NEW YORK STATE VETERINARY COLLEGE AT CORNELL UNIVERSITY 1960-1961

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WILLIAM WAGNER, D.V.M., Field Veterinarian, Bovine Sterility (Ithaca).

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PHILIP A. WEBER, JR., B.S., D.V.M., Medical Interne in the Department of Small Animal Medicine and Surgery.

JOHN H. WHITLOCK, D.V.M., M.S., Professor of Veterinary Parasitology.

RICHARD L. WITTER, B.S., D.V.M., Assistant in Poultry Diseases.

JEREMY N. WRIGHT, B.vet.med., M.R.C.V.S., Assistant in Veterinary Bacteriology.

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SPECIAL LECTURERS, 1959-1960

W. M. Andress, Agricultural Marketing Service, U.S.D.A., Philadelphia, Pennsylvania.

DAVID E. BARTLETT, American Breeders Service, Chicago, Illinois.

MAXINE M. BENJAMIN, Department of Pathology and Bacteriology, College of Veterinary Medicine. Colorado State University.

Douglas G. Blood, Ontario Veterinary College, University of Toronto.

WARREN BRANNON, Department of Animal Husbandry, New York State College of Agriculture, Cornell University.

WILLIAM C. CAVETT, Food and Drug Administration, Department of Health, Education, and Welfare, Buffalo.

HUNTER COHEN, Agricultural Research Service, U.S.D.A., Buffalo.

ALAN A. CREAMER, Veterinary Department, Merck, Sharp & Dohme, West Point, Pennsylvania. DONALD J. DEAN, Bureau of Epidemiology and Communicable Disease Control, New York State Health Department, Albany.

DANIEL DECAMP, Agricultural Marketing Service, U.S.D.A., Washington, D.C.

ELLSWORTH DOUGHERTY, III, Duck Disease Research Laboratory, Eastport.

EDGAR L. GASTEIGER, Department of Physiology, University of Rochester.

JOHN H. GRAVES, Immunological Investigations, Plum Island Animal Disease Laboratories, Animal Disease and Parasite Research Division, U.S.D.A., Greenport.

CHRISTIAN J. HALLER, Practitioner, Avon.

CARL L. HANSEN, JR., Col., U.S.A.F., Atomic Energy Project, University of Rochester.

B. F. HOERLEIN, Department of Surgery and Medicine, Alabama Polytechnic Institute, Auburn, Alabama.

GRANT S. KALEY, Division of Animal Husbandry, Department of Agriculture and Markets, Albany. PETER C. KENNEDY, Veterinary Pathology, School of Veterinary Medicine, University of California,

HARRY E. KINGMAN, JR., American Veterinary Medical Association, Chicago, Illinois.

ROBERT P. KNOWLES, Practitioner, Miami, Florida.

Myron D. Lacy, Department of Animal Husbandry, New York State College of Agriculture, Cornell University.

WENDELL K. LOOMIS, Practitioner, Vernon.

ESTHER L. McCandless, Chronic Disease Research Institute, University of Buffalo.

ROBERT B. MEIGS, University Counsel, Cornell University.

JACK MINDELL, Practitioner, Albany.

WILLIAM M. MITCHELL, Royal Dick School of Veterinary Studies, Edinburgh, Scotland.

E. Neil Moore, Department of Physiology, College of Medicine, Upstate Medical Center, Syracuse University.

U. V. Mostosky, School of Veterinary Medicine, Michigan State University.

ELLIS A. PIERCE, Department of Animal Husbandry, New York State College of Agriculture, Cornell University

A. Donald Rankin, Squibb and Company, New Brunswick, New Jersey.

WILLIAM O. REED. Practitioner, Elmont, Long Island.

ROBERT M. SAUER, Department of Pathology, School of Veterinary Medicine, University of Pennsylvania.

LEON Z. SAUNDERS, Pathology and Toxicology Section, Smith, Kline and French Laboratories, Philadelphia, Pennsylvania.

J. P. SCHADE, Dutch Central Brain Institute, Amsterdam, Netherlands.

RICHARD M. SEARS, Practitioner, Cazenovia.

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B. T. Shaw, Agricultural Research Service, U.S.D.A., Washington, D.C.

E. B. Sigg, Pharmacology, Geigy Research Laboratories, New York.

THOMAS W. SILK, School of Hotel Administration, Cornell University.

S. K. Sinha, Biological Research, Jensen-Salsbery Laboratories, Inc., Kansas City, Missouri. George W. Snook, Laboratories for Veterinary Science and Meat Hygiene, New York State Department of Health, Albany.

HADLEY C. STEPHENSON, New York State Veterinary Medical Society, Ithaca.

JAY TEPPERMAN, Department of Pharmacology, College of Medicine, Upstate Medical Center, Syracuse University.

ERNEST N. WARREN, Law School, Cornell University.

RALPH F. WESTER, Practitioner, Syracuse.

BRUCE W. WIDGER, Practitioner, Marcellus.

ALEXANDER ZEISSIG, Veterinary Research, Merck, Sharp & Dohme, Rahway, New Jersey.

COLLEGE BUILDINGS AND RESEARCH FACILITIES

THE NEW YORK STATE VETERINARY COLLEGE, established by an act of the State Legislature in 1894, is on the campus of Cornell University at Ithaca, a city of approximately 30,000 permanent residents, situated in the famous Finger Lakes Region of New York at the head of Cayuga Lake. The city is in the south-central part of the state, about 260 miles from New York on the main line of the Lehigh Valley Railroad. It has air connections with Boston, New York, Buffalo, and other cities by way of Mohawk Airlines.

In 1957 the Veterinary College moved into twenty new buildings at the eastern edge of the Cornell campus. Of a plot of about twenty acres, the buildings occupy nearly twelve acres, leaving the remainder for paddocks and exercise lots for animals. They constitute one of the finest physical plants possessed by any of the world's veterinary colleges. The equipment, of the most modern type, is ample for teaching and research in the basic and clinical sciences.

THE VETERINARY COLLEGE LIBRARY

The College is fortunate in being a part of a great University where it is able to obtain the assistance and use the facilities of great scholars in many disciplines. One advantage is access to the various libraries of the University, which contain more than 2,000,000 volumes and 14,000 current periodicals and society transactions. Of the greatest usefulness to the College is the special veterinary library, which is housed in a College building. This library consists of over 32,418 volumes and approximately 570 current periodicals in the field of medical sciences, and it is second to no other special veterinary library in this country.

The veterinary library was initially endowed by a gift from Roswell P. Flower, who was Governor of the State of New York when the College was founded. For this reason it was named, in his honor, the Flower (Veterinary) Library. It is maintained partly on endowment funds and partly on appropriations from the state.

OFF-CAMPUS RESEARCH FACILITIES

In addition to the superb facilities on the campus, extramural facilities for research on infectious, parasitic, and metabolic diseases of farm animals and small animals have been constructed, for the most part on Snyder Hill, about three miles from the campus, on a tract of 133 acres.

Besides the many buildings for housing animals, most of which have small pastures, exercise lots, or paddocks of their own, a number of laboratory buildings have been built for a group of staff people stationed there for research.

POULTRY DISEASE RESEARCH

Poultry disease research is done both on the campus in conjunction with the diagnostic and teaching laboratory and at the research center on Snyder Hill.

Physical facilities at the Snyder Hill research center consist of a two-story poultry disease research laboratory with two wings for holding birds, and 28 small houses for holding experimental chickens and turkeys, occupying several acres.

THE VETERINARY VIRUS RESEARCH INSTITUTE

In September, 1950, the Board of Trustees of Cornell University established a new unit in the New York State Veterinary College: the Veterinary Virus Research Institute. Formation of the Cornell Research Laboratory for Diseases

of Dogs was approved as a section of the Institute.

The primary objective of the Institute is to prevent loss from infectious diseases in animals. Toward this end, basic research is conducted upon organisms which cause disease in order to increase knowledge of their nature, means of spread, and methods whereby their spread can be controlled. Another objective of the Institute is the training of workers in the field of virology. Determined by the amount of laboratory space available, a limited number of graduate students and post-graduate visiting investigators are accepted.

The Virus Institute is on Snyder Hill, near the University but far enough in the country so that farmland is available for rearing disease-free animals and a part of the uncontaminated feed supplies necessary. Believed to be the only one of its kind in the world is a herd of disease-free cattle, given by the Rockefeller Institute, to the Veterinary Virus Research Institute to supply cattle ideally suitable for research work. Also unique is a kennel building given by the Gaines Dog Research Center for rearing dogs free from disease.

After consideration of the many technical difficulties involved in work with viruses and other living organisms that can be airborne or transferred accidently in other ways, three buildings were designed and constructed. These contain six modern and fully equipped laboratories for research and teaching, in addition to a library, offices, a tissue culture laboratory, and animal isolation units that can be cleaned and decontaminated effectively.

Another isolation building, acquired by matching funds from the United States Public Health Service and private donors, houses other disease-free animals including pigs, chickens, guinea pigs, rabbits, and mice.

SHEEP DISEASE RESEARCH

A tract of 75 acres of land on Turkey Hill, particularly suitable for research on internal parasites of sheep, has been equipped for maintaining a flock of sheep. On this tract a 10-acre pasture is irrigated artificially to maintain a natural infestation of internal parasites under controlled conditions.

DISEASES OF THE REPRODUCTIVE TRACT IN CATTLE

Fifty acres of land, equipped with a barn for housing carefully selected heifers, are maintained in the neighborhood of Turkey Hill for the study of noninfectious reproductive diseases of dairy cattle.

RADIATION BIOLOGY

A field unit and an exposure unit for fundamental biophysical atomic energy research have been constructed on a 40-acre tract of land provided by the University. This facility is an integral part of the Department of Physical Biology.

ADMISSION AND ENTRANCE REQUIREMENTS

SINCE the fall of 1949 the minimum education requirements for admission to the New York State Veterinary College have been the satisfactory completion of two years' study in an approved college or university. The two years of college study must include:

English—6 semester hours

Physics—6 semester hours, including laboratory

Biology or Zoology-6 semester hours, including laboratory

Chemistry—12 semester hours, including organic chemistry with laboratory.

The courses in English, physics, and biology or zoology should cover at least one academic year each. The work in chemistry should cover at least one and a half academic years and must include a course in organic chemistry with laboratory work. A course in zoology is preferred to a course in biology.

An applicant is urged not to take courses identical to, or substantially identical

to, those in the veterinary curriculum.

An applicant for admission is expected to have facility in the use of the English language in speech and composition. Therefore, a course in oral and

written composition, or in speech, is strongly recommended.

The choice of other courses is left to the student, but the following are recommended: quantitative chemical analysis, a modern foreign language, history, economics, government, botany, mathematics, biometry, philosophy, psychology, comparative anatomy, general physiology. It is suggested that not more than 30 semester hours of the minimum requirements be devoted to chemistry, biology or zoology, and physics.

TWO YEARS OF STUDY has been interpreted as meaning the passing of one half as many semester credit units as are required by the particular institution for its baccalaureate degrees. Most institutions which are run on a semester basis require 120 units, but some require 124, and some even 128. At least 60 semester units must be presented, therefore, and in some instances 62 or more.

A REGISTERED COLLEGE is one which is registered with, and its curriculum approved by, the New York State Education Department. All colleges within New York State which are authorzied to grant baccalaureate degrees are registered and approved. This is not true, however, of all such institutions outside New York State. In general, practically all of the larger colleges and universities are registered. If in doubt as to whether any particular school is registered, one should address correspondence to the State Education Department, Albany, N.Y., and not to this College.

THE FARM PRACTICE REQUIREMENT formerly could be met during summer vacations after admission to the College. This requirement has been

increased, and at least one half of the experience must now be obtained prior to admission. A total of 20 farm practice points is required, of which at least 10 must be for experience with livestock. A minimum of 10 points, including not less than 5 for livestock, must be presented to qualify for admission. By livestock, farm animals are meant. Dogs and cats are not included, and not more than

3 points may be claimed for experience with poultry.

Farm practice points are awarded on the basis of tests administered by the Office of Student Practice, New York State College of Agriculture, Ithaca, N.Y. Except for students who have previously enrolled in the College of Agriculture and whose farm practice scores are available to it, the Committee on Admissions of the Veterinary College will estimate the experience of all candidates. All who are admitted without farm practice ratings by the Office of Student Practice will be required to take the tests after admission, and all who are found to be deficient will be required to make up their deficiencies during the first two summer vacations while they are in college.

Applicants who have been reared on farms where livestock are kept should easily meet all requirements. Those who are not farm-reared will have to spend at least three months as full-time farm workers with some responsibility for farm animals to qualify for admission. The full requirements can hardly be met by less than six months of such experience. Little credit will be allowed for

experience obtained before the age of 14 years.

This requirement is applicable only to men students who are United States citizens; nevertheless, women applicants will improve their chances of acceptance by acquiring as much experience with farm animals and farm life as they can get.

Whenever possible, prospective applicants are urged to obtain the full experience required before submitting their applications. In a highly competitive situation, those who have the full requirements will have an advantage over those

who have only the minimum.

The applicant should write, after July 1 of the year preceding the one in which admission is desired, to the Director of Admissions, Edmund Ezra Day Hall, Ithaca, N.Y., requesting the application forms for admission to the Veterinary College. The Director of Admissions will require a transcript of the applicant's college record as well as other credentials. Full information will be

furnished with the application form.

The number of students that can be admitted annually is limited. It is likely that the number of applicants who can meet the scholastic requirements will exceed the number that can be accepted. In this case a Committee on Admissions of the faculty of the Veterinary College will select those to be admitted after considering not only the formal preparation but also the available evidence bearing on each applicant's character, seriousness of purpose, and fitness for the work that he proposes to undertake. The committee will require a personal interview, whenever this is feasible.

Priority of application is not necessarily a determining factor in the selection of students to be admitted; nevertheless, the gathering and the weighing of the necessary evidence require time, and, as the committee will begin filing the eligible list early in the year, it is advantageous to the candidate to file his application early. March 1 is the latest date for filing applications. Students who have not completed the work required for admission but expect to do so prior to July I may apply, and the committee will act on the applications provisionally.

RULES COVERING ADMISSION

Applicants for admission must not only satisfy the entrance requirements but must also comply with certain rules of the University, as follows:

1. Every candidate for admission who receives notice of approval of his application must deposit \$45. Candidates are warned not to send cash through the mails. A check, draft, or money order should be made payable to *Cornell University* and should be sent to the Office of Admissions, Edmund Ezra Day Hall, Ithaca, N.Y.

If the candidate matriculates, the deposit is credited to his account to cover matriculation charges and certain graduation expenses and to establish a fund for undergraduate and alumni class activities.

If the candidate withdraws before the due date of his deposit, the deposit will be refunded. No refund will be made to an applicant who withdraws after the due date of the deposit; in that case the whole deposit will be retained by the University in payment of its costs and intangible losses resulting from such withdrawal.

2. Each entering student is expected to assume personal responsibility for fulfilling the following health requirements adopted by the trustees of Cornell University. Permission to register for a new semester will not be granted unless all health requirements pertaining to the previous semester has been fulfilled.*

IMMUNIZATION

A satisfactory certificate of immunization against smallpox, on the form supplied by the University, must be submitted before registration. It will be accepted as satisfactory only if it certifies that within the last three years a successful vaccination has been performed. If this requirement cannot be fulfilled by the student's home physician, opportunity for immunization will be offered by the Cornell medical staff during the student's first semester, with the cost to be borne by the student. If a student has been absent from the University for more than three years, immunity will be considered to have lapsed, and a certificate of revaccination must be submitted.

X-RAY

Every student is required to have a chest X-ray. He may (1) present a chest film, made by a private physician, on or before entering Cornell, provided that it was obtained within six months of initial registration and is of acceptable quality; or (2) he may present a chest X-ray report, provided that the radiograph was taken within six months of initial registration and contains the film number and name and address of the X-ray facility, and is signed by a radiologist; or (3) he may have a chest X-ray at Cornell during the orientation period or at some other specified time shortly thereafter, in which case the charge will be included in the registration fee. When a student who has been away from the University for more than a year, wishes to re-enter, he must, at his own expense, once more fulfill the chest X-ray requirement.

^{*} Prospective graduate students should consult the Announcement of the Graduate School for health requirements on entrance.

MEDICAL EXAMINATION

Every undergraduate student is required to have a medical examination. (This includes special students who must meet undergraduate requirements such as physical education, etc.) An undergraduate student accepted for admission will be sent forms to be filled out by his home physician and returned promptly to the Gannett Medical Clinic. A University physician will review the material before it becomes part of the student's permanent health record. All information given is confidential. After arrival at Cornell, a specialized recheck of any questionable medical items will be made, and if need for re-examination or follow-up is indicated, an appointment to consult a physician at the Clinic will be given. When a student has been away from the University for more than a year, he must, upon re-entrance, submit an interim health history on a form to be obtained from the University.

TETANUS TOXOID

Undergraduate students, including special students enrolled in one-year or two-year courses, are required to be immunized to tetanus through use of tetanus toxoid. The University has adopted this rule to avoid reactions, often serious, if antitoxin (horse serum) is administered at the time of injury. Immunity through toxoid offers the advantage of protection without the risk of antitoxin reaction.

Active immunization is to be acquired within nine months of initial registration unless the student's home physician is unable to give the toxoid. If there has been no previous immunization, an original series of two or three doses, depending on the type used, spaced at least one month apart, will be necessary. This will be followed by a booster dose one year later. If there has been previous immunization within ten years, reactivation by a single booster dose is required for entrance to Cornell. If previous immunization was ten or more years ago, two booster doses, spaced one month or more apart, are required. After entrance, five years is considered the maximum limit between booster doses, with a reactivating dose to be given at any time in case of injury.

Certification of immunization by the student's home physician is to be reported on the immunization form supplied by the University. Students unable to obtain the immunization at home will be given the opportunity, during the first semester, to obtain it from the Cornell medical staff or any Ithaca physician. If it is received from the former, a charge comparable to the average physician's fee will be made. Opportunity to obtain the required booster dose one year later, and further booster doses as recommended by recognized medical authorities will also be given.

ADMISSION TO ADVANCED STANDING

Applicants for admission to advanced standing as members of the second, third-, or fourth-year class must present the necessary educational qualifications for admission to the first-year class and must pass satisfactory examinations in all of the work for which they desire advanced credit, or offer satisfactory certificates of the completion of this work in other schools whose entrance requirements and courses of study are equivalent to those of this College. No person will be

admitted to any advanced class except at the beginning of the college year in September.

ADMISSION TO THE GRADUATE SCHOOL

Graduates of this College or other colleges may enter the Graduate School of Cornell University and pursue work in the Veterinary College and allied departments of the University. A prospective graduate student should consult the Announcement of the Graduate School and apply to the Dean of the Graduate School.

The Veterinary College, alone or in combination with other departments of the University, offers advanced students excellent opportunities for study and investigation. Its situation gives it abundant and varied material for research, and it has ample facilities for the prosecution of such work. It encourages graduate and advanced students to carry on independent investigations. Courses of study especially adapted to advanced work and research will be found among those listed on pages 29–36 of this Announcement.

A student who holds the degree of Doctor of Veterinary Medicine from a recognized college or school in the United States or Canada may now transfer one year's residence credit for that work toward the Doctor of Philosophy degree whenever his Special Committee certifies that the work done in the years of professional study formed an integral part of the work required for the doctorate and was of equivalent quality.*

THE DEGREE OF DOCTOR OF SCIENCE IN VETERINARY MEDICINE (D.Sc. in V.M.)

At its meeting November 23, 1954, the faculty approved the establishment of a new degree, D.Sc. in V.M., and subsequently this degree was approved by the University faculty and by the Board of Trustees. Cornell is the first university in the United States to offer this degree. Admission to candidacy for the degree, Doctor of Science in Veterinary Medicine, is a function of the Division of Veterinary Medicine of the Graduate School. The following requirements must be met before admission to candidacy:

1. The candidate must have been graduated from an approved school of veterinary medicine for at least five years.

2. He must have demonstrated by published papers his ability to do independent meritorious research.

3. He must have offered satisfactory evidence to the Division of his ability to read accurately the French and German † literature in his field.

Candidates who have no graduate credit beyond their D.V.M. degree must complete not less than four residence units to qualify for the degree.‡ Those who have a Master of Science degree or its equivalent from an approved college

^{*} By action of the faculty, January 28, 1955.

[†] In special cases other languages may be accepted according to the provisions of Paragraphs 118 and 119 of the Code of Legislation of the Graduate faculty.

[‡] It is considered that at least two units of work leading to the degree of Doctor of Veterinary Medicine are an integral part of this professional degree.

or university may complete the minimum residence credit by acquiring at least two additional units.

After a candidate has been admitted, he will select a member of the faculty in Veterinary Medicine to serve as chairman of his Special Committee. The faculty of the Division will then select two other members of the Committee. These three individuals will have charge of the candidate's program and will be responsible to the faculty of the Division for supervising his work. The candidate's work must fall in the following categories:

1. Advanced courses in any of the sciences which have a relation to medicine. Selected courses which are part of the regular curriculum of the Cornell University College of Medicine may be accepted for not more than half of the total credit in this category. In no case shall credit be granted for courses which are part of the regular curriculum in Veterinary Medicine or for similar courses in the Medical College curriculum.

2. Regular attendance and study in any of the clinics of the Veterinary Col-

lege or of the Medical College.

All candidates must take at least two thirds of their work in courses that may properly be included under Category 1. If desired, they may take all of their work in Category 1. Not more than one third of their work may be taken in

Category 2.

Courses shall be deemed to have been satisfactorily completed only upon receipt of a regular transcript of credits. Following completion of his course work, each candidate for this degree shall present an acceptable monograph or thesis in the area of his special interest and shall submit to a general examination covering the subject matter of his work. The Special Committee shall set the time and place of his examination and invite all members of the Division and all members of the Graduate faculty of other fields who have participated in his training to attend. They shall have the right to examine the candidate and to express to the Special Committee their opinions of the candidate's competency, but the Special Committee alone shall be responsible for recommending him for the degree. The recommendation shall be addressed to the faculty of the Division of Veterinary Medicine of the Graduate School, which then shall make recommendations to the Graduate School.

SEMINARS

The several departments of the College hold seminars or special conferences for their advanced and graduate students. The seminar hears reports of the results of investigations and the progress of knowledge in its particular field, discusses methods of advanced and independent work such as are expected of those who are preparing theses or prosecuting any special investigation, and hears the reports of the students on the progress of their work. By means of the seminar the student incidentally gains facility in public speaking and fits himself to take a creditable part in the meetings of veterinary or human medical societies.

COMBINED COURSES

Students who do their preveterinary work either in the College of Agriculture or the College of Arts and Sciences of Cornell, may, by judicious early planning, be able to qualify for both B.S. (or A.B.) and D.V.M. degrees in less time than would be required if the courses were taken consecutively. This can be done by double registration during the latter part of the period whereby certain course credits in the veterinary curriculum can be applied toward completing the requirements for the Bachelor's degree.

In these instances three years are ordinarily spent as a candidate for the baccalaureate degree before the application for veterinary medicine is filed. It should be clearly understood that no assurance can be given in the beginning that candidates will be permitted to complete this plan, since decision on admission to the veterinary course cannot be given until the admission requirements of the Veterinary College have been completed.

REGISTRATION

Every student is required to register with the Registrar of the University at the beginning of each term (see the Academic Calendar for the day of registration). After completing that registration, he must register on the same day with the Secretary of the Veterinary College. After being admitted to the University no student is allowed to register after the close of the regular registration day except by special permission from the Dean.

FOREIGN STUDENTS

The Foreign Student Office, 142 Day Hall, maintains a staff to look after the welfare of all students from other countries. Foreign students are invited to apply to that office for any information they need and to consult the staff about living quarters, personal problems, and social or other questions. It is suggested that foreign students write to the Director of the Foreign Student Office, Day Hall, before they come to Ithaca or call on him when they arrive.

EXPENSES

TUITION

FOR STUDENTS not residents of the State of New York the tuition in the Veterinary College is \$200 a term, payable at the beginning of each term as printed on the registration cards. Tuition is free to residents of the State of New York. The law governing administration of the College provides that "no tuition fee shall be required of a student pursuing the regular veterinary course who for a year or more immediately preceding his admission to said veterinary college shall have been a resident of this State."

COLLEGE AND UNIVERSITY GENERAL FEE

For certain services and privileges the University charges students a College and University General Fee of \$153.50 each term over and above tuition. This General Fee is paid by all students in the divisions at Ithaca, the amount varying in the different schools and colleges. It contributes toward the services supplied by the libraries, the Clinic and Infirmary, and the student union in Willard Straight Hall, pays a portion of the extra costs of laboratory courses and general administration, and supports programs of physical recreation and student activities.

Tuition and other fees become due when the student registers. The University allows ten days of grace from the first registration day of each term. The last day of grace is printed on the registration card which the student is required to present at the Treasurer's Office. Any student who fails to pay his tuition charges, other fees, or other indebtedness to the University, or who, if entitled to free tuition, fails to claim it at the Treasurer's Office and to pay his other fees and indebtedness within the prescribed period of grace, is dropped from the University unless the Treasurer has granted him an extension of time to complete payment. For such extension the student is assessed a fee of \$5. A fee of \$10 is charged for late payment when no extension has been granted. For further information, consult the General Information Announcement (obtained by writing to Cornell University Announcements, Day Hall).

Tuition or other fees may be changed by the Board of Trustees at any time without previous notice.

CHARGES FOR MINOR DELINQUENCIES

Every student is held personally responsible for any injury done by him to any of the University's property.

Assessments, charged to the student's account and payable at the Treasurer's Office, are levied in certain circumstances, under the following rules of the University:

A matriculated student desiring to register after the close of registration day shall first pay a fee of \$5.

A student desiring to file his registration of studies after the date set by his college for filing the same shall first pay a fee of \$2.

A student desiring to take an examination or other test for the removal of a term condition (including the making up of a mark of "absent" or "incomplete") shall first pay a fee of \$2 for each examination or other test.

A student desiring to make an appointment for the required medical examination or conference after twenty days from the last registration day of the term shall pay a fee of \$2.

For reasons satisfactory to the proper authority any of the above mentioned assessments may be waived in any individual case if the student's failure to comply with the regulation was due to ill health or to other reasons beyond his control. Application for such a waiver should be made to the dean of the college enrolling the student.

LIVING COSTS

Living costs cannot be stated with the same degree of certainty as regular University charges, since they depend to a great extent upon the individual's standard of living. Men students spend from \$135 to \$195 a term for room and from \$275 to \$325 a term for board. Laundry, done in Ithaca, may require \$25 to \$40 a term. For undergraduate women, the fixed charge for board, room, and laundry in the dormitories is \$495 a term.

Books, instruments, and supplies will cost \$30 to \$50 a term. Additional allowance must be made for clothing, travel, and incidentals.

FINANCIAL AIDS

UNDERGRADUATE SCHOLARSHIPS

NEEDY students who have done well scholastically may receive help from various scholarship funds. Discretion over the amount of money granted is vested in committees of the University who evaluate the merits of the applicants. Students interested in financial aid should inquire at the Office of Financial Aids, Edmund Ezra Day Hall. There are many scholarships and grants-in-aid open to all University undergraduates, as well as several which are specifically for veterinary students. The latter, many of which are prizes, are described in the following pages.

TUITION SCHOLARSHIPS

The trustees have authorized a limited number of scholarships, each of an annual value of \$400, the amount of the annual tuition, to be awarded each year by the Veterinary College. The scholarships are awarded to undergraduate students who show promise of becoming outstanding veterinarians in the judgment of the faculty and who are not residents of New York State. Each student holding a scholarship must maintain a standing satisfactory to the faculty.

VALENTINE MOTT KNAPP SCHOLARSHIP

This annual scholarship of the value of \$400 was established through the will of David V. Knapp as a memorial to his brother, Dr. Valentine Mott Knapp '04. By action of the faculty, the award is to be made each year to a qualified applicant at the completion of his third year's work. Students who wish to be considered for this scholarship should make application for it to the Dean not later than March 1. In awarding the scholarship, the faculty will take into consideration the ability of the applicant to do creditable academic work, the personal characteristics of the applicant wish respect to professional attitude, and his financial need.

YONKERS RACEWAY FOUNDATION SCHOLARSHIP

By action of the executive committee of the Yonkers Raceway Foundation, an endowed scholarship was established at the Veterinary College on May 17, 1960, to be awarded by the Committee on Scholarships of the College to a needy student who is a resident of New York State. Students who wish to be considered for this scholarship should make application for it to the Dean not later than March 1. The same criteria will be used in awarding this scholarship as are used in selecting the candidates for the Valentine Mott Knapp scholarship.

A.S.P.C.A. SCHOLARSHIP

This scholarship of \$300 is offered annually by the American Society for the Prevention of Cruelty to Animals. It is paid from funds raised by Gordon Wright, owner of Secor Farms, from benefit horse shows held at his stables in White Plains, New York.

The scholarship is awarded in the spring term to a member of the third-year class for use during his fourth and final year. The recipient is chosen by the Veterinary faculty on the basis of need, scholarship, demonstrated interest in horses, and general competence. It is open to students (a) who are particularly interested in equine practice, (b) who are residents of New York, and (c) who expect to practice in New York State after graduation. This scholarship will expire in 1964–1965.

LOAN FUNDS

The Cornell Veterinary Alumni Association, the New York State Veterinary Medical Society, and the family of David E. Wright '12 have donated funds to the University from which loans to veterinary students can be made. Veterinary students also are eligible to apply for loans from other funds held by the University. All these are administered through the Office of Financial Aids. These funds are for emergency use only. Students who are in real need should not hesitate to apply for assistance. It is suggested that students discuss their needs with the Dean of the College before applying.

PRIZES

Cornell University has been given a considerable number of funds for the endowment of prizes to be awarded annually to enrolled students. Some of these prizes are open to competition by students of the University generally. The University publishes a list of them under the title *Prize Competitions*. Copies will be mailed on request addressed to Cornell University Announcements, or may be obtained at the Visitor Center, Day Hall. Prizes open to competition only by students of the Veterinary College are as follows:

THE BORDEN VETERINARY SCHOLARSHIP AWARD was established by the Borden Company Foundation, Inc., in 1945. It consists of an annual award of \$300 to be made to the member of the fourth-year class in Veterinary Medicine who attained the highest scholastic record in all veterinary studies prior to the final year. The award will be paid to the recipient during the fall term of the final year. In the event that the Dean finds it inappropriate to make the award in any one year, the award may be deferred, but only one award shall be made in any succeeding year.

THE HORACE K. WHITE PRIZES, established by Horace K. White of Syracuse, are awarded annually to meritorious students in the graduating class of the College. They consist of a prize of \$75 to the first in merit and a prize of \$25 to the second in merit.

THE GRANT SHERMAN HOPKINS PRIZE of \$40 in Veterinary Anatomy was endowed by Mrs. Ann Ottaway Hopkins in 1955 in memory of her husband.

Dr. Hopkins served Cornell University for forty-five years (1889 to 1934). Upon the opening of the Veterinary College in 1896, he became a member of the original faculty as Assistant Professor of Veterinary Anatomy and Anatomical Methods. He was made a full professor in 1903 and served in that capacity until his retirement in 1934.

The prize will be awarded by the Veterinary faculty upon the recommendation of the staff of the Department of Veterinary Anatomy. It will be awarded to a member of the graduating class on the basis of interest, ability, perseverance, and performance in the work in veterinary anatomy. Special consideration will be given to extracurricular work in animal morphology. Although scholarship is an important consideration, the award is not based wholly on that.

THE JANE MILLER PRIZE of \$40 in physiology is awarded to the student or students doing the best work in this subject. This prize is usually divided into a first prize of \$25 and a second prize of \$15 and is awarded at the end of the second year.

THE JAMES GORDON BENNETT PRIZE of \$40 is offered to members of the graduating class. The award is based upon the work in the clinics giving evidence of the ability of the recipient to handle diseased animals humanely. Special emphasis is laid upon the ability of the student to apply effectively local and general anesthesia.

THE ANNE BESSE PRIZE of \$40 is awarded in the principles and practice of veterinary medicine. This award is based upon the work in the clinics giving evidence of ability in clinical diagnosis.

THE CHARLES GROSS BONDY PRIZES. Two annual prizes are awarded to the two fourth-year students who rank highest in proficiency in the courses of practical medicine and surgery of small animals. The first prize is \$25, and the second prize is \$15.

THE MARY LOUISE MOORE PRIZE IN BACTERIOLOGY was established by a bequest of Dr. Veranus A. Moore in honor of his wife. Dr. Moore was a member of the original faculty of the Veterinary College. He was Professor of Pathology, Bacteriology, and Meat Inspection from 1896 to 1926, and Dean of the Veterinary College from 1907 to 1920.

The proceeds of the endowment (\$40) may be awarded each year, upon recommendation of the head of the Department of Pathology and Bacteriology and with the approval of the Dean of the College, either as a prize to students who have done the best work in the department or as a subsidy to encourage individual research work of students by defraying expenses of their experiments.

THE POULTRY DISEASE PRIZE was established by Dr. Nathan Wernicoff, '31, and Dr. Tevis Goldhaft, '35, of Vineland, N.J., for the purpose of stimulating interest in diseases of poultry. The prize consists of \$50 for the best composition or essay, or the best original work reported, by a member of the fourth-year class. Competing papers must be submitted not later than the first week of the second term of the college year to the Dean, who will appoint a suitable committee to read them and make recommendations on the award. The award will not be made if, in the judgment of the committee, none of the papers submitted are considered to be sufficiently meritorious.

THE ALPHA PSI PRIZE is given by Beta (Cornell) Chapter of the Alpha Psi Fraternity. It was suggested by the donors that this prize be "awarded by the faculty to a member of the fourth-year class who has shown by his scholarship, personality, character, and breadth of interest that he is capable of elevating the prestige and expanding the services of veterinary science in practice, in education, and in its relationship to community, state, and national welfare."

THE SIGMA IOTA ZETA PRIZE is given by the Cornell Chapter of the Sigma Iota Zeta Fraternity to a fourth-year student who, in the scope of his professional training, has shown the most marked over-all improvement since his freshman year and has thereby demonstrated his sincere attitude and high purpose toward achievement in his profession. The prize consists of a \$25 Savings Bond to be awarded to the most meritorious fourth-year student unless in the opinion of the faculty no student in the fourth-year class is worthy of the award. In such a case, the award shall not be given that year but be left open for the following year.

NEW YORK STATE VETERINARY MEDICAL SOCIETY PRIZES, established by the New York State Veterinary Medical Society, consist of three cash awards of the value of \$25, \$15, and \$10, respectively. They are awarded to members of the fourth-year class who present and have approved the best case reports for publication in the organ of the Society, Veterinary News. The award year extends from May 1 to April 30. All case reports to be considered must be received at the Dean's office by the latter date. Each case report must be reviewed and approved for publication by the head of the department in which the case was received, studied, and treated, or by a person in the department designated by him. After the case report is approved for publication, two typewritten copies must be presented to the Dean's office. One copy will be sent to the editor of Veterinary News; the other will be placed on file. Case reports published jointly by several authors are acceptable. No limit is placed on the number of case reports presented by a student.

THE WOMEN'S AUXILIARY A.V.M.A. PRIZE of \$50 is awarded annually to a senior student for a special contribution which advances the standing of the Veterinary College on the campus.

THE JACOB TRAUM STUDENT AWARD will be given annually to the senior student in the New York State Veterinary College who is adjudged, by means considered appropriate by the Dean of the College, as having exhibited in his scholastic career superior interest and accomplishments in bacteriology, epizootiology, pathology, and virology, including aptitude for and expressed interest in research on infectious diseases.

THE ITHACA DOG TRAINING CLUB PRIZE of \$100 is awarded to a student who upon completion of seven terms of work shows particular adaptability for small animal practice. It is not awarded on the basis of scholarship alone since dexterity, professional conduct and competence, and understanding of both the patient and the client are considered.

HEALTH SERVICES AND MEDICAL CARE

HEALTH services and medical care are centered in the Gannett Medical Clinic (out-patient department) and in the Cornell Infirmary (hospital). Students are entitled to unlimited visits at the Clinic; laboratory and X-ray examinations indicated for diagnosis and treatment; hospitalization in the Infirmary with medical care for a maximum of fourteen days each term and emergency surgical care. The cost for these services is included in the College and University General Fee. For further details, including charges for special services, see the *Announce-ment of General Information*.

On a voluntary basis, insurance is available to supplement the services provided by the General Fee. Thus, hospitalization at the Infirmary in excess of fourteen days a term, and expenses for illness and accidents outside Ithaca both during the academic year and during vacations would be covered. Information about such insurance may be obtained at the Gannett Medical Clinic.

HOUSING FOR STUDENTS

CORNELL UNIVERSITY provides attractive, quiet, living accommodations at reasonable cost for men and women students, undergraduate and graduate. Pleasant surroundings are assured those who occupy the campus dormitories, which are within convenient distance of the academic buildings, the libraries, and the student union building (Willard Straight Hall).

In addition to the University-operated residential halls, the Ithaca area offers a wide range of accommodations to meet individual needs.

MEN STUDENTS

Housing for men at Cornell falls into several categories: residential halls for men, fraternities (for members only), and off-campus facilities. Men are not required to live in the University dormitories and are individually responsible for making their own living and dining arrangements.

Residents of the men's dormitories may obtain their meals in University-operated cafeterias and dining rooms in accordance with their own choice and schedule. There is also a special dining arrangement for men, which is entirely optional and incorporates many desirable features. It provides for the prepayment of dining fees on a semester basis, and it affords savings in food costs. Devised to meet students' needs, it encourages good eating habits in comfortable surroundings. It is designed for economy and convenience and allows for a wide menu selection and liberal mealtime schedule.

Application forms for University dormitory rooms are mailed to undergraduate candidates for admission by the Office of Admissions at the time of notification

of provisional acceptance to the University. A prospective student should not assume that admission to the University automatically reserves a space for him in the dormitories. The application should be completed and returned to the Department of Residential Halls as soon as plans to enter the University are complete, but no later than June 1.

The entering freshman class is given first consideration in assignment of dormitory space. Some 1400 newly matriculated students live in the dormitories. The balance of the space is available for upperclassmen and graduate students. Assignments are made in order of application date to those dormitory applicants

who are admitted to the University by June 1.

WOMEN STUDENTS

All undergraduate women who reside outside the Ithaca area are required to live and take their meals in University dormitories or in sororities (for members only). Permission to live elsewhere in Ithaca is granted under exceptional circumstances upon written application to the Office of the Dean of Students, Day Hall.

An application form for living accommodations will be included in the notice of provisional acceptance sent by the Office of Admissions to each undergraduate woman candidate. This form should be completed and returned promptly to the Department of Residential Halls.

Graduate women students should address inquiries regarding housing directly to the Department of Residential Halls, Day Hall. Information about both oncampus and off-campus facilities will be forwarded upon request.

MARRIED STUDENTS

Housing for married students is available in two University-operated family housing developments, the 96-unit Pleasant Grove Apartments, and the 84-unit Cornell Quarters (southeast of the campus), as well as in privately owned properties in Ithaca and vicinity. Inquiries concerning these types of housing should be directed to Off-Campus Housing Office, Day Hall.

THE CONDUCT OF STUDENTS

AT ALL times and in all relationships a Cornell student is expected to conduct himself in a decent and respectable manner and in accordance with the obligation recognized by the student body of unfailing respect for the integrity of the individual and the best interests of the community.

Undergraduate disciplinary cases are reviewed by the Men's or Women's Judiciary Boards or by the Freshman Residence Judiciary Board; these boards make recommendations to the University Faculty Committee on Student Conduct for final action. A student may at any time be removed from the University if, in the opinion of the Committee, such action is in the University's best interests.

REQUIREMENTS FOR GRADUATION

THE PRESCRIBED four-year curriculum leading to the degree of Doctor of Veterinary Medicine (D.V.M.) is summarized in the section below. To receive this degree candidates must satisfy all the entrance requirements (pages 12–18), must successfully pursue the courses named in the curriculum below, must have paid all fees due, and must have spent at least one year in residence.

The work of the College is arranged to begin late in September and to close

in June. The academic year is divided into two terms.

At the conclusion of each term the Veterinary faculty will review the records and conduct of students. Unsatisfactory students will be dropped from the College.

THE CURRICULUM

In the following summary of the curriculum, the figure in the first column after the name of the course is the number of the course and refers to a description on one of the following pages: 29–36. The figures in the second and third columns indicate the hours of credit given for the successful pursuit of the several courses in either term. The abbreviation "Req." indicates that a course, or its equivalent, is required for graduation but that no formal credit is given for the course.

FIRST YEAR

	Course	Credit	
	number	Fall term	Spring term
Anatomy	1	7	_
Anatomy	2	-	6
Neuroanatomy	5	-	1
Developmental Anatomy and Histology	7	4	<u> </u>
Microscopic Anatomy	8	_	4
Animal Husbandry	1	3	-
Physiological Chemistry	11	6	<u> </u>
Physiology	12	-	3
Animal Genetics	124	_	3
Botany	3	_	2
Animal Husbandry	50v	_	1
		_	-
Total		20	20

SECOND YEAR

	Course	Credit		
	number		Spring term	
Applied Radiation Biology	101	1	_	
Physiology	13	3		
Experimental Physiology	14	3		
Bacteriology and Immunology	43	4	<u> </u>	
Bacteriology and Immunology Laboratory	43a	5		
General Pathology	40	2		
General Pathology Laboratory	40a	2		
Special Pathology	41		2	
Special Pathology Laboratory	4la		3	
Basic Parasitology	62		2	
Animal Husbandry	11		4	
Pharmacology	15		5	
Food Quality Control	48		3	
Roentgenology	37		1	
2.00.080.0008)	3,		1	
Total		20	20	
THIRD YEAR				
Food Quality Control	48	2		
General Surgery	30	4		
Surgical Exercises	31	1		
Infectious Diseases	42		3	
Diseases of Large Animals	50	5	2	
Small Animal Medicine	21	2	3	
Small Animal Surgery	22		3	
Applied Anatomy	3	1		
Applied Anatomy	4		1	
Surgical Exercises	23	<u></u> (5)	i	
Obstetrics	51	5		
Special Surgery	32		5	
Diseases of Poultry	46		3	
Applied Parasitology	63	2	1	
Clinical Orientation	201	Req.	Req.	
Total		22	22	
FOURTH YEAR				
Diseases of Large Animals	52	2	4	
Small Animal Surgery	22	3		
Jurisprudence, Ethics, and Business Methods	33		1	
Clinical Conferences	202	Req.	Req.	
Clinics *	203	16	16	
CHIRCS		10	10	

^{*} Clinics will be held all day, Monday through Friday, beginning at 9 a.m., on Saturday until 1 p.m.

DESCRIPTION OF COURSES

IN THE following pages a list of the teaching departments of the College is given. Under each department heading, brief descriptions of the courses offered will be found. Most of these courses are a part of the veterinary curriculum; a few are elective to veterinary students or are given primarily for graduate students or students of other colleges of the University.

The clinics are operated by several departments. A brief statement about the particular clinical work of each department concerned will be found in the general description of the activities of that department. A general statement of the operation of the clinics, with courses and numbers, is given under a special heading following the departmental descriptions.

Finally, there is a listing of courses given by other colleges as a part of the veterinary cur-

riculum.

ANATOMY

Professor R. E. Habel, H. E. Evans; Visiting Professor F. R. Preuss; Assistant Professor A. W. Stinson; Instructor A. delahunta; Assistant A. R. Morrison.

1. GROSS ANATOMY. First year, fall term. Credit seven hours. Lecture, Th 9. Laboratory, M 9-12, T 9-12, W 9-11, Th 10-12, F 9-11, S 9-12. Professor Evans; Instructor Delahunta; Assistant Morrison. Prerequisite, course work equivalent to that required for admission to the Veterinary College. A limited number of nonveterinary students will be admitted by permission.

The structure of a typical mammal is studied by detailed systematic and regional dissection of the dog. The basic features of avian anatomy are studied by a dissection of the chicken. The lectures, supplemented by demonstrations, consider the comparative and regional gross aspects of vertebrate organ systems, anatomical terminology, literature, and techniques, and the specific morphology of the dog.

Each student is required to make a deposit of \$20 for a disarticulated dog skeleton.

2. GROSS ANATOMY. First year, spring term. Credit six hours. Lecture, M 9. Laboratory, M 10–12:30, T 10–12:30, W 2–4:30, Th 10–12:30, S 10–12:30. Visiting Professor Preuss; Instructor Delahunta. Prerequisite, Anatomy 1 or Zoology 211–212.

Regional anatomy of the horse, cow, sheep, and swine.

3. APPLIED ANATOMY. Third year, fall term. Credit one hour. Laboratory, Th 10-12:30 or S 10-12:30. Professor Habel.

An opportunity for practice in the recognition of those anatomical features which are essential to diagnostic, surgical, obstetrical, and post-mortem procedures. The approach is topographical, comparative, and clinical. The emphasis is upon the study of living animals, supplemented by dissections, serial transections, models, and radiographs.

4. APPLIED ANATOMY. Third year, spring term. Credit one hour. Laboratory, M 2–4:30 or Th 2–4:30. Professor Habel.

Anatomy 4 is a continuation of Anatomy 3.

5. NEUROANATOMY. First year, spring term. Credit one hour. Laboratory, F 2-4:30. Assistant Professor STINSON; Assistant MORRISON.

A morphological and functional study of the central nervous system of the domestic animals.

6. ADVANCED ANATOMY. Fall and spring terms. Professors Habel and Evans; Assistant Professor Stinson. Prerequisites, Courses 1, 2, 7, and 8 or similar preparation in comparative anatomy and histology. Hours and credits to be arranged.

An opportunity for advanced study under personal direction.

7. DEVELOPMENTAL ANATOMY AND HISTOLOGY. First year, fall term. Credit four hours. Lectures, M F 12. Laboratory, W F 2–4:30. Assistant Professor Stinson; Assistant Morrison. Prerequisites, course work equivalent to that required for admission to the Veterinary College, plus completion of or concurrent registration in Veterinary Anatomy 1 or 9, or Zoology 211. A limited number of nonveterinary students will be admitted by permission of the instructor.

The study of development is designed to provide a foundation for the understanding of definitive anatomy, the genetic and functional relationships of the tissues, and reproductive physiology. Students are provided with serial sections of the chick and pig for laboratory use. The biology of the cells and tissues is illustrated with material taken from the domestic animals.

8. MICROSCOPIC ANATOMY. First year, spring term. Credit four hours. Lectures, W F 9. Laboratory, W F 10-1. Assistant Professor STINSON; Assistant MORRISON. Prerequisites, Veterinary Anatomy 7, plus completion of or concurrent registration in Veterinary Anatomy 2 or 9, or Zoology 212. A limited number of nonveterinary students will be admitted by permission of the instructor.

The microscopic structure of the organs

and the morphologic evidence of their function are described and illustrated with preparations from the domestic animals. In the lectures, the relationship of normal morphology to veterinary physiology and pathology is emphasized.

9. VERTEBRATE MORPHOLOGY. Fall term. Credit three hours. Lecture, W 1–2. Laboratory, W F 2–4:30. Professor Evans. Prerequisite, Zoology or Biology.

Designed primarily for graduate students in animal husbandry, nutrition, conservation, and zoology, although undergraduates may register by permission. Provides an opportunity to dissect the dog, horse, pig, sheep, and cow. Lectures, demonstrations, and student presentations on the phylogeny, structure, and function of vertebrate organ systems supplement the laboratory work.

PHYSIOLOGY

Professors A. F. Sellers, R. W. Dougherty, J. H. Gans, M. R. Kare; Associate Professor L. L. Nangeroni; Assistants J. J. Kennelly, P. F. Mercer, C. H. Mullenax, J. D. Gates, R. A. Bernard, R. K. Ryan.

The following fields of activity are covered in the work of the department: physiological chemistry, animal physiology, pharmacology, and radiation biology. The department is well equipped for work in these fields.

10. ANIMAL PHYSIOLOGY. Spring term. Credit three hours. M W F 10. Professor DOUGHERTY.

Lectures and demonstrations arranged especially for students of agriculture but open to others. Students should be familiar with the first principles of chemistry and biology.

11. PHYSIOLOGICAL CHEMISTRY. First year, fall term. Credit six hours. Lectures and recitations, T 8, Th 8, F 11. Laboratory, M T Th 2-4:30. Professor Kare and assistants.

Prerequisites, 12 semester hours of inorganic and organic chemistry.

Includes also the elements of biophysical chemistry. A part of the course is devoted to a study of the normal chemical constituents of the blood and urine and the quantitative determination of such as have been found most important in physiological and clinical studies.

12. PHYSIOLOGY. First year, spring term. Credit three hours. M W F 8. Professor Sellers and staff.

Prerequisites, Phys. II, Anat. 1 and 2, or Anat. 9 with permission.

Lectures and demonstrations on blood and lymph, circulation, respiration, digestion, and absorption.

13. PHYSIOLOGY. Second year, fall term.

Credit three hours. M T W 9. Professors Sellers, Dougherty, and Gans.

Prerequisites, Anat. 1, 2, 5, 7, 8, or Anat. 9 with permission; Phys. 12.

Lectures and demonstrations on the muscular and nervous systems, special senses, excretion, metabolism, temperature regulation, endocrine organs, and reproduction.

14. EXPERIMENTAL PHYSIOLOGY. Second year, fall term. Credit three hours. Laboratory, Th 8:30-11, F 8-1; or W 10-12:30, S 8-1. Professors Dougherry, Gans, and assistants. Prerequisites, same as for Phys. 13.

15. **PHARMACOLOGY**. Second year, spring term. Credit five hours. Lectures, M W F 9. Laboratory, M F 10-4. Professor GANs and assistants.

Prerequisites, Anat. 1, 2, 5, 7, 8; Phys. 11, 12, 13, 14; Path. 40, 40a.

17. SPECIAL PROBLEMS IN CHEMICAL PHYSIOLOGY. Both terms. Hours and credit to be arranged. Registration by permission.

Laboratory work, conferences, collateral reading, and reports, adapted to the needs of students.

18. RESEARCH. Both terms. Hours to be arranged. For graduates only.

PHYSICAL BIOLOGY

Professor C. L. Comar; Associate Professors R. H. Wasserman, R. W. Lengemann; Research Associate D. N. TAPPER; Assistants J. R. GEORGI, A. R. TWARDOCK.

100. RADIOISOTOPES IN BIOLOGICAL AND RESEARCH—PRINCIPLES TICE. Spring term. Credit four hours. Open to graduate students and upperclassmen. Prerequisite, a course in quantitative chemistry and permission of instructor. Professor COMAR.

Lectures, demonstrations, and laboratory on the fundamentals of atomic energy procedures and applications to biological research. Hours to be arranged.

101. APPLIED RADIATION BIOLOGY. Second year, fall term. Credit one hour. T 10. Professor Comar; Associate Professors Wasser-MAN and LENGEMANN.

Lectures and demonstrations on the nature of radiation, biological effects, veterinary applications, and monitoring procedures.

PATHOLOGY AND BACTERIOLOGY

Professors Peter Olafson, G. C. Poppensiek, H. L. Gilman, P. P. Levine, D. W. Baker, J. A. BAKER, D. W. BRUNER, C. G. RICKARD,* J. H. WHITLOCK, K. MCENTEE, J. H. GILLESPIE,* J. BENTINCK-SMITH, L. P. KROOK, C. I. BOYER, J. FABRICANT; Acting Professor L. E. CARMICHAEL; Associate Professors M. C. Peckham, Ben E. Sheffy; Laboratory Director T. F. Benson; Instructors D. L. BOKELMAN, JOHN B. TASKER; Research Associates Peter Langer, R. Kenney; Assistants L. Coggins, K. M. Das, R. A. Squire, R. L. Witter, J. N. Wright.

The laboratories of the department are well equipped with modern apparatus providing opportunity for advanced work, for those students who are properly prepared, in pathological anatomy, autopsy work, pathogenic bacteriology, immunity, virology, and parasitology. The department operates two diagnostic laboratories, one for poultry diseases and the other for general diagnostic work, to which a great deal of pathological material and many blood samples for serological testing come from all parts of the state. In addition, a teaching laboratory of clinical pathology is operated to service the clinics of the college.

These laboratories furnish an abundance of fresh materials for teaching work and for research in animal diseases. The clinics and the routine autopsies also furnish material.

The following courses are required in the curriculum of the Veterinary College and are given particularly for veterinary students. When there is room for them, properly prepared students of other colleges will be admitted, but permission to register must be obtaind in each case.

- 40. GENERAL PATHOLOGY LECTURES. Second year, fall term. Credit two hours. T Th 11. Instructor Tasker. Prerequisite, Zoology 305 and 306 (Histology and Embryology) or equivalent. In addition, it is desirable that the student shall have had at least one year's work in anatomy and physiology. In special cases of students who are majoring in biology and expect to take no further work in pathology, these prerequisites may be waived in part. When this is done, the course will not be accepted as a prerequisite for other courses.
- 40a. GENERAL PATHOLOGY LABORA-TORY. Second year, fall term. Credit two hours. Section I, W 10-12:30, S 9-11:30. Section II, M F 10-12:30. Instructor Tasker. Course 40 must be taken simultaneously or have been completed previously.
- 41. SPECIAL PATHOLOGY LECTURES. Second year, spring term. Credit two hours. T

- 10, Th 9. Professor Olafson. Prerequisite, Course 40a.
- 41a. SPECIAL PATHOLOGY LABORA-TORY. Second year, spring term. Credit three hours. Section I, T F 2-4:30, W 10-12:30. Section II, M 10-12:30, W 2-4:30, S 9-11:30. Instructor Tasker. Course 41 must be taken simultaneously or have been completed previously. Work in hematology is included.
- 42. INFECTIOUS DISEASES. Third year, spring term. Credit three hours. M W F 10. Professor Poppensiek. Prerequisites, Courses 41 and 43.
- 43. BACTERIOLOGY AND IMMUNOL-OGY. Second year, fall term. Credit four hours. M T W Th 1:30. Professors Bruner and J. A. BAKER. Includes general and pathologic microbiology, virology, and immunology.

^{*} On sabbatic leave, 1960-1961.

43a. BACTERIOLOGY AND IMMUNOLOGY LABORATORY. Second year, fall term. Credit five hours. M T W Th F 2:30-5. Professors Bruner and J. A. Baker, and assistants. Open to students who have taken or are taking Course 43 or its equivalent.

46. DISEASES OF POULTRY. Third year, spring term. Credit three hours. T Th 10, F 2-4:30. Professor Levine.

48. FOOD QUALITY CONTROL. Second year, spring term. Credit three hours. T Th 8, T 10-12:30. Third year, fall term. Credit two hours. F 11, 2-4:30. Professor Olafson and staff.

Veterinary inspection to control quality and wholesomeness of meat, meat food, dairy, fish, and poultry products and to study dairy farms and plants in which these products are produced, processed, manufactured, stored, etc. Certain parts of the course are given by members of the Departments of Poultry Husbandry, Dairy Industry, and Animal Husbandry of the

College of Agriculture, and the Department of Medicine of the Veterinary College.

62. ANIMAL PARASITOLOGY. Second year, spring term. Credit two hours. Th 11, 2–4:30. Professor Whitlock. Prerequisites, zoology or biology.

A systematic study of the helminth and arthropod parasites of domestic animals with particular emphasis on the identification and bionomics of the forms of veterinary importance.

63. APPLIED PARASITOLOGY. Third year, fall term. Credit two hours. M 10, T 10–12:30. Third year, spring term. Credit one hour. T 10–12:30. Professors BAKER and WHITLOCK. Open only to veterinary students. Prerequisite, Course 62.

An organized study of the parasitic diseases of domestic animals with particular emphasis on the features of diagnostic importance, Special attention will be given to the laboratory and post-mortem techniques that are of value in applied parasitology.

The following courses are not a part of the regular veterinary curriculum. Courses 61 and 170 are given especially for students in the College of Agriculture. Course 149 is given for those students who have had no work in pathological anatomy. The others are for graduate and advanced undergraduate students. Permission to register must be obtained by all students electing these courses.

61. HEALTH AND DISEASES OF ANIMALS. Spring term. Credit three hours. Lectures, M W F 11. Professor GILMAN and collaborators. Not open to first-year students or to those who have had no course in animal husbandry. The causes and the nature of the common diseases of livestock are discussed. Emphasis is placed on the prevention and control of animal diseases.

64. ADVANCED WORK IN ANIMAL PARASITOLOGY. Fall and spring terms. Credit one to three hours, by arrangement. Professors BAKER and WHITLOCK. Prerequisite, Course 62. For advanced undergraduate and graduate students.

Special problems concerned with the parasites of domestic animals.

149. PATHOGENIC BACTERIOLOGY. Spring term of odd years. Credit five hours. T Th 1:40-5 and S 10-12:30. Acting Professor CARMICHAEL. Includes microbiology, virology, and immunology.

150. LABORATORY METHODS OF DIAG-NOSIS. Credit one to three hours. Hours by appointment. Dr. Benson. Prerequisites, Courses 41a and 43a or 149.

Instructions and practice in the application

of bacteriological, pathological, and serological methods for the diagnosis of disease.

151. SEROLOGY. Spring term of even years. Credit one hour. T 2-4:30. Professor Bruner. Limited to eight students, with preference given to graduate students. Permission to register must be obtained before the end of the preceding (fall) term.

Includes complement fixation, conglutination complement absorption, hemagglutination inhibition, precipitation, neonatal isoerythrolysis, and the antigenic analysis of *Salmonella* cultures. Prerequisites, Courses 43 and 43a or 149.

152. ADVANCED WORK IN PATHOLOGY, BACTERIOLOGY, VIROLOGY, OR IMMU-NOLOGY. Fall and spring terms. Credit one to three hours. Hours to be arranged. Professors Olafson, Levine, J. A. Baker, Bruner, and Rickard.

Properly prepared students may undertake special problems or receive special assignments.

153. **HEMATOLOGY**. Spring term. Credit one hour. W 10-12:30 or 2-4:30. Instructor TASKER. Morphological studies of blood, cerebrospinal fluid, transudates, exudates, and

urine. Taken by veterinary students as a part of Course 41a.

154. **SEMINAR.** Fall and spring terms. No credit. Required of all graduate students. Undergraduate students are admitted.

170. POULTRY HYGIENE AND DISEASE. Fall term, alternate years. (Not given in 1960–1961.) Credit two hours. Lecture and laboratory, Th 1:40–4. Professor ——. Prerequisites, Animal Physiology 10 or Human Physiology 303, and General Bacteriology 3.

SMALL ANIMAL MEDICINE AND SURGERY

Professors E. P. Leonard, R. W. Kirk (on sabbatic leave); Assistant Professor A. M. Beck; Medical Internes P. Weber, Jr., G. E. Ross, Jr., I. W. BRYANT.

The instruction consists of lectures, recitations, and laboratory work. The small animal clinic furnishes abundant material for inspection in applied therapeutics of these animals, including the surgical as well as the medical. This clinic is run as any small animal practice. The students are assigned to the cases, assist in any operations, and under close supervision have charge of the patients.

21. SMALL ANIMAL MEDICINE. Third year, fall term. Credit two hours. Spring term. Credit three hours. M W F 9. Professor Kirk. Prerequisite, Special Pathology and Pharmacology.

22. SMALL ANIMAL SURGERY. Third year. Spring term. Credit three hours. Fourth year, fall term. Credit three hours. M W F 8. Professor Leonard. Prerequisite, Special Pathology.

23. SURGICAL EXERCISES. Third year, spring term. Credit one hour. M T W or Th 2-4:30. Professor Leonard.

24. ADVANCED WORK. Five or more hours a week throughout the term. Research in medicine and surgery of small animals. Professors Leonard and Kirk.

MEDICINE AND OBSTETRICS

Professors M. G. Fincher, S. J. Roberts, F. H. Fox; Field Veterinarians S. D. Johnson, R. S. Guthrie; Medical Internes H. J. Van Kruiningen, D. A. Morrow.

The course in veterinary medicine, principles and practice, extends over the last two years of undergraduate study, the subjects of the second year being distinct from, and complementary to, those of the first. It includes the constitutional, dietetic, and toxic affections and the non-infectious maladies of the different systems of organs—digestive, respiratory, circulatory, urinary, cutaneous, and visual—of the various genera of domestic animals. It also includes a study of the clinical phases of infectious and parasitic diseases and the disturbances of metabolism.

Our proximity to a large agricultural college and to a well-stocked farming community tends to secure a greater variety of patients than can be had in a large city remote from country flocks and herds. Students take charge of a few unusual cases in the hospital and many routine cases in the ambulatory clinic and keep a complete record of each case. The course also includes instruction in diagnosis. Through the medium of laboratory work students are expected to acquire a methodical system of examination by repeated systematic observations on both normal and diseased animals. The work involves the use of various special diagnostic methods taught in our own and other laboratories of the College, such as examination of the blood, milk, urine, and feces, the application of sero-diagnostic methods, etc.

AMBULATORY CLINIC

An ambulatory or out-clinic is conducted for the purpose of giving instruction to students under conditions identical with those encountered in private practice. Proper conveyances and equipment are provided, and an opportunity is afforded for observing such diseased farm and dairy animals as cannot be entered in the clinics of the College. The student thereby not only has an opportunity to

see cases not readily brought to the College clinic but also assists in handling cases in the same manner and under the same environment as are required of the country practitioner. As the vicinity of Ithaca is largely devoted to dairying, valuable clinical material relating to obstetrics and the diseases of dairy cows is available and is extensively used. In addition, two field veterinarians associated with the

New York State Mastitis Program are located at Ithaca, and senior students are required to accompany and assist them on many field trips dealing with all phases of bovine mastitis. In the senior year a field trip is made to the Hanover Shoe Farm, Hanover, Pa., to study and observe management practices on a large horse breeding farm, and this is a required part of Course 51.

- 50. DISEASES OF LARGE ANIMALS. Third year, fall and spring terms. Credit: fall term, five hours; spring term, three hours. Lectures or recitations covering physical diagnosis, ophthalmology, and some sporadic diseases. Fall term, M T W Th F 8; spring term, F 8, S 8. Professor Fox.
- 51. OBSTETRICS AND DISEASES OF THE GENITAL ORGANS, INCLUDING STERILITY AND ABORTION. Third year, fall term.

Credit five hours. Lectures, M W F S 8; laboratory, T or W 2-4:30. Professors Roberts and Fincher (abattoir work). A general survey of the subject of obstetrics and a thorough consideration of the diseases of the genital organs including sterility, abortion, and other subjects related to pregnancy and parturition. Obstetrical exercises, pregnancy diagnosis, artificial insemination, and other clinical phases of the course are presented during the laboratory periods. Further clinical instruction in obstetrics and sterility is given in the ambulatory clinic and at a near-by abattoir in the third and fourth years.

52. DISEASES OF LARGE ANIMALS. Fourth year, fall and spring terms. Credit: fall term, two hours; spring term, four hours. Fall term, T Th 8; spring term, M T W Th 8. Professor Fingher.

SPECIAL LECTURES

During the year, lectures on special topics in medicine will be given by eminent practitioners and teachers of veterinary medicine. These

will form a part of the instruction in this department.

OPPORTUNITIES FOR RESEARCH

The activities of the department, aside from the instruction work, are devoted to research in connection with diseases of cattle, including mastitis, the phenomena of sterility and abortion in animals of breeding age, and diseases of newborn calves. Opportunity is afforded for participation in the investigations by graduate students having acceptable preparation.

SURGERY

Professors A. G. Danks, D. D. Delahanty; Assistant Professors J. F. Kavanaugh, R. B. Barrett; Resident J. E. Lowe; Farrier E. W. Layton.

The instruction consists of classroom and laboratory work designed to afford training for practice.

CLASSROOM WORK

Course 30 in General Surgery, Course 40 in General Pathology, and Course 31 in Surgical Exercises together constitute a group designed to impart a general knowledge of the principles of surgery, surgical pathology, therapeutics, and operative technique.

Course 32, a total of seventy-five lectures and recitations, is devoted to the surgery of the various regions of the body and includes horse-shoeing.

LABORATORY WORK

The laboratory work includes surgical exercises and general surgery. In the course in surgical exercises the student is required to perform most of the important operations on horses and cattle. The animal is placed under general anesthesia, which is maintained until the close of the period, when the subject is destroyed. The maintenance of chloroform

anesthesia for three consecutive hours gives the student valuable experience in the technique of general anesthesia, for which there is a constantly increasing demand. Emphasis is placed on asepsis and antisepsis, arrest of hemorrhage, suturing, and dressing, so that, while acquiring skill and knowledge of the appearance, resistance, and general character of living tissue, the student also forms proper habits in surgical procedure.

In general surgery laboratory, most emphasis is placed upon the farm animals, but many basic principles may be adapted to all classes of animals. Subjects taught include restraint, various methods of administering medicines, suturing, bandaging, examination of teeth, examination of the feet, and complete examination for soundness.

CLINICAL SURGERY OF THE FARM ANIMAL

A hospital is maintained with facilities for the hospitalization of approximately 67 patients. There are two operating rooms equipped with operating tables, stocks, diagnostic and therapeutic X-ray equipment, and other conveniences. There is also a farriery with a farrier in attendance. Fourth-year students are in the clinics for the entire day, Monday through Friday, also on Saturday and Sunday morning. Two classes of patients are admitted: special patients and clinic patients. Special patients are examined, diagnosed, and treated by the senior staff members. The students assist and observe. Clinic patients are examined, diagnosed, and treated by the Residents and students. In the hospital, the student has an opportunity to see, examine, and treat many unusual cases that are referred to the College by practitioners. Furthermore, the student has an opportunity to study the progress of cases, which is impossible when treating patients on the farm. The cooperation between the clinical staff and the laboratories provides the student an opportunity to study the patient critically and to correlate clinical findings with both the physiological and pathological. Every possible opportunity is given to the student to participate in the examination and treatment of patients because the student will learn more from doing than from observing.

30. GENERAL SURGERY. Third year, first

term. Credit four hours. T Th 9, S 8, Th or S 10–12:30. Professor Danks and assistants. Prerequisites, third-year standing in the veterninary curriculum.

- 31. SURGICAL EXERCISES. Third year, fall term. Credit one hour. T or Th 2-4:30. Professor DANKS. Three hours a week of laboratory work in surgical operations upon anesthetized animals.
- 32. **SPECIAL SURGERY.** Third year, spring term. Credit five hours. M T W Th F 9. Professor Danks.
- 33. JURISPRUDENCE, ETHICS, AND BUSINESS METHODS. Fourth year, spring term. Credit one hour. F 8. Professor Danks and associates. Lectures by a lawyer on the subjects of the expert witness, jurisprudence, and civil law; lectures by one trained in business administration on the subjects of accounting, business methods, etc.; and lectures on various practical subjects such as registration, selecting a place to practice, advertising, ethics, etc.
- 37. FUNDAMENTALS OF ROENTGEN-OLOGY. Second year, spring term. Credit one hour. Th 10. Assistant Professor BARRETT. Technique of operation of modern equipment, X-ray protection, darkroom procedure, and fundamentals of diagnosis.

THE CLINICAL COURSES

Professors Fincher, Olafson, Leonard, Danks, Delahanty, Levine, Roberts, Kirk,* Rickard,* Fox, Bentinck-Smith, Fabricant; Associate Professor Peckham; Assistant Professors Kavanaugh, Barrett, Beck; Resident Lowe; Instructor Bokelman; Research Associate Kenney; Medical Internes Van Kruiningen, Weber, Ross, Bryant, Morrow; Field Veterinarians Guthrie, Johnson; Graduate Assistant Souire.

The practical application of the student's basic knowledge of veterinary medicine to the clinical diagnosis and therapy of disease begins in the third year of his course. During that year he is required to take Clinical Orientation, which introduces him to clinical work largely as an observer. His intensive training in clinical medicine and surgery begins in his fourth year, the greater part of which is devoted to actual handling of patients under close supervision of members of the clinical staff. The clinical instruction is divided among four departments as follows:

The Ambulatory Clinic is operated by the Department of Medicine and Obstetrics.

The Consulting Clinic is operated by the Department of Surgery.

The Small Animal Clinic is operated by the Department of Small Animal Medicine and Surgery.

^{*} On sabbatic leave.

The Poultry Clinic and the work in autopsies and clinical pathology are conducted by the Department of Pathology and Bacteriology.

Information about the respective clinical divisions will be found under the course announcements of the departments concerned. Only students who have completed the first two years of the veterinary curriculum will be admitted to any one of the clinical courses.

Semester credits in clinical courses are not given, but students must complete all prescribed courses satisfactorily to be eligible for graduation.

201. CLINICAL ORIENTATION. Throughout the third year. Fall term, T 10-12; spring term, daily 11-1. Professor LEONARD in charge.

Methods of clinical examination will be demonstrated, and selected cases from all the clinics will be presented and discussed.

202. CLINICAL CONFERENCES. Throughout the fourth year. Fall and spring terms, F 12-1. Medical Interne Lowe in charge.

These conferences will be attended by all members of the fourth-year class and by staff members representing not only the clinical but the preclinical or basic sciences as well. Students will be required to present reports on their studies of selected cases from the clinics, and these will be criticized and discussed by the students and faculty members. In this way special knowledge and viewpoints of the anatomist, biochemist, physiologist, pathologist, bacteriologist, and parasitologist, as well as those of the clinicians, will be brought to bear on problems of diagnosis and therapy.

203. CLINICS. Throughout the fourth year. Credit sixteen hours. Daily, including nights and Sundays when necessary. Professor LEONARD in charge.

During his fourth and final year the veterinary student is required to spend his time, after 9 o'clock daily, studying and ministering to the ailments of patients. He is on call, night and day, during the entire year. For this reason he is not permitted to carry extra academic courses, and outside part-time employment is not accepted as a valid excuse for failure to meet his full responsibilities in these courses.

Under a plan of rotation, students are required to work in groups in several clinics so that they may acquire a varied experience. Work in one of the clinical divisions may not be substituted for that in any of the others.

Work in clinical pathology and autopsies will be supervised by the Department of Pathology and Bacteriology. Such work is not regarded as separate courses but as fundamental parts of the clinical training. As a part of their clinical duties, students will be required to carry out, under the supervision of the clinical pathologist, such laboratory procedures as are indicated. If the patient dies, the same students who attended him during life will be required to conduct the autopsy and to make any pathological, bacteriological, or biochemical tests that are necessary to provide complete information on the nature of the disease, the reasons for failure of the therapeutic procedures used, and the cause of

At the end of each term, the performance of each student in all the clinical divisions will be considered by all men giving the course, in a special meeting called for this purpose.

COURSES IN THE VETERINARY CURRICULUM GIVEN BY OTHER COLLEGES

COLLEGE OF AGRICULTURE

1. ANIMAL HUSBANDRY. Introductory Livestock Production. First year, fall term. Credit three hours. Lectures, M W 8. Laboratory, W 11–1. Judging Pavilion. Assistant Professor Pond.

A survey course that gives the student a concept of the scope of the animal industry. It includes the fundamentals of successful livestock production that form a foundation on which to build specialized knowledge and skill in succeeding courses. It should serve equally well for students majoring in other fields who will take but one course in animal husbandry. Animals specifically covered are beef cattle, sheep, swine, and horses. Two scheduled evening prelims are given.

3. **BOTANY.** Poisonous Plants. First year, spring term. Credit two hours. Lectures and demonstrations, S 9, Th 2–4:30. Assistant Professor Kingsbury.

A discussion of the toxic effects of plants of the United States and Canada on domestic animals, the recognition of principal toxic species, and the treatment and control of plant poisonings.

11. ANIMAL HUSBANDRY. The Principles and Practice of Animal Feeding. Second year, spring term. Credit four hours. (Two hours credit given if taken after Course A.H. 10. In

these instances, only the first half of A.H. 11, which deals with nutrition, need be taken. The second half of the course is devoted to applied feeding.) M W F S 8. Professor REID.

Consideration is given to the basic principles of animal nutrition, nutritive requirements for various body functions, composition and nutritive value of feeds, and the formulation of animal rations. Special emphasis is given to nutritional problems relating to animal health.

124. POULTRY HUSBANDRY. Animal Genetics. First year, spring term. Lectures, T Th 9. Rice 300. Credit three hours. Professor Hurr, Problems and discussion, T 2-4:30. Rice 300.

Principles of genetics; sex determination and sex linkage; inherited characters in domestic animals, with special reference to lethal genes and genetic resistance to disease; progeny testing; inbreeding and crossbreeding.

50v. ANIMAL HUSBANDRY. Dairy Cattle. First year, spring term, first five weeks only. Credit one hour. Professor Turk. Lectures, T Th S 10. Wing A. Laboratory, M 2-4:20. Judging Pavilion.

Economic aspects of dairying, study of dairy breeds and breeding, and management of concern to the veterinarian are the principal topics covered.

DEPARTMENT OF MILITARY SCIENCE AND TACTICS

The advanced Army ROTC Course is an elective open to those veterinary students who have credit for two years' basic Army, Navy, or Air Force ROTC, or who are veterans. The course requires attendance in three morning classes of one hour each and one afternoon for two hours each week during each semester. Upon successful completion of the course, and if recommended by the Professor of Military

Science and Tactics, students will be commissioned Second Lieutenants in one of the branches of the Regular Army or United States Army Reserve. Upon being admitted to the practice of Veterinary Medicine, Reserve Officers may request transfer from their basic branch to the Veterinary Corps. Further information may be obtained from the Military Department, 107 Barton Hall.

CAREERS FOR VETERINARIANS

THE FUNCTION of the Veterinary College is to train practitioners, teachers, and research workers in the science and art of veterinary medicine. The College thus serves to protect the health of the livestock industry, to support public health programs, and to perform the necessary services for laboratory and domestic animals.

The values of farm livestock in the United States and in the State of New York are given in the following tables taken from a report of the U.S. Department of Agriculture. Agricultural Marketing Service, Crop Reporting Board as of inventory on January 1, 1960.

CLASS OF LIVESTOCK	NUMBER	FARM VALUE
United States		
Cattle Hogs Sheep (Stock Sheep) Horses and Mules Chickens * Turkeys * Ducks *	101,520,000 58,464,000 33,621,000 3,089,000 324,907,000 81,860,000	\$13,840,805,000 1,084,239,000 552,478,000 344,708,000 2,810,943,000 332,612,000
	13,600,000	27,500,000
	617,061,000	\$18,993,285,000
New York		
Cattle	2,218,000 133,000	\$479,088,000 3,032,000
Sheep (All Sheep)	186,000	2,909,000
Chickens *	40,000	5,480,000
Chickens * Turkeys *	21,512,000	61,695,000
Ducks *	596,000	3,692,000
7	7,200,000	15,000,000
	31,885,000	\$570,896,000

^{*} Total yearly production and value.

It will be noted that the farm animals of New York were valued at about one half of a billion dollars. The value of dairy products and eggs more than doubles this figure.

The veterinary medical profession offers excellent opportunities for those who have an abiding interest in the diagnosis, treatment, and prevention of diseases of animals. Like most medical careers it is a way of life requiring strong vocational motivation and dedication since it is a demanding career. The work often is rigorous. The compensation varies greatly. One can seldom become wealthy as a veterinarian, but intelligent and conscientious service usually is rewarded by an adequate income. Those who are genuinely interested in the work have the

satisfaction of serving a useful purpose. Some of the opportunities for veterinary graduates in the United States are described below.

PRIVATE PRACTICE

Veterinary practice is a wide field with excellent opportunities for well-qualified persons. Practice may be (a) general, in which the individual offers his services in dealing with all species of animals; (b) restricted to small animals, in which only household pets are treated; or (c) specialized, in which practice is limited, for example, to diseases of poultry, diseases of horses, diseases of furbearing animals. About two-thirds of the graduates of veterinary colleges become private practitioners.

SALARIED POSITIONS

About one-third of veterinary college graduates obtain salaried positions. The majority of these are with the federal, state, county, and municipal governments; the remainder with private corporations.

PRIVATE CORPORATIONS

Many veterinarians are employed by the large milk companies, by large stock and poultry farms, and by industrial laboratories that produce biologicals and pharmaceuticals for the prevention and treatment of diseases.

GOVERNMENTAL AGENCIES

AGRICULTURAL RESEARCH SERVICE,

U.S. DEPARTMENT OF AGRICULTURE

This Service employs more veterinarians than any other single agency. The work is concerned for the most part with the prevention, control, and eradication of domestic and foreign infectious and parasitic diseases of milk- and meat-producing animals and beasts of burden in interstate traffic.

This Service also is responsible for assurance of safe, wholesome, and accurately labeled food products of animal origin. Regulatory veterinary medicine, based upon sound veterinary medical knowledge, supported by effective legislation, is planned and carried out in ways that will achieve the desired results while interfering least with the economic life of the community and nation.

Many veterinarians in this Service are engaged in full-time research programs on diseases of animals of economic importance in well-equipped laboratories under the direction of the Animal Disease and Parasite Research Division.

VETERINARY CORPS, U.S. ARMY AND U.S. AIR FORCE

Veterinarians who are physically qualified men and graduates of veterinary colleges acceptable to the Surgeons General of the U.S. Army and U.S. Air Force and who elect to go on active duty are eligible to make application for appointment. Qualified candidates are appointed in the grades of first lieutenant to colonel inclusive, the grade being determined by the age, professional experience, and professional qualifications of the applicant.

THE U.S. PUBLIC HEALTH SERVICE

This Service employs veterinarians in the development and administration of programs concerned largely with the control of domestic and foreign diseases of animals transmissible to man. The Service cooperates extensively with international disease control agencies as well as with our state governments. In addition to maintaining active programs in research laboratories of its own, the Service engages in diversified contractual research programs with numerous academic institutions.

STATE GOVERNMENTS

Every state has a state veterinarian or similar officer, usually in the department of agriculture, whose duties are to look after the health of animals by enforcing laws and regulations drawn for this purpose. In many states the state veterinarian has a corps of assistant veterinarians.

Many state health departments have one or more veterinarians on their staffs to advise on animal diseases that have significance in human health and to investigate outbreaks of such diseases.

Almost every agricultural school has a veterinary department. Some of these employ five or six veterinarians as research workers and teachers. The veterinary colleges of the country have staffs of twenty or more veterinarians each. Teaching opportunities are numerous in every field of veterinary education.

MUNICIPAL GOVERNMENTS

Most cities employ graduate veterinarians on a full-time basis, and many towns and villages on a part-time basis, as members of their health departments. The duties of these men usually are connected with the sanitary control of meat and milk.

LEGAL REQUIREMENTS FOR PRACTICE

BEFORE one can practice veterinary medicine in the United States he must obtain a license from the state or states in which he locates his practice. This license generally is issued by the department of education or the department of agriculture on the basis of an examination set by a veterinary licensing board. Some states issue licenses without examination, by reciprocity when the applicant has been licensed in other states.

Information about the licensing laws of the various states can usually be obtained by directing a letter of inquiry to the department of agriculture or the state veterinarian in the state capital.

In New York the licensing agency is the State Education Department, Albany, New York. Examinations are given twice a year. Applicants are required to furnish evidence of adequate preprofessional as well as professional education, of good moral character, and of being at least 21 years of age. Application for the examination must be filed at least 30 days before the scheduled date and must be accompanied by a fee of \$40.

STUDENTS

GRADUATE STUDENTS, 1959-1960

Ansulayotin, Chuanpis, D.V.M., M.S., Dhonburi, Thailand

Adams, Eugene W., D.V.M., M.S., Ph.D., Tuskegee, Ala.

Arango, Didacio, Dr. of Vet. & Zoo., Colombia, South America

Bernard, Rudy A., B.A., M.N.S., New York City

Bokelman, Delwin L., B.S., D.V.M., Southold

Bowen, John M., D.V.M., Ph.D., Atlanta, Ga.

Bowie, Walter C., D.V.M., M.S., Ph.D., Tuskegee, Ala.

Chacalof, Paul, D.V.M., Thessaloniki, Greece

Chalquest, Richard R., B.S., D.V.M., M.S., Vancouver, Wash.

Coggins, Leroy, B.S., D.V.M., Thomasville, N. C.

Conway, Donal P., B.S., M.S., Teaneck, N. J.

Das, Krushna M., G.B.V.C., P.G., M.S., Orissa, India

Fuerst, William F., Jr., B.S., M.S., Ithaca Georgi, Jay R., D.V.M., Brooktondale

Haring, M. Carolyn, B.S., M.S., Kettering, Ohio

Kennelly, James J., B.S., M.S., Farmingdale Kenney, Robert M., D.V.M., Stillwater,

King, John M., D.V.M., Wilmington, Dela. Kumar, Ashwani, B.Sc., B.V.Sc., M.V.Sc., Aligarh, U. P., India

Langer, Peter H., V.M.D., Ph.D., Rochester Lee, Robert Chung Tao, B.S., Taiwan, Republic of China

Lombardi, Max, B.Med.Vet., Med.Vet., Lima, Peru

Lucas, Kenneth, M.V.B., M.R.C.V.S., M.S., Dublin, Ireland

Macias, Naranjo, R., D.V.M., Mexico City, Mexico

Marcus, Carol, B.S., Queens

Mason, Richard A., B.S., D.V.M., Alameda, Calif.

McClure, Robert C., D.V.M., Malcom, Iowa Mercer, Paul F., D.V.M., Guelph, Ontario, Can.

Moore, Wellington, Jr., B.S., D.V.M., Sante Fe, N.M.

Murphy, Edward C., M.J., M.S., Dublin, Ireland

Mullenax, Charles H., B.S., D.V.M., Kittredge, Colo.

Nold, Max, M., D.V.M., M.S., Columbus, Ohio

Oda, Yotaro, D.V.M., M.S., Minato-Ku, Tokyo, Japan

Okonski, Jerzy, Ph.D., Bielsko-Biata, Poland

Panciera, Roger, D.V.M., M.S., Stillwater, Okla.

Pichaicharnarong, Ayusa, D.V.M., M.S., Ph.D., Bangkok, Thailand

Reid, Charles F., D.V.M., M.S., New York City

Sanchez, Luis E., D.V.M., Caracas, Venezuela

Straube, Emil W., D.V.M., Santiago, Chile Twardock, A. Robert, B.S., D.V.M., Ph.D., Champaign, Ill.

Vivek, Alapakkam R., B.V.Sc., A.H., The Miligiris, India

Williams, Raymond C., D.V.M., M.S., Tuskegee, Ala.

FOURTH YEAR, CLASS OF 1961

Adams, Joseph Warren, Teaneck, N.J. Andrews, Elmore L., Jr., Melrose, Mass. Belman, Stefan G., New Hyde Park Boese, Richard A., Monsey Boudinot, Frank L., Highland Park, N.J. Burns, James G., Durham, N.H. Case, Robert F., Cherry Creek Collins, Walter E., Unadilla Dedrick, Douglas G., Delevan Fell, Harold W., Jr., Snyder

Fleischman, Robert W., St. James Fletcher, Thomas F., New York Forrest, Richard E., Newport, Vt. Gray, Bruce William, Ithaca Harling, Ronald W., Holley Hauge, John A., Staten Island 10 Hitchcock, Floyd P., Jr., Akron Holmes, MacDonald J., Lawyersville Horan, Michael P., Snyder 21 Hottendorf, Girard H., Bellrose Hunt, Donald C., Rochester, Vt. Johannes, Eugene L., Belmont Jones, Robert Earl, Brockport Kehoe, John M., New Hartford Kenney, John S., Paris, Ky. Kleckner, Virginia Farrell, Bayside 57 Kowaleski, Paul V., Westminster, Mass. Lamb, Robert B., Hamilton Lawton, Richard R., Viola, Wis. Lee, Beverly Wickesser, Westbury Lee, Robert K., Dover Plains

Lenhard, Aloysius A., Rochester 12 Lynk, Robert E., Sharon Springs Mann, Floyd A., Great Neck Needham, Donald W., Holtville, Calif. Nelson, Charles P., Boxford, Mass. Pray, Raymond S., Waterville Renaldo, Joseph P., No. Collins Roemer, Leroy S., Verona, N.J. Rofe, Calvin E., Preble Salzmann, George B., Bay Shore Sherwood, Donald K., Massena Smith, Richard S., Latham Stock, Neale D., Forest Hills 75 Strauss, Julian M., Amenia Taylor, David H., Lawtons Trumbauer, Walter K., Lansdale, Pa. Van Deusen, Fred K., Jr., Schuylerville Walker, David U., Morrisville, Vt. Weber, Wilfried T., Corfu Wooding, Merritt B., Columbus, N.J.

THIRD YEAR, CLASS OF 1962

Anderson, David Francis, North Kingstown, R.I.

Bartholomew, Richard Clyde, Fair Haven,

Benjamin, Glenn Robert, Endicott Bixby, Robert Orton, Norfolk Braun, Eric Richard, Jr., Scotch Plains, N.J.

Brown, Neal Curtis, Vassalboro, Me. Brown, Robert Raymond, Logan, Utah Brown, Thomas Frederick, Plattsburgh Cadwallader, William Parry, Jr., Salem,

Cane, Robert H., Hempstead Combs, John Perry, Batavia Crawford, James Anthony, Garden City Cummings, John Francis, Fayetteville Davis, Thomas Ellsworth, Rochester Entine, Edward Roy, Roslyn Heights Gay, Donald Cameron, Southbridge, Mass. Gruber, Martin Alan, Hempstead Hall, Peter Roche, Norfolk, Mass. Herbold, William Henry, III, Great Neck Hirt, Robert Frederick, East Greenbush Hutchinson, Lawrence Jay, Thornton, Pa. Kallfelz, Francis Anthony, Syracuse Kaplan, Henry Matthew, White Plains Kenney, Corinne Turcotte, Buffalo Knight, David Harmon, Raymond, Me.

Koennecke, Frederick Martin, Cazenovia Lorenzen, Joan Anita Peterson, New York Mavian, Robert, Forest Hills

Milts, Michael Harold, Laurelton 13 Nellis, Marcus William, LaFargeville Norrdin, Robert William, Brooklyn O'Brien, Pierce Francis, Troy Olsen, Sigurd Francis, Hannibal Pallop, Ants, Buffalo 11 Parker, Robert Frank, White Plains Peters, John Thomas, Greentown, Ind. Poggi, Peter Vincent, Jr., Bronx 69 Rhein, Harvey, Jackson Heights Schaad, Peter Hanson, Croton-on-Hudson Schneider, Joachim Alwin, Eastham, Mass. Scott, Fredric Winthrop, Ashfield, Mass. Scott, George Hans, Suffern Scranton, Richard Eugene, Elbridge Shaw, Willis Harry, Randolph Sheirr, Bruce Richard, Rockville Centre Tierney, Frederick Byrne, Chittenango Tobias, Duane Edward, Woodland, Pa. Tobias, Gerald, Goshen Treat, Robert Edwin, Manchester, Vt. Van Deusen, Richard Allan, Brooklyn 28 Van Vleet, John Frederick, Lodi

Wagstaff, David Jesse, American Fork, Utah

Welles, Peter Richardson, Brooklyn

Wetherly, Ian Robert, New York 38 Wolke, Richard Elwood, Livingston, N.J. Zeitel, Richard Karl, Maspeth

Young, Arthur David, Union City, Pa.

SECOND YEAR, CLASS OF 1963

Bastian, William Robert, Williamsport, Pa. Breitenstein, James Carl, Delanson Carr, Robert Michael, Brooklyn Carter, Fredric Phillips, Narberth, Pa. Castellano, Vincent P., Brooklyn 23 Chrisman, Alan Michael, Huntington Station

Christensen, Edward Fenner, Fayetteville Coburn, Richard Hamblin, Rutland, Vt. Corselius, Neil Palmer, Clark's Summit, Pa.

Corwin, Patricia Ann, Clifton Springs Covitz, David, Great Neck Dale, Thurston, Hope, R.I. Donawick, William Joseph, Watervliet Driscoll, Peter Alfred, Peekskill Fairbairn, John Robert, Jr., Arkville Feinberg, Edward, Yonkers Grew, Nathaniel, Dover, Mass. Gries, Christian Louis, Flushing 58 Hartrick, Donald Wray, Rochester Heacock, Noel, Trumansburg Herr, Donald Maurice, Refton, Pa. Jacoby, Robert Ottinger, West Hempstead Jeffrey, John Richard, North Plainfield,

Kammerer, William Simpson, Whitestone 57

Karpas, Abraham, Tel-Aviv, Israel Kessinger, Joseph Ross, Farmingdale Lane, Thomas John, Manlius Lohmann, Judith, Valley Stream

Lormore, John Forest, Lowville Mather, Melvin Foster, Cazenovia Mayhew, Ronald Frank, Rensselaer Falls Merritt, Alfred Manning, III, Searsmont,

Me. Miller, Ronald, Yorktown Heights Moore, Wendell Stanton, Jr., Ithaca Neilsen, Daniel Holmgren, Brooklyn Osofsky, Norman Nathan, Boston Corners Palo, Matti William, Greenfield Center Penhollow, Elowyn Raymond, Lakewood Powell, Frank Ryman, Fredonia Reif, John Steven, Flushing 55 Reynolds, William Aden, Athens, Pa. Robinson, George Wiley, New York 60 Scheld, Arthur Emil, Clinton, Conn. Schuerger, Raymond J., West Hempstead Schwartz, Anthony, Flushing 66 Sellick, Gene Willard, Schoharie Sheehan, Richard John, Milton, Mass. Smith, Alcott Leete, Bellows Falls, Vt. Spink, Harry E., Attica Starr, Durward Wayne, North Troy, Vt. Stenzler, Anton M., New York Swartz, Theodore Lynn, Bellevue, Ohio Taylor, Donald O., Ithaca Tiekert, Carvel Gordon, Darien, Conn. Vunk, Harold Clifford, Fultonville Westbrook, Robert Lincoln, Port Jervis Zent, Walter William, East Aurora Zymet, Carl Leo, Endicott

FIRST YEAR, CLASS OF 1964

Baker, Karl George, Kenmore Bartfay, Joseph Valentine, Rensselaer Baum, Alan Carl, Brooklyn Belden, James Sheffield, Fredonia Benjamin, Stephen Alfred, New York Berger, Charles Jav, Bayside Boehringer, Bruce Taylor, Buffalo 16 Brown, Walter Ray, Peach Bottom, Pa. Bryant, Everett Sanford, Union, Me. Burleigh, Gary Lee, Snedekerville, Pa. Campbell, Joseph, Newburgh Cruden, Janet Elizabeth, Berea, Ohio Dorney, James Michael, Pleasant Valley Dube, Leo Robert, Hudson, N.H.

Dudley, George Clayton, Jr., Auburn Edwards, Nathan Joel, Water Mill Eisner, Edward Rothschild, New York Engstrom, David Stanley, Wallingford, Conn.

Ettinger, Stephen Joel, Rego Park Evans, Wayne O'Dell, Collins Fackelman, Gustave Edward, Southampton Frank, Richard Arthur, Goshen Fudens, John Henry, Dear Park Grout, Alan Jacob, Waterbury, Vt. Haberle, Albert John, Purdy's Station Hayden, David Winston, Auburn Johns, Dan Earnest, Conneautville, Pa.

Kaplan, Meyer, Laurelton
Kaufman, Robert Paul, Rochester, Pa.
Katz, Michael Lincoln, Flushing
Keenan, Laurence Thomas, Copenhagen
Keller, Robert Eugene, Vernon Center
Lansing, William Edwin, Albany
MacKenzie, Neil Alben, Boylston, Mass.
Leonard, John Lynn, Forest Hills
Maher, Bernard Charles, Truxton
Meerhoff, George Ellsworth, Clymer
Montali, Richard James, New London,
Conn.

Morey, Peter Lloyd, Lexington, Mass. Munson, Reverdy Leigh, Rochester Nestved, Arthur Jack, Ripley Nydam, Charles William, Oneonta Olson, Carl Thomas, Selkirk Pettit, Thomas Harry, Port Crane Poggi, Louis Richard, Englewood, N.J.
Quinn, Charles Barry, Dewitt
Radcliffe, Harold Jackson, Auburn
Robison, Milton Alexander, East Wallingford, Vt.
Rymph, Donald Ernest, Greenwich
Scanlan, Gerald Gerard, Altamont
Schloeder, Paul Joseph, Long Island City
Sidler, Mary Christine, Rochester
Smith, Avery Leete, Bellows Falls, Vt.
Strandberg, John David, Nelson, Minn.
Trewick, Edward George William, Kingston, Jamaica, B.W.I.

Turner, Benjamin Frank, Durham, N.H. Wenger, Daniel Martin, Goshen, Ind. Whitefield, John William, Staten Island Wright, Roy Lee, Mineola Youmans, Ray Sedrick, Jr., Andover, Mass.

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