

Necropsies conducted from July 1, 1954 to June 30, 1955

<table>
<thead>
<tr>
<th></th>
<th>Chinchilla</th>
<th>Fox</th>
<th>Mink</th>
<th>Monkey</th>
<th>Mouse</th>
<th>Rabbit</th>
<th>Raccoon</th>
<th>Parakeet</th>
<th>Skunk</th>
<th>Woodchuck</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equine</td>
<td>62</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Bovine</td>
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<td></td>
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<tr>
<td>Ovine</td>
<td>27</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caprine</td>
<td>20</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Avian—Duck</td>
<td>2</td>
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<tr>
<td>Canine</td>
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<td></td>
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</tr>
<tr>
<td>Feline</td>
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<tr>
<td><strong>Total</strong></td>
<td>815</td>
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</tbody>
</table>

**Note:** 90 of the 7,558 cases are counted twice due to secondary diagnoses.
UNIVERSITY BULLETINS AND ANNOUNCEMENTS

Detailed information concerning the admission requirements and courses of the several schools of the University is available in the Bulletins and Announcements issued by each school. Copies may be had without charge by addressing the individuals listed below, University of Pennsylvania, Philadelphia 4, Pa.

ADMISSIONS. (Information concerning Undergraduate Schools.) Dean of Admissions, Logan Hall.

SCHOLARSHIPS AND STUDENT AID. Director of Scholarships and Student Aid, Logan Hall.

RESIDENCE FOR MEN AT PENNSYLVANIA WAY. Vice-President for Engineering Affairs, 107 Towne Building.

THE COLLEGE (including Arts and Sciences). Dean, College Hall.

THE COLLEGE COLLEGIAL COURSES. Director, 116 College Hall.

THE SUMMER SCHOOL. Director, 116 College Hall.

PROGRAMS IN ENGINEERING (including courses in Chemical, Civil, Electrical, Mechanical, and Metallurgical Engineering). Vice-President for Engineering Affairs, 107 Towne Building.

THE WHARTON SCHOOL OF FINANCE AND COMMERCE. Dean, Dietrich Hall.

THE GRADUATE DIVISION OF THE WHARTON SCHOOL. Director of the Graduate Division, Dietrich Hall.

THE SCHOOL OF EDUCATION (including the Undergraduate Division and the Graduate Division). Dean, Eisenlohr Hall, 3812 Walnut Street.


THE COLLEGE OF LIBERAL ARTS FOR WOMEN. Dean, Bennett Hall.

THE GRADUATE SCHOOL OF ARTS AND SCIENCES. Dean, Bennett Hall.

THE SOUTH ASIA REGIONAL STUDIES PROGRAM. 3429 Woodland Avenue.

THE SCHOOL OF MEDICINE. Dean, Medical Laboratories Building.

THE GRADUATE SCHOOL OF MEDICINE. Dean, Medical Laboratories Building.

THE SCHOOL OF VETERINARY MEDICINE. Dean, Veterinary Building.

THE LAW SCHOOL. Dean, Law School Building.

THE SCHOOL OF DENTISTRY. Dean, Evans Institute Building.

THE SCHOOL OF SOCIAL WORK. Dean, 2410 Pine Street, Philadelphia 3.

THE SCHOOL OF NURSING. Dean, 3400 Walnut Street.

THE COURSES IN ORAL HYGIENE. Dean, School of Dentistry, Evans Institute Building.

THE SCHOOL OF AUXILIARY MEDICAL SERVICES (Physical Therapy, Occupational Therapy, and Medical Technology). Dean, General Laboratories Building, 215 South 34th Street.

THE EVENING SCHOOL OF ACCOUNTS AND FINANCE. Director, Dietrich Hall.

THE EXTENSION SCHOOLS. Director, Dietrich Hall.

THE DEPARTMENT OF MILITARY SCIENCE AND TACTICS, RESERVE OFFICERS TRAINING CORPS. Commandant, Anthony Wayne Hall.

THE DEPARTMENT OF NAVAL SCIENCE, RESERVE OFFICERS TRAINING CORPS. Commander, Stephen Decatur Hall.

THE DEPARTMENT OF AIR SCIENCE AND TACTICS, RESERVE OFFICERS TRAINING CORPS. Commander, Logan Hall.