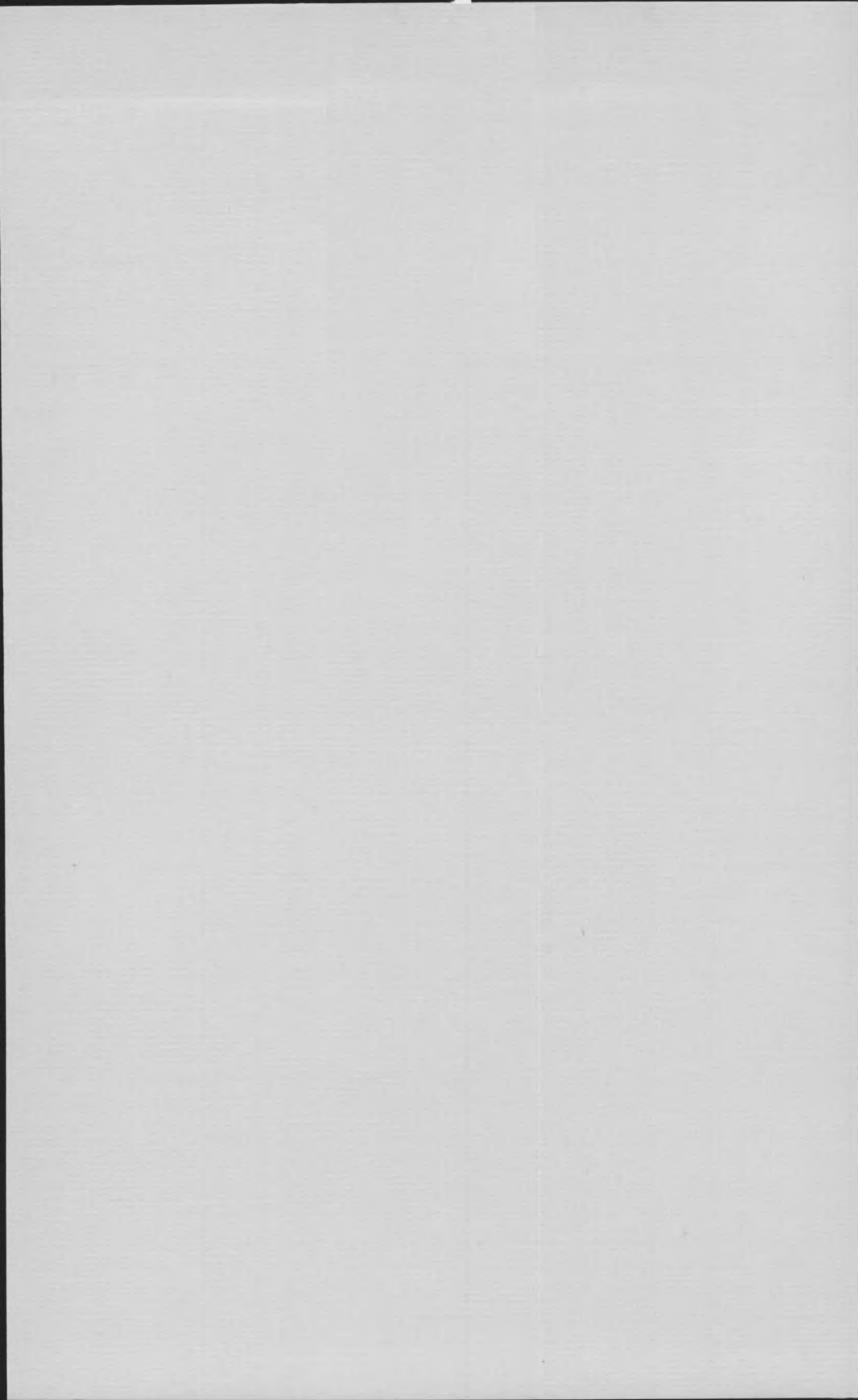


**Cornell University
Announcements
New York State
Veterinary College
1972-73**

A Statutory College of the State University
At Cornell University, Ithaca, New York



Cornell University

**New York State
Veterinary College**

1972-73

A Statutory College of the State University
At Cornell University, Ithaca, New York

Cornell University Announcements

Volume 64 of the Cornell University Announcements consists of twenty-one catalogs, of which this is number 20, dated November 17, 1972. Publication dates: twenty-one times a year (Three times in September; three times in March and June; twice in January, July, October, and November; once in April, May, August, and December). Publisher: Cornell University, Sheldon Court, 420 College Avenue, Ithaca, New York 14850. Second-class postage paid at Ithaca, New York.

Cornell Academic Calendar

1972-73

Registration, new students	Thursday, August 31
Registration, continuing and rejoining students	Friday, September 1
Fall term instruction begins, 7:30 a.m.	Monday, September 4
Thanksgiving recess:	
Instruction suspended, 1:10 p.m.	Wednesday, November 22
Instruction resumed, 7:30 a.m.	Monday, November 27
Fall term instruction ends, 1:10 p.m.	Saturday, December 9
Independent study period begins, 2:00 p.m.	Saturday, December 9
Final examinations begin	Thursday, December 14
Final examinations end	Friday, December 22
Registration, new and rejoining students	Thursday, January 18
Registration, continuing students	Friday, January 19
Spring term instruction begins, 7:30 a.m.	Monday, January 22
Spring recess:	
Instruction suspended, 1:10 p.m.	Saturday, March 17
Instruction resumed, 7:30 a.m.	Monday, March 26
Spring term instruction ends, 1:10 p.m.	Saturday, May 5
Independent study period begins, 2:00 p.m.	Saturday, May 5
Final examinations begin	Monday, May 14
Final examinations end	Tuesday, May 22
Commencement Day	Friday, May 25

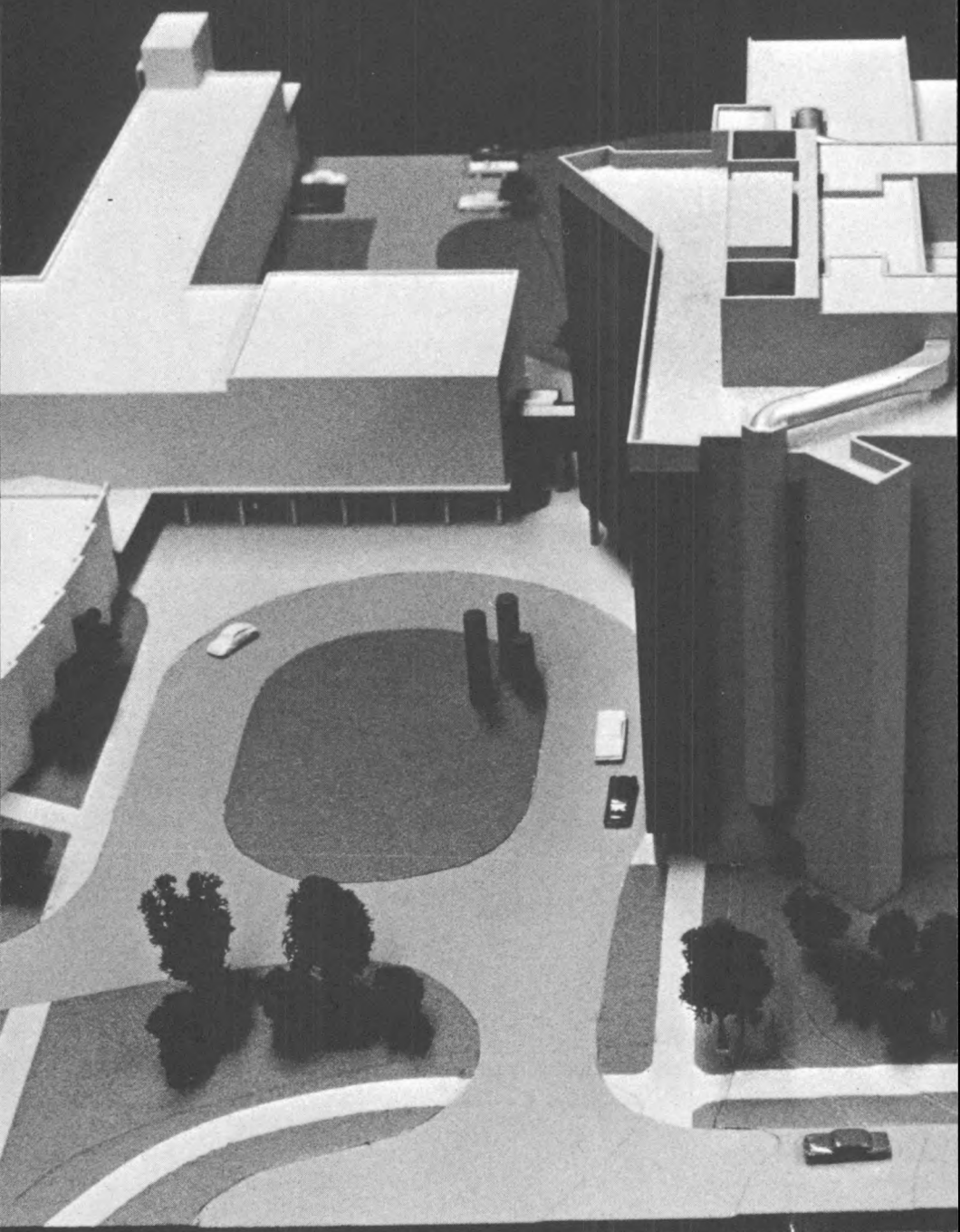
The dates shown in the Academic Calendar are subject to change at any time by official action of Cornell University.

In enacting this calendar, the University Senate has scheduled classes on religious holidays. It is the intent of Senate legislation that students missing classes due to the observance of religious holidays be given ample opportunity to make up work.

Contents

Academic Calendar	2
Veterinary College	5
Facilities	5
Admission	8
Expenses	11
Financial Aids	13
Health Services and Medical Care	16
Housing and Dining Facilities	16
Conduct of Students	17
Careers for Veterinarians	17
Requirements for Graduation	20
Description of Courses	23
Register	37
Index	47
List of <i>Announcements</i>	48

The courses and curricula described in this *Announcement*, and the teaching personnel listed herein, are subject to change at any time by official action of Cornell University.



Cornell University

The Veterinary College

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 north of New York City and 50 miles south of Syracuse. The Veterinary College is located on the eastern edge of the Cornell University campus along Route 366. The buildings occupy nearly twelve acres and 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 library, endowed by a gift from Roswell P. Flower, governor of New York when the college was founded, is named the Flower Veterinary Library in his honor. It is maintained partly by endowment funds and partly by appropriations from the State. It is on the second floor of Schurman Hall. The large reading room, seating seventy, features display shelves of current journals and areas for indexes, abstracts, and other reference books. The adjoining stacks of journals and monographs, on three levels, are open to all users. Individual study carrels are also available.

The library contains over 55,000 volumes and regularly receives 1,157 periodicals

and series titles. This represents a worldwide selection of veterinary titles plus titles in the biomedical sciences designed to support undergraduate, graduate, and research programs. Through the various libraries on the campus more than 3,920,000 volumes and 62,000 journals and serials are made available to students. These collections, interlibrary loans, and photoduplication of materials supplement the research potential of the veterinary library which is rich in historical and basic research resources as well as recent monographic works and especially selected government publications. A monthly newsletter is issued listing recent acquisitions.

Information on regulations and suggestions for the use of the library are provided to new students. Additional instruction in bibliographic research is available for advanced problems.

The SUNY Biomedical Communications Network terminal located in Mann Library provides ready access to an extensive computerized medical and biomedical bibliographical data base.

Research Facilities

In addition to the research facilities on the campus, laboratories for research on infectious, parasitic, and metabolic diseases have been constructed 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, a number of laboratory buildings have been

Scale model of the multicategorical research wing now under construction.

6 Research Facilities

built for professional staff members stationed there for research. Most recent additions include a laboratory for the study of leukemia, financed by the National Cancer Institute, a large animal isolation facility, and a dog quarantine building.

Poultry Disease Research

Poultry Disease Research is done both on the campus in conjunction with the diagnostic and teaching laboratory and at the research laboratory on Snyder Hill about three miles from the campus. A forty-one-unit disease isolation building forms part of the facilities on the campus.

The Snyder Hill facilities consist of a two-story laboratory well equipped for research in the bacterial, viral, and parasitic diseases of chickens and turkeys. A disease-free flock of chickens is maintained for the production of chicks and embryos. There are 28 separate pens for holding experimental birds on a tract of land of several acres.

A duck disease research laboratory with excellent equipment is maintained at Eastport, Long Island, with the cooperation of the Long Island Duck Research Cooperative. Facilities for housing investigators and

graduate students are available.

Diagnosis

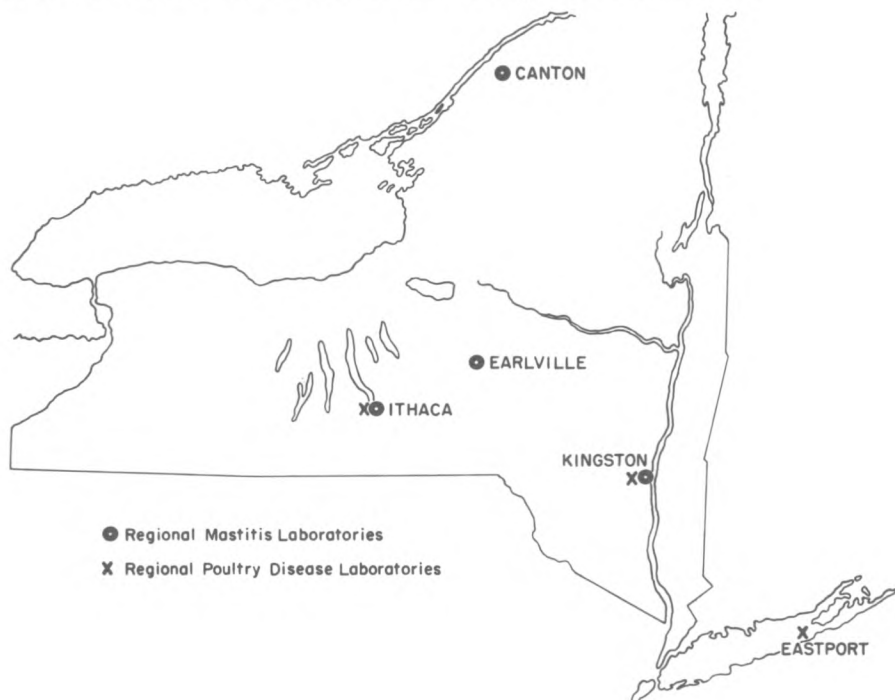
The Veterinary College maintains and staffs regional veterinary laboratories for poultry disease diagnosis at Ithaca, Kingston, and Eastport. The latter is combined with the Duck Research Laboratory.

These diagnostic facilities serve the poultry industry needs in the surrounding area. Their staffs provide extension services and assist in the collection of materials and cases required for research in Ithaca.

New York State Mastitis Control Program

Four laboratories, located in dairy areas of New York State, conduct work on mastitis control programs under the Department of Large Animal Medicine, Obstetrics, and Surgery in conjunction with local veterinarians.

Ithaca is the central laboratory where research and student training programs on mastitis control are conducted. The laboratory serves twenty-one counties of central and western New York with a cow population of about 320,000.



Canton laboratory primarily conducts a control program for dairy owners, and serves eight counties of northern New York with a cow population of about 180,000. The laboratory is located at the New York State Agricultural and Technical Institute where extension and some student teaching are practiced.

Earlville laboratory provides a control program for eleven counties in central New York with nearly 260,000 cows.

Kingston laboratory serves seventeen counties and 134,000 cows located in the mid-Hudson and eastern New York area.

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 advanced training of workers in the field of virology. Determined by the amount of laboratory space available, a limited number of graduate students and postgraduate visiting investigators are accepted.

After consideration of the many technical difficulties involved in work with viruses and other living organisms that may be airborne or transferred accidentally in other ways, a building complex was begun in 1950 and has been expanded from time to time. In this complex are twelve modern and fully equipped laboratories designed specifically for research and graduate teaching of virology, nutrition, biochemistry, and electron microscopy as well as a library, offices, and a tissue culture laboratory. There are twenty-six animal isolation units constructed so that they can be cleaned and decontaminated efficiently to avoid unplanned infections. Specific pathogen-free animals, including dogs, pigs, chickens, guinea pigs, rabbits, and mice, are produced in separate animal

buildings.

Research on Sheep and Cattle Disease

A tract of seventy-five 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 ten-acre pasture is irrigated artificially to maintain a natural infestation of internal parasites under controlled conditions. A sheep barn is available which includes facilities for raising experimental animals under helminthologically sterile conditions.

For the study of reproductive diseases of dairy cattle, one hundred heifers and thirty bulls are housed in available facilities in this same area.

Radiation Biology

A field laboratory including a radiation exposure facility, on-line computing facilities, and a whole body counter for fundamental studies in radiation biology has been constructed on a forty-two acre tract of land provided by the University. This facility is an integral part of the Department of Physical Biology.

Muenschner Poisonous Plants Garden

Located north of the James Law Auditorium, this living collection of poisonous plants includes most of those found in the Northeast, and many from other parts of North America. It is maintained by the Veterinary College in cooperation with the Division of Biological Science and Cornell Plantations. Each specimen is labeled with its scientific name, its common name, and the name of the plant family to which it belongs.

Biology Computing Facility

A computer facility is located at the Radiation Biology Field Laboratory, 925 Warren Road. It is operated by the Department of Physical Biology and is intended primarily for applications in the health sciences. The equipment consists of a PDP-15 main computer and a LAB-8 satellite computer, with on-line connections to a number of laboratories and capabilities for real time signal analysis, graphics, and interactive computing. The services of the facility are

available to anyone at Cornell.

Admission

Entrance Requirements

Successful completion of three years' study in a college or university, approved by its regional accrediting association, is a minimum time requirement for admission to the New York State Veterinary College. In exceptional cases, students who have completed all of the prerequisites during two years' undergraduate education may be admitted.

Prerequisite Courses Semester Hours

Biology or zoology (with laboratory)	6
English (Must include substantial elements of English composition and public speaking. Applicants must provide evidence to this effect if the course name is not clearly indicative.)	6
Modern college mathematics (Must include elements of analytical geometry and calculus. Numerical methods, probability, sets, computer applications and the like are also desirable. Mathematics courses designed for biology majors are generally acceptable.)	6
Physics (with laboratory)	6
Chemistry (Must include a course in organic chemistry and its associated laboratory, and 4 semester hours of biochemistry.)	16
General microbiology (with laboratory)	3
Genetics	3
Basic nutrition*	3

* If no course in basic nutrition is available at the candidate's undergraduate school, this requirement may be satisfied as an elective during the first year of Veterinary College.

If the undergraduate college or university has given advanced placement college credit for a course, the student is not required to repeat the course in fulfillment of the above prerequisites.

Since competition for admission to this College is very keen, it is recommended that the student choose an alternate career goal which will determine the choice of other courses taken. Applicants are urged to consult their undergraduate advisers for help in this regard.

The Animal Practice Requirement

At least one summer, ten weeks, shall be spent working with large animals, preferably dairy cattle. This requirement will be met usually by working on a farm which deals with at least one of the large domesticated animal species.

At least one summer, ten weeks, shall be spent working with some phase of small animal work. This requirement may be met by working for a small animal practitioner or through zoo, laboratory animal, poultry, or similar types of animal work.

For each of the above requirements the applicant must submit a brief report of the completed work and the employer will submit a letter of evaluation to the Office of Student Administration of the Veterinary College.

The two summers of work shall be completed before the student's junior year at the Veterinary College. One summer must be completed by July 1 of the year in which the student is applying for admission. This requirement applies equally to both sexes.

Application Procedure

After September 1 of the year preceding the one in which admission is desired, the applicant should write to the Office of Admissions, Day Hall, Ithaca, New York 14850, requesting the application form for admission to the Veterinary College. The application form must be returned to the admissions office no later than December 15. Transcripts of all college work, through the fall semester of the year in which the application is made must be sent to the Office of Admissions, Day Hall, as soon as possible. All other material is to be sent to the New York State Veterinary College, Office of Student Administration, Ithaca, New York 14850.

If the applicant has applied at any time during the three preceding years he should write to the Admissions Office, Day Hall, asking that his folder be reactivated. All information must be updated.

Although it is not required, applicants should request the Educational Testing Service, Princeton, New Jersey 08540, to send a report of their Scholastic Aptitude Test scores to the New York State Veterinary College, Office of Student Admin-

istration, Ithaca, New York 14850.

In addition, all applicants are required to take the Graduate Record Examinations Aptitude Test as administered by the Educational Testing Service. Arrangements should be made to take the Graduate Record Examinations in either October or December to allow sufficient time for the results to be received by the Veterinary College. (Applicants will enter Institution Code R 2549-4 00 New York State Veterinary College in item 10 of the GRE application.) All procedural requirements will be sent with the application form.

The number of students that can be admitted annually is limited, and the number of applicants who can meet the requirements exceeds the number that can be accepted. A Committee on Admissions of the faculty of the Veterinary College will select those to be admitted after considering not only the formal academic preparation but also the available evidence bearing on each applicant's character, seriousness of purpose, and fitness for the profession. After a preliminary review of the applicant's credentials, and if in the opinion of the Committee on Admissions that applicant merits serious consideration for admission, he will be required to come to the Veterinary College for a personal interview with the Committee on Admissions.

Priority of application is not necessarily a determining factor in the selection of students to be admitted. Nevertheless, the collection and review of the several documents require time. The Committee on Admissions begins its work early in the year. Therefore, it is advantageous to the candidate to file his application early. December 15 is the latest date for filing applications.

Foreign students are usually required to take at least one year of the preveterinary study in an approved college or university in the United States. The University maintains an International Student Office, 200 Barnes Hall, and foreign students are requested to write to that office for any information they may need, or to consult the staff about any problems they may have.

The obligation to understand and meet the requirements stated above rests solely with the applicants. Students who have not completed all the requirements for admission must do so by July 1 of the year in which they would like to matriculate.

University Requirements

Applicants for admission must not only satisfy the entrance requirements but must also comply with the following rules of the University.

Every candidate for admission who receives a notice of approval of his application must pay a \$50 registration fee. 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, Day Hall.

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

Each entering student is expected to assume personal responsibility for fulfilling the 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 have been fulfilled.

Combined Courses

By judicious planning, students who do their preveterinary work in the College of Agriculture and Life Sciences at Cornell, may be able to qualify for both B.S. 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

10 Admission

admission requirements of the Veterinary College have been completed.

Registration

Every student must register at the office of the director of Student Administration of the Veterinary College. This *must* be done before the close of the regular registration unless the student has received special permission from the director.

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. 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 for the degrees of M.S., Ph.D., or D.Sc. in Veterinary Medicine 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.

Applicants for graduate study from countries other than the United States and Canada are requested to include in their credentials the results of the Graduate Record Examinations Aptitude Test except in cases where this Examination is not given in reasonable proximity to the student's home. Where the Graduate Record Examinations are not available the student is requested to submit, instead, the results of the College Entrance Board Examination Scholastic Aptitude Tests.

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 in (pp. 23-35) 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

Admission to candidacy for the degree of Doctor of Science in Veterinary Medicine (D.Sc. in V.M.) 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 for at least five years from an approved school of veterinary medicine.

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

3. He must have offered to the Division satisfactory evidence 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. 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. Those who have a Master of Science degree or its equivalent from an approved college 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 Medical College 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 College 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 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 competence, 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.

Expenses

Tuition

Tuition is \$1800 per year for each student in the Veterinary College who is a resident of New York State at the time of his registration for any term.

Tuition is \$2400 per year for students who do not qualify as New York State residents.

Since physical presence in the state, especially for persons under age, by no means constitutes legal residence, appli-

cants who are at all doubtful of their right to qualify as New York State residents should address inquiries to the Director, Student Administration, Veterinary College.

Tuition becomes due before registration for each term. Any student who fails to pay his tuition or other tuition may expect termination of his registration in the University. For further information, consult the *Announcement of General Information*.

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

Other Fees

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 \$10 and present a letter of permission from the director of student administration.

A student desiring to file his registration of studies after the date set by his college for filing shall first pay a fee of \$10.

A student desiring to take an examination or other test for the removal of a term mark of "incomplete" shall first pay a fee of \$10 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 Director of Student Administration.

Additional 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. The cost of room and board is estimated at \$1,500. Laundry, done in Ithaca, may require \$30 to \$50 a term. Books, instruments, and supplies will cost

WEANED PUPPIES

7 WEEKS OLD

GOOD AGE FOR PURCHASE



\$100 to \$125 a term. Additional allowance must be made for clothing, travel and incidentals.

Beginning with the academic year 1972-73, students in Pathology courses 631, 633, 635 and 731 will be expected to provide their own compound microscope. (see p. 27)

Financial Aids

Scholar Incentive Program

Applications for the New York State Scholar Incentive Program should be filed before July 1 for each academic year but will be accepted up to December 1. Applications for the spring semester only have an April 1 deadline. *Annual* application is required.

Loan Funds

Sources of support available for loans to Veterinary College students are as follows: the Cornell Veterinary Alumni Association; the New York State Veterinary Medical Society; the family of David E. Wright, '12; the Dean W. A. Hagan Fund; the Health Professions Loan and Scholarship Program; the Munderback Veterinary Fund; the Sunderville Veterinary Fund; National Association of Federal Veterinarians Emergency Loan Fund; Student Emergency Loan Fund of the Women's Auxiliary to the New York State Veterinary Medical Society; and the Charles H. Webster Veterinary Fund. Veterinary students are also eligible to apply for loans from other funds held by the University. Most of these are administered through the Office of Student Aid. Students who are in real need should not hesitate to apply for assistance. It is suggested that students discuss their needs with the director of student administration before applying.

Undergraduate Scholarships

Needy undergraduate 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 speak with the director of student administration. There are many scholarships and grants-in-aid open to all University undergraduates, as

well as several which are specifically for veterinary students. The scholarships and prizes for veterinary students are described here.

Applications are received at a time announced each spring and the awards are made for the following academic year. Payment is made by deduction of half the amount of the scholarship from University charges for each semester.

Valentine Mott Knapp Scholarship. This annual scholarship of the value of \$600 was established through the will of David V. Knapp as a memorial to his brother, Dr. Valentine Mott Knapp, '04. The award is made at the end of the third year. 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 with respect to professional attitude, and his financial need.

David Kennedy Johnston Scholarships. Under the will of Nettie J. Huey, funds were set aside to provide scholarships to students in the College of Agriculture and Life Sciences and the Veterinary College. Six scholarships of \$600 each are available.

Tuition Scholarships. The trustees have authorized a limited number of scholarships, each of an annual value of \$600, 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.

Yonkers Raceway Foundation Scholarship. By action of the executive committee of the Yonkers Raceway Foundation, an endowed scholarship of \$500 was established at the Veterinary College to be awarded by the Committee on Scholarships of the College to a needy student who is resident of New York State. The same criteria will be used in awarding this scholarship as are used in selecting the candidates for the Valentine Mott Knapp scholarship.

Irene Heinz Given and John LaPorte Given Veterinary Scholarship. The award is administered by the Committee on Admissions in accordance with the intent of the

14 Financial Aids

trustees of the Given Foundation to help qualified students applying for admission who might otherwise be financially unable to attend this College.

Pfizer Scholarship. This scholarship is awarded to a student at the end of the third year whose academic achievement is adequate, whose need for the award is clear, and who shows good potential.

Women's Auxiliary to the New York State Veterinary Medical Society Scholarship. This scholarship is to be awarded each year to a student at the end of the sophomore year. The awarding of this scholarship will be based on the applicant's financial need and his ability to do creditable academic work.

Eastern Milk Producers Cooperative Scholarship. The purpose of this scholarship is to assist a worthy student in the Veterinary College with preference to be given to sons or daughters of members of Eastern Milk Producers Cooperative Association. He must have an established need for financial assistance and show evidence of outstanding character and leadership ability.

The Jim Dale Thomas Memorial Scholarship. This award was established as a prize in 1965 and became a scholarship in 1969. The scholarship is awarded, for use in the fourth year, to a third-year veterinary student who has shown an interest in dairy cattle practice and has a high level of capability in this field. The award is made on the judgment of the faculty of the Department of Large Animal Medicine, Obstetrics, and Surgery.

Merrimack Valley Kennel Club Scholarship. The Club, of Derry, New Hampshire, sponsors an award of \$200 to a student to be selected on the basis of academic ability and financial need.

Allen Products Company Scholarship. This scholarship of \$1000 is awarded at the end of the first year and will be continued for three years, subject to review by the Committee on Scholarships. The original award and the annual renewal are based on academic performance and financial need.

Prizes for Veterinary Students

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 \$125 to the first in merit and a prize of \$75 to the second in merit.

The Grant Sherman Hopkins Prize of \$90 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 (1889-1934). 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 College 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 criterion.

The Jane Miller Prize of \$90 in physiology is awarded to the student or students doing the best work in this subject. The amount is usually divided into two prizes which are awarded at the end of the second year.

The James Gordon Bennett Prize of \$120 is awarded 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 \$100 is awarded in the principles and practice of veterinary medicine. It is based upon the work in the clinics giving evidence of ability in clinical diagnosis.

The Charles Gross Bondy Prizes consist of two annual prizes awarded to the two fourth-year students who rank highest in proficiency in the courses in practical medicine and surgery of small animals. The total prize is \$100.

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 inspector from 1896 to 1926, and dean of the Veterinary College from 1907 to 1929. The income of the endowment (\$80) may be awarded each year, upon recommendation of the head of the Department of Microbiology 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 is 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, a \$25 United States savings bond, be "awarded by the faculty to a member of the fourth-year class who has shown by his scholarship, personality, character, the 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."

New York State Veterinary Medical Society Prizes amounting to \$100, were established by the New York State Veterinary Medical Society. They are awarded to members of the fourth-year class who present and have approved the best case reports. The award extends from April 1 to March 31. All case reports to be considered must be received at the office of the chairman of the Committee of Senior Seminar Course 899, by March 31. Each

case report must be reviewed and approved by the head or designated faculty member of the department in which the case was received, studied, and treated. The executive board of the New York State Veterinary Medical Society reserves the privilege of requesting any prize recipient to furnish either a copy of his paper or an abstract for publication in the organ of the society, *Veterinary News*.

The Women's Auxiliary A.V.M.A. Prize of \$100 is awarded annually to a senior student for a special contribution which advances the standing of the Veterinary College on the campus by special contributions of an extracurricular nature.

The Jacob Traum Student Award was established by friends and colleagues at the time of Dr. Traum's retirement as chief scientist of the United States Department of Agriculture Plum Island Animal Disease Laboratory. Dr. Traum was graduated from Cornell University in 1905 and served the veterinary profession in a variety of capacities, particularly in the U.S.D.A. and at the University of California. The award will be given annually to the senior student in the New York State Veterinary College who, in the judgment of the dean, has 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 prize is a cash award of \$60.

The Merck Manual Awards given by Merck and Company, Inc., are presented to members of the graduating class. The recipients of the awards (veterinary manuals embossed with recipients names) are determined by the dean and director of student administration.

The Malcolm E. Miller Award was established in 1965 by Mrs. Mary Miller Ewing in memory of her husband, Dr. Malcolm E. Miller '34, a former professor of anatomy and head of that Department from 1947 to 1960. The recipient is to be a fourth-year student who, in the judgment of the dean and the director of student administration, has demonstrated perseverance, scholastic diligence, outstanding improvement, and other personal characteristics that will bring credit and distinction to the veterinary profession. The prize is a cash award of \$50.

16 Housing and Dining Facilities

The Upjohn Clinical Awards were established in 1966. The Upjohn Pharmaceutical Company offers prizes for unusual proficiency in the Large Animal Clinic and in the Small Animal Clinic. The winners are selected by the staffs of the respective departments. A cash prize of \$200 is divided between the two clinics.

Health Services and Medical Care

Health services and medical care for students are centered in two Cornell facilities: the Gannett Medical Clinic (outpatient department), 10 Central Avenue, and the Sage Infirmary, on Sage Place. The entrance to the Infirmary is on East Seneca Street between Stewart Avenue and Schuyler Place, about five blocks from the edge of the campus. Students are entitled to unlimited visits at the Clinic. Appointments with individual doctors at the Clinic should be made by calling 256-4082 or coming in person to the Clinic. (An acutely ill student will be seen promptly whether he has an appointment or not.) Students are also entitled to most laboratory and x-ray examinations and initial consultation with a specialist when indicated for diagnosis and treatment and ordered by a staff physician. Hospitalization in the Sage Infirmary with medical care for a maximum of fourteen days each term and emergency surgical care is also provided without additional cost. The cost of these services is covered by tuition.

Insurance is available on a voluntary basis. Unless students have other insurance to supplement medical services provided by the University Health Services, they are *strongly* urged to take advantage of this plan. For further details, including health requirements and charges for special services, see the *Announcement of General Information*.

If, in the opinion of the University authorities, the student's health makes it unwise for him to remain in the University, he may be required to withdraw.

Emergency Service

Students who need medical attention during the hours the clinic is closed may go to Sage Infirmary. If an accident or serious illness occurs, the physician on emer-

gency service may be reached by calling 256-3493 during Clinic hours or 272-6962 after Clinic hours.

Housing and Dining Facilities

University Housing

Applications for all University housing should be made as soon as possible after January 1 for fall matriculants; after October 1 for spring matriculants.

Cornell provides residential facilities on campus for about 5,200 students. These facilities are located in two areas which lie to the north and west of the central campus. For detailed descriptions of various housing accommodations, students should consult the *Announcement of General Information*.

Students are not subject to a residence requirement, and should note that acceptance to Cornell University does not necessarily guarantee the availability of on-campus accommodations.

An application form for on-campus housing accommodations will be enclosed with the notice of provisional acceptance to each candidate from the Office of Admissions.

Information about available housing and rental rates may be obtained from the Student Housing Office, 223 Day Hall.

Graduate Students

University dormitory housing is available to single graduate students upon application to the Student Housing Office, Day Hall, Cornell University, Ithaca, New York 14850.

Sage Hall, the graduate center, provides dormitory housing for approximately 200 men and women. Situated in the center of the campus, it is convenient to all colleges. There is a cafeteria in the building. Cascadilla Hall accommodates approximately 160 graduate men and women. It is conveniently located just inside the southwest entrance to the campus. A third residence is a small apartment building, Thurston Court, housing 50 graduate women. It is located just north of the Fall Creek Gorge on Thurston Avenue.

Married Students

The University maintains apartment accom-

modations for approximately 420 students and their families. These are Cornell Quarters, Pleasant Grove Apartments, and Hasbrouck Apartments. All apartments are unfurnished. For further information and application, write the Hasbrouck Housing Office, Pleasant Grove Road, Ithaca, New York 14850.

Off-Campus Housing

Information on housing that is currently available is posted on a board at the Student Housing Office, 223 Day Hall. Because changes of available accommodations occur daily, it is not practical to prepare lists. If at all possible, a student should plan to visit Ithaca well in advance of residence to obtain suitable quarters off-campus.

Dining Facilities

There are no mandatory meal plans. The University maintains a number of dining services in various locations on campus, thus enabling students to eat when and where they may choose. Optional dining arrangements are offered including: (1) The CORNELLCARD, a credit card for those who do not wish to pay cash for each meal. Detailed information may be obtained by writing to the Bursar's Office, 260B Day Hall. (2) A Co-op Dining Program, participation in which (one of four options) allows students to eat all they want at three Co-op Dining Centers at a food cost savings. Membership entitles students to become a part of the Co-op Dining Advisory Council which enables them to make recommendations regarding menus, decor, and service. For further information, write to Co-op Dining, 217 Day Hall, Cornell University. (3) Risley Dining Program is primarily for students of the Arts, but is open to all. Information is also available at 217 Day Hall.

Conduct of Students

A Cornell student is expected to conduct himself in a decent manner with respect for the integrity of the individual and the best interests of the community.

The standards of conduct expected of a Cornell veterinary student are defined by the Student Honor Code and imple-

mented by a student Judiciary Administrative Board granted initial jurisdiction for student conduct by the Faculty Committee on Student Conduct. A student may at any time be removed from the University by the faculty.

In the Veterinary College a Student Honor Code has been established in recognition of the importance of ethics, honor, and personal integrity in the individual's training for the veterinary profession. The Code places the responsibility for ethical and professional conduct upon the students. A copy of the Honor Code is given to each undergraduate and graduate student at the time of registration, and it is the student's duty to familiarize himself with the contents of the Code and observe them during his four years in the Veterinary College.

For student consultation and guidance, the College maintains an Office of Student Administration and has a Student/Faculty Liaison Committee, a Committee on Student Conduct, and Class Advisors. All academic actions are voted by the Veterinary College Faculty. A student may appeal to the Faculty through the Dean or the Secretary of the College.

Careers for Veterinarians

The function of the Veterinary College is to educate young men and women to become practitioners, teachers, and research workers in the science and art of veterinary medicine. The College thus serves to protect the health of livestock, poultry, and companion animals, and to support public health programs.

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. It is a demanding career. The work is often rigorous. The compensation varies greatly, 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 on the following pages.



Private Practice

Veterinary practice is a wide field with excellent opportunities for well-qualified persons. For several years the need for veterinarians in private practice has exceeded the supply. Practice may be general in which the individual offers his service for all species of animals. There is a trend toward restricted practice in which the veterinarian limits his practice to small animals, cattle, horses, or poultry, etc. Some veterinarians by virtue of advanced training and experience become specialists and limit their work to narrow fields such as ophthalmology, orthopedics, diseases of reproduction, or other specialty areas. There is an accelerating trend toward partnership or group practice. Most graduates, to gain experience, have gone into private practice in the employ of an established veterinarian for at least one year.

Salaried Positions

Salaried positions are available with state and federal governments, pharmaceutical manufacturers, research institutions, universities, zoos, and a few large livestock or breeding farms. Generally these positions are filled by experienced practitioners or those who have had graduate training. There is great potential for expanding involvement in comparative medicine and aquatic animal medicine.

Private Corporations

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

Federal Governmental Agencies

The Agricultural Research Service of the United States Department of Agriculture 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.

This Service is also 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 well-equipped laboratories, in full-time research programs on diseases of animals of economic importance under the direction of the Animal Disease and Parasite Research Division.

Veterinarians who are physically qualified men and graduates of veterinary colleges acceptable to the surgeon general of the United States Army and United States 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 United States Public Health Service employs veterinarians in the development and administration of programs concerned largely with the control of domestic and foreign animal diseases 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 college 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 veterinarians working in a number of specialized

20 Requirements for Graduation

disciplines. 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

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.

In New York the licensing agency is the State Education Department. All inquiries should be addressed to the Secretary of the State Board of Examiners, Room 1841, Twin Towers, 99 Washington Avenue, Albany, New York 12210. Examinations are given twice a year. Applicants are required to furnish evidence of the following: (1) adequate preprofessional as well as professional education, (2) good moral character, and (3) being at least twenty-one years of age. Application for the examination must be filed at least thirty days before the scheduled date and must be accompanied by a fee of \$40.

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 (pp. 8-9), must successfully complete 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 in September and to close in May. The academic year is divided into two

terms.

At the conclusion of each term the Veterinary College faculty will review the records and conduct of students. Registration of unsatisfactory students will be terminated.

The Curriculum

In the following summary of the curriculum, the abbreviation "Req." indicates that a course, or its equivalent, is required for graduation but that no formal credit is given for the course.

	<i>Fall Term Credit Hours</i>	<i>Spring Term Credit Hours</i>
First Year		
101 Livestock Management . . .	3	—
501 Anatomy	7	—
507 Developmental Anatomy and Histology	4	—
510 Mammalian Biochemistry	6	—
590 Clinical Orientation	1	—
311 Animal Feeding	—	3
502 Anatomy	—	6
505 Neuroanatomy	—	2
508 Microscopic Anatomy . . .	—	4
511 Physiology	—	5
591 Clinical Orientation	—	1
Total	21	21
Second Year		
424 Animal Genetics	2	—
611 Physiology	4	—
621 Applied Radiation Biology	1	—
630 General Pathology	2	—
631 General Pathology Laboratory	2	—
640 Bacteriology and Immunology	4	—
641 Bacteriology and Im- munology Laboratory	5	—
612 Pharmacology	—	6
613 Toxicology	—	1
632 Special Pathology	—	2
633 Special Pathology Laboratory	—	2
634 Food Quality Control	—	3
635 Animal Parasitology	—	2
636 Clinical Pathology	—	2
671 Obstetrics	—	3
Total	20	21

	<i>Fall Term Credit Hours</i>	<i>Spring Term Credit Hours</i>
Third Year		
703 Applied Anatomy	1	—
730 Food Quality Control	2	—
731 Applied Parasitology	3	—
740 Epidemiological Methods	2	—
760 Small Animal Medicine	3	—
770 Obstetrics	3	—
771 Diseases of Large Animals	4	—
773 General Surgery	4	—
774 Surgical Exercises	1	—
776 Roentgenology	1	—
704 Applied Anatomy	—	1
741 Infectious Diseases	—	3
750 Diseases of Poultry	—	3
761 Small Animal Medicine	—	3
762 Small Animal Surgery	—	4
763 Surgical Exercises	—	1
772 Diseases of Large Animals	—	2
775 Special Surgery	—	5
777 Roentgenology	—	1
791 Clinical Orientation	—	1
Total	24	24

	<i>Fall Term Credit Hours</i>	<i>Spring Term Credit Hours</i>
Fourth Year		
860 Ophthalmology	1	—
870 Diseases of Large Animals	4	—
890 Small Animal Clinic	4	—
892 Large Animal Clinic	4	—
894 Ambulatory Clinic	4	—
896 Ancillary Clinic	4	—
898 Senior Seminar	Req.	—
871 Diseases of Large Animals	—	4
872 Jurisprudence, Ethics, and Business Methods	—	1
891 Small Animal Clinic	—	4
893 Large Animal Clinic	—	4
895 Ambulatory Clinic	—	4
897 Ancillary Clinic	—	4
899 Senior Seminar	—	Req.
Total	21	21



Description of Courses

Under each department heading, there are brief descriptions of the courses offered. 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.

For courses in other colleges available to all Cornell students consult the appropriate college *Announcement*.

Anatomy

Professors R. E. Habel, H. E. Evans; Associate Professors J. F. Cummings, A. de Lahunta, W. O. Sack; Assistants F. Wu, D. L. Robinson.

501 Gross Anatomy. First year, fall term. Credit seven hours. Prerequisite: course work equivalent to that required for admission to the Veterinary College. Lecture, M W 9:05. Laboratory, M W Th F 10:10-1:10. Professor Evans, Associate Professor de Lahunta, Assistant Robinson.

The structure of the 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 parakeet and chicken, and the anatomy of laboratory animals is reviewed in appropriate species. The lectures, supplemented by demonstrations, consider the comparative and regional gross aspects of vertebrate organ systems, anatom-

ical terminology, literature, and techniques.

502 Gross Anatomy. First year, spring term. Credit six hours. Prerequisite: Anatomy 501. Lecture, W 9:05. Laboratory M T W Th F 2-4:25. Associate Professor Sack, Assistant Robinson.

Regional anatomy of the horse, cow, sheep, and pig is studied by dissection, with special attention to the anatomy of physiological processes and clinical procedures, and the veterinary public health inspection of food animals.

505 Neuroanatomy. First year, spring term. Credit two hours. T 9:05, W 10:10-12:35. Associate Professor de Lahunta.

The nervous system of domestic animals is studied by functional systems. Clinical cases with pertinent lesions are demonstrated with each system.

507 Developmental Anatomy and Histology.

First year, fall term. Credit four hours. Prerequisite: course work equivalent to that required for admission to the Veterinary College, plus completion of or concurrent registration in Veterinary Anatomy 501 or 900. A limited number of nonveterinary students will be admitted by permission of the instructor. Lectures, T Th 9:05. Laboratory, W F 2-4:25. Associate Professors de Lahunta and Cummings, Assistant Wu.

The study of development is designed to provide a foundation for the understanding of definitive anatomy and the formation of anomalies. The latter part of the course is devoted to cytology and histology, illustrated with material from the domestic animals.

508 Microscopic Anatomy. First year, spring term. Credit four hours. Prerequisite: Veterinary Anatomy 507, plus completion of or concurrent

The Veterinary College maintains a small animal clinic and hospital, a large animal clinic and hospital, and an ambulatory clinic. These operate on a fee basis as area services and teaching facilities.

24 Physiology

registration in Veterinary Anatomy 502 or 900. A limited number of nonveterinary students will be admitted by permission of the instructor. Lectures, M F 9:05. Laboratory, M F 10:10-12:35. Associate Professor Cummings, Assistant Wu.

The microscopic structure of the tissues and organs of domestic animals is studied. Illustrated lectures are presented to relate structure to function, correlate microscopic and gross anatomy, and establish a foundation for subsequent studies in physiology and pathology. Slides of tissues and organs are provided.

605-606 Advanced Anatomy. Fall term. Hours and credit to be arranged. Spring term. Hours and credit to be arranged. Prerequisites: Anatomy 501, 502, 507, and 508 or similar preparation in comparative anatomy and histology. Professors Habel and Evans, Associate Professors Sack, de Lahunta, and Cummings.

An opportunity for advanced study under personal direction.

703-704 Applied Anatomy. Third year, fall term. Credit one hour. Laboratory, T 10:10-12:35 or W 2-4:25 or Th 10:10-12:35. Professor Habel. Third year, spring term. Credit one hour. Laboratory, M 2-4:25 or T 2-4:25 or Th 2-4:25. Professor Habel.

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

900 Vertebrate Morphology. Fall term. Credit three hours. Prerequisite: zoology or biology. Laboratory, W F 2-5:00. Professor Evans.

Designed for graduate students in Animal Science, Biological Science, Nutrition, and Conservation. A dissection of the dog serves as the basis for a functional consideration of the component parts of mammalian organ systems. This is followed by a dissection of the fetal and adult cow. Other species of interest to the class can also be presented.

901 Comparative Anatomy of the Digestive Tract. Fall term. Credit one hour. Prerequisite: Veterinary or Comparative Anatomy or Vertebrate Morphology 900. Embryology and histology are recommended. Lecture W 9:05. Professor Habel.

A general knowledge of the gross anatomy of each organ will be assumed, and emphasis will be placed on the micro-macroscopic muscular and vascular architecture, the innervation, and the functional cytology of the epithelium.

Physiology, Biochemistry and Pharmacology

Professors A. F. Sellers, A. L. Aronson, E. N. Bergman, A. Dobson, T. R. Houpt, C. E. Stevens, J. F. Wootton; Assistant Professors W. J. Arion, W. S. Schwark; Assistants R. P. Brockman, P. Carlson.

The following fields of activity are covered in the work of the department: biochemistry, physiology, pharmacology, and toxicology.

510 Vertebrate Biochemistry. Fall term. First year veterinary students or consent of the instructors. Credit six hours. Prerequisite: Biological Sciences 431 or an equivalent course in general biochemistry; training in quantitative analysis is recommended. Lectures M W F 8; Discussions, Th 2-4:25; Laboratories M, T 2-4:25. Professor Wootton, Assistant Professor Arion and assistants.

An intermediate level biochemistry course emphasizing structure-function relationships and metabolic control in vertebrate systems.

511 Physiology for Veterinary Students. First year, spring term. Credit five hours. Prerequisite: Physiology 510, Anatomy 501 and 502, or Anatomy 900 or Zoology 311 and Biochemistry 433. Lecture, T Th F 8. Laboratory, Th 9:05-12:35, Professor Houpt and assistants.

512 Vertebrate Biochemistry Lectures. Fall term. Credit three hours. M W F 8. Prerequisite: Biological Sciences 431 or an equivalent course in general biochemistry. Offered for advanced undergraduate and graduate students. Professor Wootton and Assistant Professor Arion.

611 Physiology for Veterinary Students. Second year, fall term. Credit four hours. Prerequisite: Physiology 511. Lecture, T Th F 8. Laboratory, Th 9:05-12:35. Professors Bergman and Sellers.

612 Pharmacology. Second year, spring term. Credit six hours. Prerequisite: Anatomy 501, 502, 505, 507, 508; Physiology 510, 511, 611; Pathology 630 and 631 or consent of the instructors. Lectures, M T 8, W F 9:05. Laboratory, M 11:15-4:25. Professor Aronson, Assistant Professor Schwark.

The primary emphasis of this course is on the physiological disposition and mechanism of action of drugs.

613 Toxicology. Second year, spring term. Credit one hour. Prerequisites: same as for Pharmacology 612. Lecture, M 9:05. Professor Aronson, Assistant Professor Schwark.

The basic aspects of some of the more common poisonings that affect domestic animals will be considered. Emphasis will be placed on heavy metal poisonings, chelation

phenomena, selected organic poisonings, pesticide poisonings, and forensic considerations.

910 Special Problems in Physiology. Fall term. Hours to be arranged. Registration by permission.

911 Special Problems in Physiology. Spring term. Hours to be arranged. Registration by permission.

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

912 Research. Fall term. Graduate students only. Hours to be arranged.

913 Research. Spring term. Graduate students only. Hours to be arranged.

915 Methods in Gastroenterological Research. Spring term. Credit four hours. Prerequisite: Biological Sciences 414 and a course in Biochemistry or Veterinary Medicine 611 or equivalent and consent of instructor. Enrollment limited. Two lectures and one six-hour laboratory per week; times to be arranged. Professor A. Dobson.

The course provides experience with a variety of current physiological techniques for the study of the functions of the gastrointestinal tract with special emphasis on their limitations.

916 Physiologic Disposition of Drugs and Poisons. Spring term. Offered in 1974. Credit three hours. Prerequisite: a course in biochemistry and consent of the instructor. M W F 10:10. Professor Aronson, Assistant Professor Schwark.

Lectures on the absorption, distribution, metabolism, excretion, and selective toxicity of drugs, as well as consideration of environmental aspects of the problem of toxicology.

917 Physiology. Spring term. Credit three hours. Graduate students. Prerequisite: Physiology 510, Anatomy 501 and 502, or Anatomy 900 or Zoology 311, and Biochemistry 433. T Th F 8. Professor Houpt and assistants.

Lectures and demonstrations on cellular physiology, muscle, nervous system, respiratory system, urine secretion, blood, and lymph.

918 Physiology. Fall term. Credit three hours. For graduate students. Prerequisite: Physiology 917. T Th F 8. Professors Bergman and Sellers.

Lectures and demonstrations on circulation, digestion, endocrine organs, metabolism, and reproduction.

919 Comparative Gastroenterology. Fall term. Credit three hours. Prerequisite: Courses in general mammalian physiology, biochemistry, and nutrition and consent of instructor. Professors Stevens, Dobson, Hintz, Krook, Sellers, Visek, and Wasserman.

Lectures will emphasize (1) functional com-

parison of digestion and absorption in mammalian carnivores, herbivores, and omnivores and in avian species, (2) examination of various *in vivo* and *in vitro* preparations and procedures used to study the function or malfunction in this system, and (3) digestive tract diseases.

Physical Biology

Professors C. L. Comar, E. L. Gasteiger, F. W. Lengemann, D. N. Tapper, R. H. Wassermann; Associate Professors A. P. Casarett, P. H. Craig, L. L. Nangeroni, J. C. Thompson, Jr.; Assistant Professor F. A. Kallfelz; Senior Research Associates R. A. Corradino; F. L. Hiltz, H. Moraff, A. N. Taylor, R. A. Wentworth; Graduate Assistants L. Lippiello, J. Molt, C. Sagan.

The Department is well equipped for advanced work in the applications of radiation and physical methods to problems of animals and biological research.

310 Elementary Animal Physiology. Spring term. Credit three hours. Prerequisite: one year of biology or zoology and college courses in chemistry. M W F 10:10. Associate Professor Nangeroni.

Lectures and demonstrations arranged especially for students of agriculture but open to others: intended for students who do not plan to continue in physiology or allied fields.

311 Introductory Physical Biology. Fall term. Offered in 1972. Credit three hours. Prerequisite: basic biology, chemistry, and calculus or permission of the instructor. M W F 10:10. Professors Comar and Wasserman.

A basic treatment of the application of physical principles to physiological problems. Coverage includes: mathematical approach to physiological problems; principles of tracers; kinetics; systems analysis and control theory; physicochemical principles; flow of energy in living systems; flow of mass in living systems; contractility.

312 Introductory Animal Physiology. Spring term. Credit three hours. Prerequisite: one year of biology and zoology, college courses in chemistry, and basic college mathematics. M W F 11:15. Associate Professor Craig and others.

The course deals especially with the identity and functions of the organ systems of mammals, ruminant and nonruminant, with general comparisons to other forms. Particular emphasis is given to circulation, respiration, digestion, excretion, metabolism, and endocrine controls. The lectures, demonstrations, and exercises are intended to serve as a basis for subsequent work in the physiological sciences.

427 Sensory Function. Fall term. Credit three

26 Pathology

hours. Prerequisite: Biology 320 or equivalent. One hour lectures, T Th 10:10. Given cooperatively with Cornell's Division of Biological Sciences. Professors Halpern (Arts and Sciences) and Tapper (Physical Biology). Sensory receptors and the central nervous system transformation of afferent activity will be considered in relation to human and animal psychophysical data and to the adaptive significance of behavior. The receptor will be examined in terms of anatomy, biochemistry, biophysics to transduction, and the central nervous system control of peripheral input. Information and signal detection theories will be applied.

427A Sensory Function Lab. Credit two hours. Fall term. Times to be designated by Instructors. Professors Halpern (Arts and Sciences) and Tapper (Physical Biology).

621 Applied Radiation Biology. Second year, fall term. Credit one hour. W 9:05. Assistant Professor Kallfelz. Lectures and demonstrations on the nature of radiation, biological effects, veterinary applications, and monitoring procedures.

921 Radioisotopes in Biological Research Principles and Practice. Spring term. Credit four hours. Prerequisite: a course in quantitative chemistry and permission of the instructor. Lectures, T Th 11:05. Laboratory, M T or W 1:30-5. Professor Lengemann and staff. Lectures, demonstrations, and laboratory on the fundamentals of atomic energy procedures and applications to biological research.

922 Biological Effects of Radiation. Fall term. Credit three hours. T Th 10:10. Laboratory, Th 1:30-4:25. Associate Professor Casarett.

Lectures and demonstration on radiation physics, radiation chemistry, radiation effects at the cellular level, radiation effects in multicellular organisms, genetic effects of radiation, and radioprotective and radiomimetic substances.

923 Biological Membranes and Nutrient Transfer. Spring term. Offered in alternate years. Credit two hours. Prerequisite: animal or plant physiology, quantitative and organic chemistry, physics, and consent of the instructor. Cellular physiology and elementary physical chemistry desirable. Lectures (time to be designated). Professor Wasserman. An introduction to elementary biophysical properties of biological membranes, theoretical aspects of permeability and transport, and mechanism of transfer of inorganic and organic substances across intestine, placenta, kidney, erythrocytes, bacteria, and other biological systems.

924 Functional Organization of the Mammalian Nervous System. Fall term. Credit six

hours. Given in alternate years. Not given in 1973-74. Prerequisite: two years of biological science. Courses in biochemistry, physics, and neural anatomy are desirable. Lectures, M W F 10:10. Laboratory, W 1:25. Professor Gas-teiger.

Cellular, sensory, central integrative, and motor aspects of the nervous system will be considered with an emphasis on the electrophysiological approach. Laboratory studies will include electrical activity of cells, reflexes, decerebrate rigidity, acoustic microphonic response, subcortical stimulation, and evoked and spontaneous cortical activity.

925 Physical Biology. Physiology, Biochemistry, and Biophysics of Mineralized Tissue (Special Topics). Fall term. Credit two hours. Prerequisite: animal physiology, biochemistry, and elements of physical biology, or the permission of the instructor. Anatomy and histology recommended. M F 11:15. Instructors: Comar, Corradino, Craig, Taylor, and Wasserman.

Introduction to the histology, anatomy, and pathology of bones and teeth, kinetics of bone and bone minerals, biochemistry of calcification, factors affecting calcium and bone metabolism (parathyroid hormone, calcitonin, vitamin D, trace elements, etc.) bone-seeking radionuclides, and calcium homeostatic mechanisms.

926 Physical Biology Graduate Seminar. Fall and spring terms. Credit one hour. Professor Comar and staff.

927 Seminar—Special Topics in Physical and Radiation Biology. Fall and spring terms. Credit hours variable. Associate Professor Casarett.

928 Experimental Physiology for Graduate Students. Fall term. Credit three hours. Prerequisite: 510, 501, and 502, or 900, or Biological Sciences 321-322 and Biochemistry 401. Coregistration in 610 and consent of the instructor are required. Registration limited. Associate Professor Nangeroni.

Pathology

Professors C. G. Rickard, J. H. Whitlock, C. I. Boyer, Jr., L. P. Krook, F. Noronha, J. R. Georgi, L. Coggins; Associate Professors J. E. Post, J. M. King, J. M. Shively; Assistant Professor L. T. Pulley; Adjunct Assistant Professor G. V. Lesser; Senior Research Associates C. L. Gries, F. E. Waterman, E. Dougherty, III, A. L. Britt, R. W. Dellers, M. J. Kemen, G. A. Maylin, J. Eisenstadter, B. F. Hiscock, M. J. Studdert; Research Associates B. A. Coote, C. E. Kresge; Director of the Diagnostic Laboratory S. R. Nusbaum; Interns C. D. Buergett, J. L. Inhelder; Assistant E. Braide; also F. S. Hsu,

P. Arjsongkoon, K. A. O. Sani, R. M. Scarsi.

The Department is well equipped with modern facilities to provide opportunity for advanced work in necropsy and surgical pathology, immunopathology, parasitology, nutritional pathology, laboratory animal pathology, laboratory diagnostic methods, oncology, and electron microscopy. The Department maintains a general diagnostic laboratory, a necropsy service, tissue culture and virology laboratories, and two electron microscope laboratories. These facilities provide an abundance of pathological material for teaching and research purposes, and numerous serum samples for epidemiological work. Clinical cases which have been adequately examined by clinical methods are available for necropsy study.

The following courses are given particularly for veterinary students. Courses in the 600 and 700 series are required. When there is room for them, properly prepared students of other colleges will be admitted, but permission to register must be obtained.

Each veterinary student is expected to provide his own microscope suitable for the study of histological slides in Courses 631, 633, 635, and 731. A compound microscope which has objective lenses with magnifications of approximately 2.5 or 3.5X, 10X, 40X, and 97X is required. A lockable cabinet is available in the laboratory for storage of these microscopes when they are not in use.

630 General Pathology Lectures. Second year, fall term. Credit two hours. Prerequisite: Anatomy 507 and 508 or equivalent histology courses. In addition, it is desirable that the student shall have 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. M F 9:05. Professor Rickard.

A study of disease processes, including congenital anomalies, circulatory diseases, degenerations, necrosis, inflammation, and neoplastic diseases (tumors). The gross and microscopic features are discussed in relation to the effects on the host animal.

631 General Pathology Laboratory. Second year, fall term. Credit two hours. Prerequisite: 630, taken previously or concurrently. Section I, M F 10:10-12:35. Section II, T 10:10-12:35, S 9:05-11:30. Professor Rickard.

632 Special Pathology Lectures. Second year, spring term. Credit two hours. Prerequisite: 630. T Th 9:05. Associate Professor King. A systematic study of the diseases in each organ system, with emphasis on differential diagnostic features. Veterinary pathologists who are specialists in several aspects of the

course participate in teaching the areas of their specialization.

633 Special Pathology Laboratory. Second year, spring term. Credit two hours. Prerequisite: 632, taken previously or concurrently. T 2-4:25, F 10:10-12:35. Associate Professor King.

634 Food Quality Control. Second year, spring term. Credit three hours. Lecture, M 10:10, Th 8. Laboratory, T 10:10-12:35. Professors White and Baker.

635 Animal Parasitology. Second year, spring term. Credit two hours. Prerequisite: zoology or biology. Lecture, Th 10:10. Laboratory, Th 2-4:25. Professor Whitlock.

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.

Clinical Pathology. Professors Bentinck-Smith and Tasker.

See Clinical Courses, course 636.

730 Food Quality Control. Third year, fall term. Credit two hours. Lecture, F 11:15. Laboratory, F 2-4:25. Dr. C. E. Kresge. 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. Some parts of the course are given by members of the Departments of Poultry Husbandry, Dairy and Food Science, and Animal Husbandry of the College of Agriculture and Life Sciences; and others by the Department of Large Animal Medicine, Obstetrics, and Surgery of the Veterinary College.

731 Applied Parasitology. Third year, fall term. Credit three hours. Prerequisite: 635 or equivalent. Lecture, M 10:10, T 1:10. Laboratory, Section A, W 2-4:25; Section B, T 2-4:25; Section C, Th 10:10-12:35. Professor Georgi.

An organized study of the parasitisms of domestic animals with particular emphasis on the features of diagnostic importance. Special attention will be given to the laboratory and postmortem techniques that are of value in applied parasitology.

930 Pathology Seminar. Fall and spring terms. No credit. Required of all graduate students in pathology. Undergraduate students are admitted.

931 Pathology of Nutritional Diseases. Spring term of even-numbered years. Credit three hours. Lecture and laboratory. Prerequisite: 630 and 631. Hours to be arranged. Designed primarily for graduate students of nutrition. Professor Krook.

28 Microbiology

932 Advanced Work in Animal Parasitology. Fall term. Credit one to three hours, by arrangement.

933 Advanced Work in Animal Parasitology. Spring term. Credit one to three hours, by arrangement. Prerequisite: 635. For advanced undergraduate and graduate students. Professors Whitlock and Georgi. Special problems concerned with the parasites of domestic animals.

934 Laboratory Methods of Diagnosis. Fall term. Credit one to three hours, by arrangement.

935 Laboratory Methods of Diagnosis. Spring term. Credit one to three hours, by arrangement. Prerequisite: 632 and 641 or 340. Graduate students. Instructions and practice in the application of pathological methods for the diagnosis of disease.

936 Advanced Work in Pathology. Fall term. Credit one to three hours, by arrangement.

937 Advanced Work in Pathology. Spring term. Credit one to three hours, by arrangement. Properly prepared students may undertake special problems or receive special assignments.

938 Reproductive Pathology. Fall term. Credit two hours. Lecture and laboratory. Prerequisite: 630, 631, 632, and 633. Hours to be arranged. Professor McEntee.

939 Introduction to Laboratory Animal Medicine. Spring term of even-numbered years. Credit two hours. Prerequisite: permission of the instructor. Lecture and demonstration, M 1-4:25. Professor Boyer and staff. An introduction to management and disease control in the laboratory animal species used in biological research, including mice, rats, guinea pigs, hamsters, rabbits, poultry, and nonhuman primates. Disease control in experimental colonies of dogs and cats is discussed. The course provides a survey of preventive medicine, the common diseases, and important aspects of comparative anatomy, ecology, behavior, and genetics.

940 Ultrastructural Pathology. Fall term. Credit two hours. Prerequisite: biology courses at the advanced undergraduate or graduate level are required, and courses 630-633 are recommended. Two lectures per week, supplemented by demonstrations. Associate Professor Shively.

Study is directed toward development of capability in interpretation of electron micrographs of biological structures in health and disease. Techniques of electron microscopy of biological material are briefly reviewed. The major

part of the course is directed toward alterations of specific organelles and subcellular systems in pathologic processes, such as inflammation, neoplasia, and the ultrastructural pathology of selected organ systems, e.g., kidney, blood vasculature, and liver.

981 Gastroenteric Pathology. Spring term. Credit 1 hour. Th 3:00. Professor Krook. Necropsy Room. Demonstration and discussion of necropsies.

Microbiology

Professors J. H. Gillespie, G. C. Poppensiek, J. A. Baker, B. Calnek, L. E. Carmichael, L. Coggins, J. Fabricant, N. L. Norcross, B. E. Sheffy, A. J. Winter; Associate Professors M. J. G. Appel, S. G. Campbell, R. F. Kahrs, K. M. Lee; Assistant Professors G. Lust, F. W. Scott, J. F. Timoney; Research Associates G. D. Aguirre, C. G. Fabricant, D. F. Holmes, R. D. Schultz; Assistants C. A. Banta, D. A. Bemis, J. A. Carlson, D. H. Davies, J. M. Gaskin, L. W. George, D. A. Higgins, D. C. Mills.

Courses 640, 641, 740, and 741 are required in the curriculum of the Veterinary College and are given particularly for veterinary students. Students of other colleges must have permission to register in any of these courses.

The other courses are not a part of the regular veterinary curriculum. They are available to graduate and to undergraduate students who have obtained the proper prerequisite training. Permission to register must be obtained.

340 Basic Immunology Lectures. Fall term of even-numbered years. Credit two hours. Prerequisite: a course in basic microbiology or special permission of the instructor. T Th 9:05. Professor Winter.

Course material covers at an elementary level the spectrum of facts and concepts in current immunology, with special emphasis on the biologic function of the immune response in protective immunity.

341 Pathogenic Microbiology. Spring term of odd-numbered years. Credit four hours. Prerequisite: a course in basic microbiology and course 340 or special permission of the instructors. T Th 1-4:25. Professors Gillespie and Fabricant. Includes microbiology, virology, and serology.

640 Microbiology and Immunology. Second year, fall term. Credit four hours. M T W Th 1:10. Assistant Professor Campbell, Assistant Professor Timoney, and Professors Baker and Carmichael. Includes general and pathological microbiology, virology, and immunology.

641 Microbiology and Immunology Laboratory. Second year, fall term. Credit five hours. M T W Th F 2-4:25. Professor Carmichael, Associate Professor Campbell, Assistant Professor Timoney, and assistants. Open to students who have taken or are taking course 640 or its equivalent.

740 Epidemiological Methods. Third year, fall term. Credit two hours. W F 10:10. Associate Professor Kahrs. A lecture course dealing with health and disease from a herd, flock, community, or population standpoint, emphasizing the use of knowledge about etiology, transmission, and distribution of disease in the development of preventive measures and control programs.

741 Infectious Diseases. Third year, spring term. Credit three hours. Prerequisite: courses 632 and 640. M W F 10:10. Professor Poppen-siek and Associate Professor Kahrs.

941 Advanced Immunology Lectures. Spring term of even-numbered years. Credit three hours. Prerequisite: an elementary immunology course or permission of the instructors. M W F 9:05. Professors Norcross, Winter, Associate Professor Campbell, and invited speakers. The lectures are designed to cover the field of immunology at an advanced level. Lecture topics include phylogeny and ontogeny, immunoglobulins, antibody synthesis, hypersensitivity, antigen-antibody reactions, protective immunity, and immunologic disease. Detailed course outlines available from department secretary.

942 Advanced Immunology Laboratory. Spring term of even-numbered years. Credit three hours. Prerequisite: permission of the instructors. T Th 1:30. Professors Norcross, Winter, and Associate Professor Campbell. The course will consist of three major parts: (1) a comprehensive exercise in antibody production and analysis, (2) a series of individual exercises in modern immunological technics, and (3) demonstrations of immunological instrumentation and technics. Detailed course outlines are available for distribution from the Department of Microbiology. A copy is on file in the Veterinary Library.

943-944 Advanced Work in Bacteriology, Virology, or Immunology. Fall term. Credit one to three hours, by arrangement. Spring term. Credit one to three hours, by arrangement. Properly prepared students may undertake special problems or receive special assignments.

945 Animal Virology Lectures. Spring term of odd years. Two or three credit hours. Three hours for two lectures and one seminar-discussion section. Two credit hours for lecture portion. Courses 341, 640 or equivalent considered

highly desirable. General knowledge of biochemistry and animal pathology helpful, but not required. Seminar-discussion section limited to 20 students, with priority given graduate students. S and U grades optional. M W 11:15-12:05. Seminar-discussion period of two and one half hours to be arranged. Professor Carmichael and staff. Principals of animal virology are stressed. Lecture topics include structure and classification of animal viruses, multiplication of RNA and DNA viruses; pathogenesis and host-response to viral infections; biology of selected oncogenic viruses; chronic effects of viral persistence; evolutionary aspects; and systematic treatment of selected viral groups. Course outline available from department secretary.

946 Animal Virology Laboratory. Spring term of odd years. Credit two hours. Prerequisite: permission of instructor. W 1:10 (additional time to be designated). The class size will be limited to 16 students. Associate Professor Lee and staff. The course will consist of discussions and laboratory exercises covering: preparation of cell cultures, cloning, karyotype analysis, synthesis of viral RNA, concentration and purification of virions, virus assays, neutralization test, histochemistry and fluorescent antibody technics in virus infection, and cell transformation.

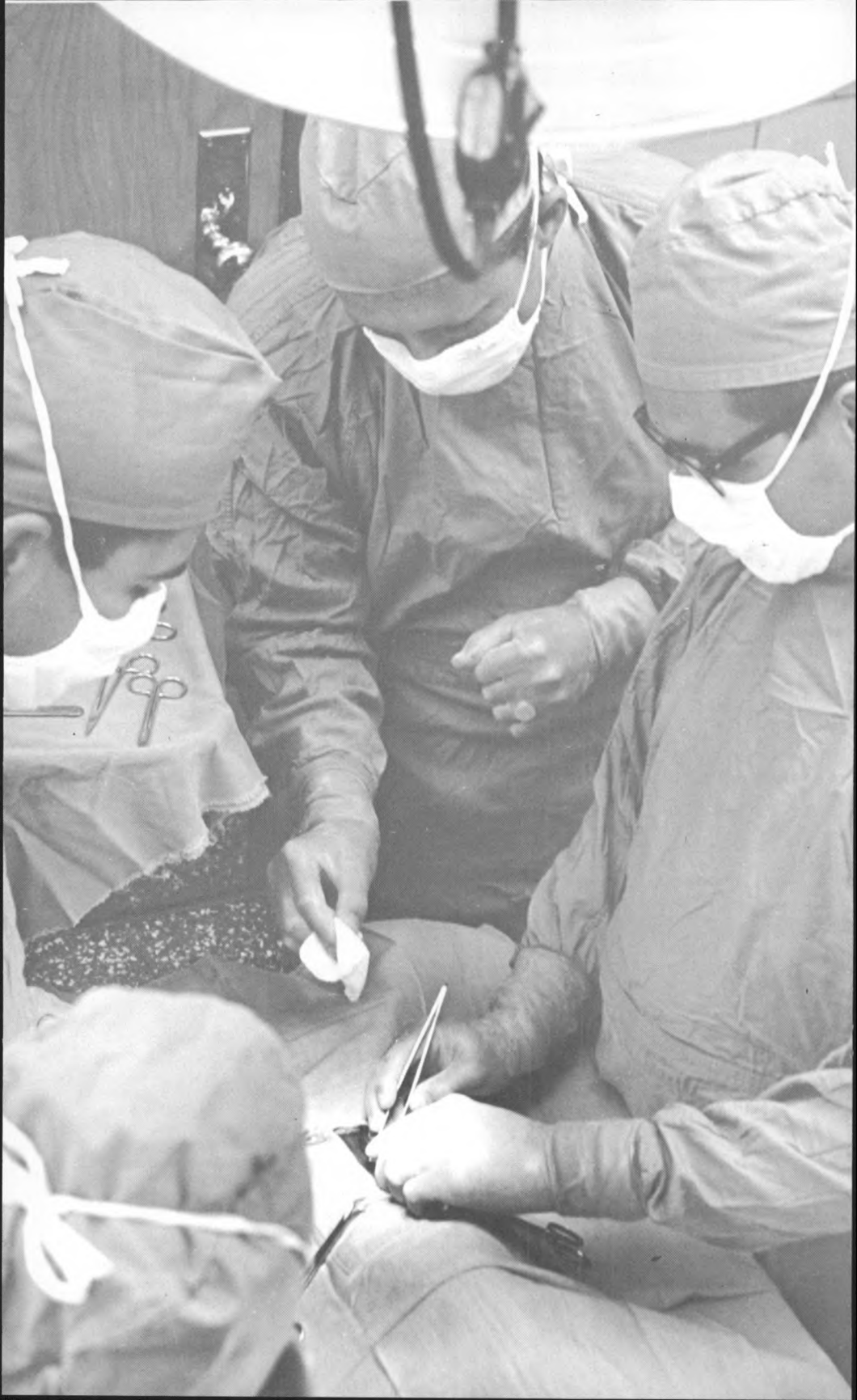
947 Microbiology Seminar. Fall and spring terms. No credit. Required of all graduate students. Undergraduate students are admitted. Th 11:15-12:05. Associate Professor Lee.

948-949 Laboratory Methods of Diagnosis. Fall term. Credit one to three hours, by arrangement. Spring term. Credit one to three hours, by arrangement. Prerequisite: 340 or 633 and 641. Instructions and practice in the application of bacteriological and serological methods for the diagnosis of disease.

Avian Diseases

Professors S. B. Hitchner, J. Fabricant, M. C. Peckham, B. W. Calnek; Assistant G. A. Berk-hoff.

The Department maintains a poultry disease diagnostic clinic at the college and two regional diagnostic laboratories in different parts of the state. These laboratories supply fresh material for teaching and research purposes. Adequate facilities existing at the college and at the poultry disease research laboratory on Snyder Hill provide opportunity for advanced study for properly qualified students. A disease-free breeding flock and a poultry disease isolation building are available for studies of most infectious and other diseases of poultry.



750 Diseases of Poultry. Third year, spring term. Credit three hours. Required of veterinary students. T Th 10:10, F 2-4:25. Professor Hitchner.

Diseases of domestic poultry and other birds are studied with special emphasis on differential diagnosis and control. Fresh and preserved specimens from the poultry diagnostic clinic are presented during the laboratory period.

250 Poultry Hygiene and Disease. Fall term, alternate years. Credit two hours. Prerequisites: Biological Sciences 290 or 290A, and permission of the instructor. Lecture and laboratory. Th 2-4:25.

The nature of the infectious and parasitic diseases of poultry, and the principles of hygiene applicable to poultry farming for the prevention and control of diseases.

Small Animal Medicine and Surgery

Professor R. W. Kirk; Associate Professors S. I. Bistner, R. T. Dueland, R. E. Hoffer, Assistant Professor G. R. Bolton; Residents E. J. Trotter, D. W. Scott, R. C. Riis; Interns F. C. Berryman, F. A. Borzio, K. R. Jaffe, C. J. McGarth.

The instruction consists of lectures, recitations, and laboratory work. The Small Animal Clinic furnishes abundant material for instruction in applied surgical and medical therapeutics of these animals. The clinic is run like a small animal practice. The students are assigned to the cases, assist in operations, and under close supervision have charge of the patients.

760 Small Animal Medicine. Fall term. Credit three hours. M W 11:15, Th 9:05. Professor Kirk, Assistant Professor Bolton.

761 Small Animal Medicine. Third year, spring term. Credit three hours. Prerequisite: Special Pathology, Pharmacology, and Clinical Pathology. T W 11:15, F 9:05. Professor Kirk, Associate Professor Bistner, Assistant Professor Bolton.

762 Small Animal Surgery. Third year, spring term. Credit four hours. Prerequisite: Special Pathology. M W Th F 8. Associate Professors Hoffer and Dueland.

763 Surgical Exercises. Third year, fall term. Credit one hour. M T W Th 2-4:25. Associate Professors Hoffer and Dueland.

773 General Surgery. Third year, fall term. Credit four hours. Prerequisite: Special Pathology. Lecture, M W F 9:05; Lab T Th 10:10, T 2:00. Professors Vaughan, Delahanty, Associate Professors Hoffer, Dueland and staff.

860 Small Animal Ophthalmology. Fourth

year, fall term. Credit one hour. W 8:00. Associate Professor Bistner.

960-961 Advanced Work. Fall and spring terms respectively. Five or more hours a week throughout the term. Professor Kirk, Associate Professors Bistner, Dueland and Hoffer, Assistant Professor Bolton.

Research in medicine and surgery of small animals.

Large Animal Medicine, Obstetrics, and Surgery

Professors K. McEntee, F. H. Fox, J. T. Vaughan, D. D. Delahanty, A. J. Winter, J. C. Geary, J. B. Tasker, J. Bentinck-Smith, N. L. Norcross, B. C. Tennant, W. J. Roenigk; Visiting Associate Professor M. Drost; Associate Professors H. F. Schryver, N. B. Haynes, J. E. Lowe, D. S. Postle, R. F. Kahrs, C. E. Hall, H. F. Hintz; Assistant Professors R. H. Whitlock, R. K. Braun, J. R. Duncan; Senior Clinician R. B. Hillman; Senior Research Associate H. O. Dunn; Research Associate K. Burda; Obstetrical Resident J. M. Wright; Surgical Residents E. L. Reinertson, J. E. Johnson; Medical Interns L. C. Wilgenbusch, M. C. Smith, D. C. Welch; Surgical Interns L. E. Dequine, G. R. Schmidt; Supervising Veterinarian W. Linguist; Farrier H. G. Mowers; X-ray Lecturer G. D. Ryan.

Classroom Work in Large Animal Medicine

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

Proximity to a large agricultural college and to a well-stocked farming community tends to offer a greater variety of patients than can be had in a large city remote from country flocks and herds. Students take charge of unusual cases in the hospital and many routine cases in the ambulatory clinic. Complete daily records are prepared by the students on all of the most instructive cases. 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 serodiagnostic methods, and others.

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, the supervising veterinarian and field veterinarians associated with the New York State Mastitis Program are resident in Ithaca, and senior students are required to accompany and assist them on many field trips dealing with all phases of bovine mastitis, including a study of various methods of milking and housing dairy cattle. In the senior year, field trips are made to study and observe management practices on large horse, sheep, dairy cattle, and swine farms, and these are a required part of courses 671, 770, 771, 772, 870, and 871.

Classroom Work in Large Animal Surgery

Course 773 (General Surgery), course 630 (General Pathology), and course 774 (Large Animal Surgical Exercises) together constitute a group designed to impart a general knowledge of the principles of surgery, surgical pathology, therapeutics, and operative technique.

Course 775, a total of seventy-five lectures and recitations, is devoted to the surgery of the various regions of the body and includes horseshoeing.

Laboratory Work in Surgery

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

In the general surgery laboratory, most emphasis is placed upon the farm animals, but many basic principles may be adapted to all cases 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 sixty-seven patients. There are two operating rooms equipped with operating tables, stocks, diagnostic and therapeutic x-ray equipment, and other equipment. 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 often 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 with both physiological and pathological findings. 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.

470 Health and Diseases of Animals. Spring term. Credit three hours. Not open to first-year students or to those who have had no course in animal husbandry. Lectures, M W F 11:15. Associate Professor Hall.

The causes and the nature of the common diseases of livestock are discussed. Emphasis is placed on the prevention and control of animal diseases.

671 Obstetrics and Genital Diseases. Second year, spring term. Credit three hours. Lectures, W F 8. Laboratory, F 2-4:25 or S 9:05-11:30. Visiting Associate Professor Drost. Pregnancy diagnosis, diseases of the gestation period including teratology and abortion, par-

turition, dystocia, obstetrical operations, and postpartum diseases are presented.

770 Obstetrics and Genital Diseases. Third year, fall term. Credit three hours. Lectures, M 8, T 9. Laboratory, M or Th 2-4:25. Visiting Associate Professor Drost.

Applied physiology and endocrinology of the male and female reproduction tract; congenital, infectious, endocrine, and miscellaneous diseases of the genital organs causing infertility and sterility; and artificial insemination are presented. Further clinical instruction in obstetrics and infertility is given in the ambulatory clinic, and in the College dairy barn in the third and fourth years.

771 Diseases of Large Animals. Third year, fall term. Credit four hours. T W Th F 8. Professor Fox.

772 Diseases of Large Animals. Third year, spring term. Credit two hours. T Th 11:15. Professor Fox.

Lectures or recitations covering physical diagnosis, therapeutics, and some diseases of large animals.

774 Large Animal Surgical Exercises. Third year, fall term. Credit one hour. M T W Th 2-4:25.

Three hours a week of laboratory work in surgical operations upon anesthetized large animals.

775 Special Surgery of Large Animals. Third year, spring term. Credit five hours. M T W Th 9:05, F 11:15. Professor Delahanty.

776-777 Fundamentals of Roentgenology. Third year, spring term. Credit one hour. M 12:20. Professor Geary and staff.

Technique of operation with the use of modern equipment, x-ray protection, darkroom procedure, and fundamentals of diagnosis.

870 Diseases of Large Animals. Fourth year, fall term. Credit four hours. M T Th F 8. Professor Fox and Senior Clinician Hillman.

871 Diseases of Large Animals. Fourth year, spring term. Credit four hours. M T W Th 8. Professor Fox and Senior Clinician Hillman. In addition to the instruction provided by the Departmental staff, Professor Kingsbury of the Department of Botany gives lectures and field trips concerning poisonous plants.

872 Jurisprudence, Ethics, and Business Methods. Fourth year, spring term. Credit one hour. Associate Professor Haynes and associates.

Lectures on the principles of veterinary medical ethics; veterinary medical organization and various practiced topics related to veterinary practice management.

970 Advanced Work in Reproductive Pathology and Bacteriology, Medicine, Obstetrics, and Surgery. Fall term. Open to graduate students. Hours and credit to be arranged.

971 Advanced Work in Reproductive Pathology and Bacteriology, Medicine, Obstetrics, and Surgery. Spring term. Open to graduate students. Hours and credit to be arranged. Professors McEntee, Fox, Delahanty, Winter; Associate Professors Schryver, Hintz, Drost and Senior Research Associate Dunn.

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

972 Urogenital Surgery of the Horse. Fall term. Credit two hours.

Surgical diseases of the urogenital system of the mare and stallion. Fourteen lectures will be presented in seminar-discussion form. The anatomy laboratory is planned to utilize the prosected specimens and video-tape, in collaboration with the Anatomy Department. The surgical pathology laboratories will be taught with the help of Reproductive Pathology. The surgical laboratories will also utilize cadaver dissections.

973 Surgery of the Digestive System of the Horse. Spring term. Credit two hours.

Surgical diseases of the digestive system including the oral cavity, pharynx and esophagus, and gastro-intestinal tract. Special consideration will be given to problems arising from diseased teeth and obstructive disease of the esophagus and intestine. Laparotomy techniques will be covered in depth. Fourteen lectures will be presented in seminar-discussion form. Laboratories will also take advantage of dissected specimens.

Collaboration with the Anatomy Department and the Pathology Department will be utilized in both lecture and laboratory presentations.

974-975 Gastroenterology Conference. Fall and spring terms. Credit one hour. Th 1:00. Professor Tennant.

Demonstration and discussion of cases in the Large and Small Animal Clinics.

Reproductive Pathology. Professor McEntee. See Department of Pathology, course 938.

Epidemiological Methods. Associate Professor Kahrs. See Department of Microbiology, course 740.

265 Horses. Spring term. Credit two hours. Prerequisite: 100 or permission to register. Lecture, Th 9:05. Morrison Hall 146. Laboratory, Th 1:25-4:25. Livestock Pavilion. Associate Professors Hintz and Lowe.

A course in selection, management, feeding, breeding, training, and marketing of light horses.

34 Clinical Courses

365 Seminar on Horse Production. Spring term. Credit two hours. Prerequisite: 112, 220, 221, and 265, or equivalent. Enrollment limited to 18 students. F 2-4:35. Morrison Hall 163. Associate Professors Hintz and Lowe. Discussion of the management of various types of horse enterprises such as the breeding farm, training stable, and riding stable. One all-day field trip will be taken.

Special Lectures

During the year, lectures on special topics in medicine will be given by eminent practitioners and teachers of veterinary medicine. They will form a part of the instruction in this Department.

Opportunities for Research

The activities of the Department, aside from the instruction, are devoted to research in connection with diseases of cattle, including mastitis, the phenomena of sterility and abortion in animals of breeding age, diseases of newborn calves, equine nutrition in relation to bone and joint diseases, radiology, clinical pathology, and immunochemistry. Opportunity is afforded for participation in the investigations by graduate students having acceptable preparation.

The Clinical Courses

Professors McEntee, Fox, Delahanty, Kirk, Vaughan, Bentinck-Smith, Tasker, Geary, Rickard, Hitchner, Peckham, Fabricant, Tennant, Roenigk; Associate Professors King, Lowe, Postle, Bistner, Dueland, Hoffer, Drost; Assistant Professors Braun, Whitlock, Bolton; Senior Clinician Hillman; Residents Trotter, Riis, Scott, Reinertson, Johnson, Wright; Interns Berryman, Borzio, Dequine, Jaffe, McGarth, Schmidt, Smith, Welch, Wilgenbusch; Supervising Veterinarian Lindquist.

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 the clinical staff. The technical instruction is divided among four departments as follows.

The Ambulatory Clinic, Consulting Clinic, Radiological and Clinical Pathology are operated by the Department of Large Animal Medicine, Obstetrics and Surgery.

The Small Animal Clinic is operated by the

Department of Small Animal Medicine and Surgery.

The Poultry Clinic is conducted by the Department of Avian Diseases.

The work in necropsies is conducted by the Department of Pathology.

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.

Students must complete all prescribed clinical courses satisfactorily to be eligible for graduation.

636 Clinical Pathology. Second year, spring term. Credit two hours. Prerequisite: courses 632 and 633 in the Department of Large Animal Medicine, Obstetrics, and Surgery, taken previously or concurrently. Students from other Colleges may be admitted by special permission without these prerequisites. Lecture, Th 11:15. Laboratory, Section I, W 10:10-12:35; Section II, W 2-4:25. Professors Bentinck-Smith and Tasker.

The application of the techniques of hematology, urinalysis, cytology, semen examinations, and other laboratory procedures in diagnosis; the biochemical changes in the blood and other fluids in disease; the study of pathological alterations in clinical cases.

790 Clinical Orientation. Third year, fall term. W 12:20.

791 Clinical Orientation. Third year, spring term. M 11:15 and M T W or Th 2-4:25. Methods of clinical examination will be demonstrated and selected cases from all the clinics will be presented and discussed.

898 Senior Seminar. Fourth year, fall term. F 12:20-1:10. Associate Professor Lowe in charge.

899 Senior Seminar. Fourth year, spring term. F 12:20-1:10. Associate Professor 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.

890 Small Animal Clinic. Fourth year, fall term. Credit four hours.

891 Small Animal Clinic. Fourth year, spring term. Credit four hours.

892 Large Animal Clinic. Fourth year, fall term. Credit four hours.

893 Large Animal Clinic. Fourth year, spring term. Credit four hours.

894 Ambulatory Clinic. Fourth year, fall term. Credit four hours.

895 Ambulatory Clinic. Fourth year, spring term. Credit four hours.

896 Clinics Ancillary. Fourth year, fall term. Credit four hours.

897 Clinics Ancillary. Fourth year, spring term. Credit four hours.

These clinics operate daily by assignment, including nights and Sundays when necessary. Professors Kirk, Vaughan, Fox, Bentinck-Smith, respectively.

During his fourth and final year the veterinary student is required to spend his time, after 9:00 a.m. 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 the four clinics so that they may acquire a varied experience. Work in one of the clinics may not be substituted for that in any of the others.

Work in necropsies will be supervised by the Department of Pathology. As a part of their ancillary clinical duties, students will be required to carry out, under the supervision of the clinical pathologist, such laboratory procedures as are indicated. Students in ancillary clinic are assigned to necropsy duty under the supervision of a pathologist, and the results of each necropsy are reported to the clinic group responsible for the case.

Courses in the Veterinary Curriculum Given by the College Of Agriculture

Animal Science

101 Livestock Management. First year, fall term. Credit three hours. Lectures, T Th 8. Morrison 163. Laboratory, T 10:15-12:35. Livestock Pavilion. Professor Elliot.

Distribution, significance, problems, and practical management of commercially important classes of farm animals.

Animal Nutrition

311 Principles and Practice of Animal Feeding. First year, spring term. Credit three hours. Lectures, M W 8. Morrison 163. Laboratory, T 10:10-12:35. Morrison 164. Associate Professor Hogue.

Consideration is given to the basic principles of animal nutrition, nutritive requirements for various body functions; the identification, composition, and nutritive value of feeds, and the formulation of animal rations. The species covered include dairy cattle, beef cattle, sheep, swine, and horses; and there is some consideration of dogs, cats, and other small animals. Special emphasis is given to nutritional problems relating to animal health.

Animal Breeding and Physiology

424 Animal Genetics. Second year, fall term. Credit two hours. For veterinary students only. Lecture, M 8, Morrison 163. Laboratory, W 10:10-12:35, Morrison 164 and 174. Associate Professor Van Vleck.

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



Register

University Administration

Dale R. Corson, President of the University
Robert A. Plane, University Provost
W. Donald Cooke, Vice President for Research
Lewis H. Durland, University Treasurer
William D. Gurowitz, Vice President for
Campus Affairs
Samuel A. Lawrence, Vice President for
Administration
E. Hugh Luckey, Vice President for
Medical Affairs
Thomas W. Mackesey, Vice President for
Planning
Paul L. McKeegan, Vice Provost
Arthur H. Peterson, University Controller
Richard M. Ramin, Vice President for
Public Affairs
Robert F. Risley, Vice Provost
Neal R. Stamp, Secretary of the Corporation
and University Counsel

Cornell University Board of Trustees

Robert W. Purcell, Chairman	Perry B. Duryea, Jr.*
Jansen Noyes, Jr., Vice Chairman	Charles E. Dykes
Morton Adams*	Robert G. Engel
Walter G. Barlow	Paul P. Feeny
Urie Bronfenbrenner	Glenn W. Ferguson
Earl W. Brydges*	Earl R. Flansburgh
J. Robert Buchanan	Richard I. Fricke
Patricia J. Carry	Robert C. Gottlieb
Gordon G. Chang	Meredith C. Gourdine
Hays Clark	H. Victor Grohmann
Constance E. Cook	Jerome H. Holland
Raymond R. Corbett	Desdemona P. Jacobs
Ezra Cornell	Belton K. Johnson
Dale R. Corson, President*	Samuel C. Johnson
Edmund T. Cranch	Joseph P. King
Arthur H. Dean	Austin H. Kiplinger
	Gerard V. LaSalle
	Louis L. Levine*
	J. Preston Levis

Sol M. Linowitz
E. Howard Molisani
Neal L. Moylan*
Ewald B. Nyquist*
Paul Olum
Samuel R. Pierce, Jr.
Robert C. Platt
David Pollak
Robert L. Ridgley
William R. Robertson
Nelson A.
Rockefeller*
Adele L. Rogers

Nelson Schaenen, Jr.
Jacob Sheinkman
Robert L. Sproull
Charles T. Stewart
Bruce J. Stone
Charles E. Treman, Jr.
Harold D. Uris
Frank A. Walkley*
John H. Whitlock
Bruce W. Widger
Philip Will, Jr.
Malcolm Wilson*
Frank W. Zurn

* Ex officio Trustees

Trustees, State University of New York

Elizabeth L. Moore, Chairman
James J. Warren, Vice Chairman

Manly Fleischmann
William D. Hassett, Jr.
John L. S. Holloman, Jr.
Hugh R. Jones
Clifton W. Phalen
Margaret T. Quackenbush
John A. Roosevelt
Oren Root
Gretchen Siegel
Roger J. Sinnott
Thomas Van Arsdale
Don J. Wickham

Ernest L. Boyer, Chancellor of the State
University
Martha J. Downey, Secretary of the State
University

Council, New York State Veterinary College

- Robert A. Squire, D.V.M., Ph.D., Chairman,
Professor of Comparative Medicine,
Department of Pathology, Johns Hopkins
University, 601 North Broadway, Baltimore,
Maryland
- M. P. Catherwood, Ph.D., Professor Emeritus
of Cornell University, Ithaca, New York
- John F. Donovan, D.V.M., Executive Secretary,
New York State Veterinary Medical Society,
150 State Street, Albany, New York
- Harry A. Feldman, M.D., Department of
Preventive Medicine, Upstate Medical
Center, 750 East Adams Street, Syracuse,
New York
- S. Harvey Fosner, LL.B., Executive Vice
President, Roosevelt Raceway, Westbury,
New York
- Robert W. Leader, D.V.M., Professor & Head,
Department of Animal Sciences, University
of Connecticut, Storrs, Connecticut
- John L. Marshall, D.V.M., M.D., Division of
Comparative Orthopedics, Hospital of
Special Surgery, York Avenue & 70th
Street, New York, New York
- Edwyn E. Mason, LL.B., New York State
Assembly, P. O. Box 236, Hobart, New York
- Joseph A. Vanorio, President, Empire State
Horsemen's Association, P. O. Box 41,
Pound Ridge, New York

College Administration

- George C. Poppensiek, Dean
- Kenneth McEntee, Associate Dean, Clinical
Studies
- Charles G. Rickard, Associate Dean,
Pre-Clinical Studies
- William H. Johndrew, Director of Student
Administration
- Howard E. Evans, Secretary of the College
- Ann Marcham, Director of Fiscal and
Personnel Affairs
- Robert K. Radziwon, Assistant to the Dean

Faculty and Staff

Emeritus Professors

- Baker, Donald W., B.S., D.V.M., Ph.D.,
Veterinary Parasitology
- Bruner, Dorsey W., B.S., Ph.D., D.V.M.,
Veterinary Microbiology
- Danks, A. Gordon, B.S., D.V.M., Veterinary
Surgery
- Dukes, H. Hugh, B.S., D.V.M., M.S., D.H.C.,
D.Sc., Veterinary Physiology
- Fincher, Myron G., D.V.M., M.S., Veterinary
Medicine
- Gilman, Herbert L., D.V.M., M.S., Ph.D.,

- Veterinary Bacteriology
- Leonard Ellis P., B.S., D.V.M., Small Animal
Surgery
- Levine, P. Philip, B.S., D.V.M., M.S., Ph.D.,
Avian Diseases
- Olafson, Peter, D.V.M., M.S., Veterinary
Pathology
- Roberts, Stephen J., D.V.M., M.S., Veterinary
Medicine, Obstetrics
- Stephenson, Hadley C., B.S., D.V.M., Veterinary
Therapeutics, Small Animal Diseases

Professors

- Aronson, Arthur L., B.S., D.V.M., M.S., Ph.D.,
Veterinary Pharmacology (on sabbatical
leave)
- Baker, James A., B.S., M.S., Ph.D., D.V.M.,
Veterinary Virology; Director of the Veterinary
Virus Research Institute
- Bentinck-Smith, John, A.B., D.V.M., Clinical
Pathology
- Bergman, Emmett N., B.S., D.V.M., M.S., Ph.D.,
Veterinary Physiology
- Boyer, Clyde I., Jr., V.M.D. M.S.; Director of
Laboratory Animal Medicine
- Bowie, Walter C., D.V.M., M.S., Ph.D., (Adjunct),
Veterinary Physiology
- Calnek, Bruce W., D.V.M., M.S., Avian Diseases
- Carmichael, Leland E., A.B., D.V.M., Ph.D.,
John M. Olin Professor of Virology
- Coggins, Leroy, B.S., D.V.M., Ph.D., Veterinary
Virology
- Comar, Cyril L., B.S., Ph.D., Physical Biology;
Head of the Department of Physical Biology
- Delahanty, Donald D., D.V.M., M.S., Veterinary
Surgery
- Dobson, Alan, B.A., M.A., Ph.D., Veterinary
Physiology
- Evans, Howard E., B.S., Ph.D., Veterinary
Anatomy; Secretary of the College (on
sabbatical leave, second term)
- Fabricant, Julius, B.S., V.M.D., M.S., Ph.D.,
Avian Diseases
- Fox, Francis H., D.V.M., Veterinary Medicine,
Obstetrics; Director of the Ambulatory Clinic;
Acting Chairman of the Department of Large
Animal Medicine, Obstetrics, and Surgery
- Gasteiger, E. L., Jr., A.B., M.S., Ph.D., Physical
Biology, Neurobiology and Behavior
- Geary, Jack C., D.V.M., Radiology; Director of
Radiology in the Department of Large Animal
Medicine, Obstetrics, and Surgery (on
sabbatical leave, second term)
- Georgi, Jay R., D.V.M., Ph.D., Veterinary
Parasitology
- Gillespie, James H., V.M.D., Veterinary
Microbiology; Chairman of the Department
of Microbiology
- Habel, Robert E., D.V.M., M.Sc., M.V.D.,
Veterinary Anatomy; Head of the Department
of Anatomy
- Hitchner, Stephen B., B.S., V.M.D., Avian
Diseases; Head of the Department of
Avian Diseases
- Haupt, Thomas K., V.M.D., M.S., Ph.D.,

Veterinary Physiology
 Kirk, Robert W., B.S., D.V.M., Small Animal Medicine; Chairman of the Department of Small Animal Medicine and Surgery; Director of the Small Animal Clinic
 Krook, Lennart P., D.V.M., Ph.D., Veterinary Pathology
 Lengemann, Fred W., B.S., M.N.S., Ph.D., Radiation Biology
 McEntee, Kenneth, D.V.M., Veterinary Medicine and Pathology; Associate Dean for Clinical Studies.
 Norcross, Neil, A.B., M.S., Ph.D., Immunochemistry
 Noronha, Fernando M., D.V.M., Veterinary Virology
 Peckham, Malcolm C., B.S., D.V.M., Avian Diseases
 Poppensiek, George C., V.M.D., M.S., Veterinary Microbiology; Dean of the College
 Rickard, Charles G., D.V.M., M.S., Ph.D., Pathology; Chairman of the Department of Veterinary Pathology; Associate Dean for Preclinical Studies
 Roenigk, William J., D.V.M., M.S., Radiology
 Sellers, Alvin F., V.M.D., M.S., Ph.D., Veterinary Physiology; Head of the Department of Physiology, Biochemistry, and Pharmacology
 Sheffy, Ben E., B.S., M.S., Ph.D., Nutrition; Assistant Director of Cornell Research Laboratory for Diseases of Dogs
 Stevens, Charles E., B.S., D.V.M., M.S., Ph.D., Veterinary Physiology
 Tapper, Daniel N., B.S., V.M.D., Ph.D., Physical Biology (on sabbatical leave)
 Tasker, John B., D.V.M., Ph.D., Clinical Pathology
 Tennant, Bud C., B.S., D.V.M., Comparative Gastroenterology
 Vaughan, J. Thomas, D.V.M., M.S., Veterinary Surgery; Director of the Large Animal Hospital
 Wasserman, Robert H., B.S., M.S., Ph.D., Radiation Biology
 Whitlock, John H., D.V.M., M.S., Veterinary Parasitology
 Winter, Alexander J., B.S., D.V.M., M.S., Ph.D., Veterinary Microbiology; Graduate Field Representative
 Wootton, John F., B.S., M.S., Ph.D., Physiological Chemistry

Associate Professors

Appel, Max J., D.V.M., Ph.D., Veterinary Virology
 Bistner, Stephen I., B.S., D.V.M., Comparative Ophthalmology
 Campbell, S. Gordon, B.V.M.S., M.V.Sc., Ph.D., Veterinary Microbiology
 Casarett, Alison P., B.S., M.S., Ph.D., Radiation Biology
 Craig, Peter H., B.S., V.M.D., M.S., Pathology in the Department of Physical Biology
 Cummings, John F., B.S., D.V.M., M.S., Ph.D.,

Veterinary Anatomy
 de Lahunta, Alexander, D.V.M., Ph.D., Veterinary Anatomy
 Drost, Maarten, D.V.M., (Visiting), Reproductive Diseases and Obstetrics
 Dueland, Rudolf, D.V.M., M.S., Veterinary Surgery
 Hall, Charles E., A.B., D.V.M., Reproductive Studies
 Haynes, N. Bruce, B.S., D.V.M., Veterinary Science; Extension Veterinarian (on sabbatical leave, first term)
 Hintz, Harold F., B.S., M.S., Ph.D., Animal Nutrition
 Hoffer, Richard E., D.V.M., M.S., D.A.C.V.S., Small Animal Surgery
 Kahrs, Robert F., D.V.M., M.S., Ph.D., Veterinary Epidemiology
 King, John M., D.V.M., Ph.D., Veterinary Pathology
 Lee, Kyu M., M.D., Ph.D., Virology
 Lowe, John F., D.V.M., M.S., Veterinary Surgery
 Nangeroni, Louis L., B.S., D.V.M., M.S., Veterinary Physiology
 Post, John E., B.S., D.V.M., Ph.D., Veterinary Pathology
 Postle, Donald S., D.V.M., M.S., Veterinary Science
 Sack, Wolfgang O., D.V.M., M.R.C.V.S., Ph.D., Veterinary Anatomy
 Schryver, Herbert F., B.A., D.V.M., Ph.D., Pathology; Director of Equine Research Program (on sabbatical leave)
 Shively, James N., D.V.M., M.P.H., M.S., Ph.D., Veterinary Pathology
 Thompson, John C., Jr., B.S., M.S., Ph.D., Environmental Radiation Biology

Assistant Professors

Arion, William J., B.S., M.S., Ph.D., Physiological Chemistry
 Bolton, Gary R., D.V.M., Small Animal Medicine-Cardiology
 Braun, R. Kenneth, B.S., D.V.M., Large Animal Medicine, Obstetrics, and Surgery
 Duncan, J. Robert, B.S.A., D.V.M., M.Sc., Reproductive Pathology
 Kallfelz, Francis A., D.V.M., Ph.D., Physical Biology
 Lesser, George V., B.S., D.D.S., (Adjunct), Veterinary Pathology
 Lust, George, B.S., Ph.D., Biochemistry
 Pulley, Leamon T., D.V.M., Ph.D., Veterinary Pathology
 Schwark, Wayne S., D.V.M., M.Sc., Ph.D., Veterinary Pharmacology
 Scott, Frederic W., B.S., D.V.M., Ph.D., Veterinary Microbiology
 Timoney, John F., B.Sc., M.V.B., M.R.C.V.S., M.S., Ph.D., Veterinary Bacteriology
 Whitlock, Robert H., D.V.M., Ph.D., Large Animal Medicine, Obstetrics, and Surgery (on leave)

Senior Research Associates

- Britt, Alfred L., D.V.M., M.P.H., Ph.D., Veterinary Pathology
 Corradino, Robert A., B.S., M.S., Ph.D., Physical Biology
 Dellers, Robert W., D.V.M., Ph.D., Veterinary Pathology
 Dougherty, Ellsworth III, B.S., V.M.D., M.S., Ph.D., Veterinary Pathology
 Dunn, Henry O., B.S., M.S., Ph.D., Large Animal Medicine, Obstetrics, and Surgery
 Eisenstadter, Joseph, Ph.D., Veterinary Pathology
 Gries, Christian L., D.V.M., Ph.D., Veterinary Pathology
 Hillman, Robert B., A.B., D.V.M., M.S., Large Animal Medicine, Obstetrics, and Surgery
 Hiltz, Frederick L., B.S.E.E., M.S.E.E., Ph.D., Physical Biology
 Kernen, Mathias J., Jr., D.V.M., M.S., Veterinary Pathology
 Maylin, George A., D.V.M., M.S., Ph.D., Veterinary Pathology
 Moraff, Howard, A.B., B.S., M.S., Ph.D., Physical Biology
 Studdert, Michael J., B.V.Sc., M.V.Sc., Ph.D., Veterinary Pathology
 Taylor, Alan N., A.A.S., B.S., M.S., Ph.D., Physical Biology
 Waterman, Fausto E., D.V.M., Veterinary Pathology
 Wentworth, Richard A., B.S., M.S., Ph.D., Physical Biology

Professional Service—Laboratories

- Angstrom, Clement I., D.V.M., Director of Laboratory, Avian Disease Program (Kingston)
 Fritz, Albert C., D.V.M., Field Veterinarian, Mastitis Program (Kingston)
 Hayes, Gerald L., D.V.M., Field Veterinarian (Earlville)
 Leibovitz, Louis, B.A., B.S., V.M.D., Field Veterinarian (Eastport)
 Linquist, Wesley, D.V.M., Supervising Veterinarian, Mastitis Program (Ithaca)
 Nusbaum, Sidney R., D.V.M., Director of the Diagnostic Laboratory (Ithaca)
 Price, Jessie I., B.S., M.S., Ph.D., Research Specialist in Avian Diseases (Eastport)
 Urban, William D., V.M.D., Director of Duck Research Laboratory (Eastport)
 Wager, Leslie A., D.V.M., Field Veterinarian, Mastitis Program (Canton)

Library

- Reinap, Mia, B.S., B.S. (Library Science), Librarian of the Flower Veterinary Library
 Mesner, Lillian R., R.N., B.S., M.L.S., Assistant Librarian
 Miller, Pearl S., B.S., M.Ed., M.L.S., Associate Librarian

Research Associates and Specialists

- Aguirre, Gustavo D., V.M.D., M.Sc., Veterinary Microbiology
 Argenzio, Robert A., B.S., M.Sc., Ph.D., Physiology, Biochemistry, and Pharmacology
 Brown, Talmage, T., Jr., B.S., D.V.M., Large Animal Medicine, Obstetrics, and Surgery
 Burda, Karina, B.S., M.S., Large Animal Medicine, Obstetrics, and Surgery
 Coote, Beverly A., B.V.Sc., Veterinary Pathology
 Cowen, Barrett S., B.S., M.S., Specialist, Veterinary Avian Diseases
 Fabricant, Catherine G., B.S., M.A., Veterinary Microbiology
 Holmes, Dorothy F., D.V.M., Ph.D., Veterinary Microbiology
 Kingsbury, John M., Ph.D., Lecturer in Phytotoxicology, Professor of Botany
 Kresge, Charles E., B.S., V.M.D., Veterinary Pathology
 Schultz, Ronald D., B.S., M.S., Ph.D., Veterinary Microbiology
 Silverstein, Spencer J., A.B., Specialist, Veterinary Physiology, Biochemistry, and Pharmacology
 Wang, Jyi-Teh, B.S., M.S., Ph.D., Veterinary Microbiology

Residents and Interns

- Berryman, Frank C., B.S., D.V.M., Small Animal Medicine and Surgery
 Borzio, Frank, Jr., D.V.M., Small Animal Medicine and Surgery
 Buerget, Claus D., D.V.M., Veterinary Pathology
 Dequine, Louis E., III, B.S., D.V.M., Large Animal Medicine, Obstetrics, and Surgery
 Inhelder, James L., B.S., D.V.M., M.S., Veterinary Pathology
 Jaffe, Kenneth R., B.A., B.S., D.V.M., Small Animal Medicine and Surgery
 Johnson, John E., D.V.M., Resident, Large Animal Medicine, Obstetrics, and Surgery
 McGarth, Charles J., B.S., D.V.M., Small Animal Medicine and Surgery
 Reinertson, Eric L., D.V.M., Resident, Large Animal Medicine, Obstetrics, and Surgery
 Riis, Ronald C., B.S., D.V.M., Resident, Small Animal Medicine and Surgery
 Schmidt, Gregory R., B.S., D.V.M., Large Animal Medicine, Obstetrics, and Surgery
 Scott, Danny W., B.S., D.V.M., Resident, Small Animal Medicine and Surgery
 Smith, Mary C., B.S., D.V.M., Large Animal Medicine, Obstetrics, and Surgery
 Trotter, Eric J., B.S., D.V.M., Instructor, Small Animal Medicine and Surgery
 Welch, David C., D.V.M., Large Animal Medicine, Obstetrics, and Surgery
 Wilgenbusch, Loras C., D.V.M., Large Animal Medicine, Obstetrics, and Surgery
 Wright, Joseph M., D.V.M., Resident, Large Animal Medicine, Obstetrics, and Surgery

Specialists and Technicians

Ames, Claude K., Livestock Superintendent
 Batik, George J., Medical Illustrator
 Best, Robert N., X-ray Technician
 Mowers, Harold, Farrier
 Reidemanis, Alfreds, Anatomical Specialist
 Ryan, Gerald D., X-ray Lecturer
 Sadler, Lewis L., Medical Illustrator

Visiting Staff, 1971-72

Alcantara, Jesus D., Quezon City, Philippines
 Betts, Charles W., New York, New York
 Bowie, Walter C., Tuskegee Institute, Alabama
 Breukink, Hendrick G., Utrecht, Holland
 Dodd, David C., Kennett Square, Pennsylvania
 Durrell, Winfield B., Shelburne, Vermont
 Flores, Jose M., Torreon, Mexico
 Kishi, Tatehiko, Tokyo, Japan
 Lee, Robert C. T., Taipei, China
 Linblad, Johan, Stockholm, Sweden
 Megale, Francisco, Minas Gerais, Brazil
 Mitin, Vladimir, Zagreb, Yugoslavia
 Prata, Raymond G., New York, New York

Standing Committees of the College Faculty*

General Committee

S. G. Campbell, Chairman (1970-73)
 F. W. Scott (1970-73)
 J. T. Vaughan (1971-74)
 C. E. Hall (1972-75)
 L. P. Krook (1972-75)

Admissions

W. H. Johndrew, Chairman
 J. F. Cummings (1971-73)
 F. A. Kallfelz (1970-73)
 J. E. Lowe (1971-74)
 J. B. Tasker (1971-74)

Deficient Students

W. H. Johndrew, Chairman
 J. Bentinck-Smith
 J. M. King

Scholarships

R. E. Habel, Chairman
 R. K. Braun
 W. H. Johndrew
 J. C. Thompson, Jr.
 R. H. Wasserman
 A. J. Winter

Curriculum†

P. H. Craig, Chairman
 G. R. Bolton
 S. G. Campbell
 L. Coggins
 J. F. Cummings
 A. Dobson
 J. Fabricant
 K. McEntee
 C. G. Rickard
 J. T. Vaughan

Class Schedules

K. McEntee
 C. G. Rickard

Student Conduct

R. W. Kirk, Chairman
 S. B. Hitchner
 R. F. Kahrs
 L. T. Pulley

College Library

B. C. Tennant, Chairman
 L. Coggins
 C. L. Comar
 R. E. Habel

Faculty Council of Representatives

H. E. Evans (1970-73)
 R. E. Habel (1970-74)
 N. L. Norcross (1972-75)
 J. N. Shively (1972-75)

Academic Policies and Priorities

J. C. Thompson, Jr., Chairman (1972-75)
 R. K. Braun (1972-75)
 C. E. Hall (1972-73)
 N. B. Haynes (1972-73)
 C. E. Stevens (1972-74)

Class Advisory Committee

W. H. Johndrew, Chairman

Class of 1976

J. Bentinck-Smith
 G. R. Bolton
 J. C. Geary
 S. B. Hitchner
 F. A. Kallfelz
 F. W. Scott
 J. F. Wootton

* The Dean is ex officio member of all committees.

† Student representatives are elected from each class.

Class of 1975

R. K. Braun
S. G. Campbell
A. de Lahunta
F. H. Fox
J. R. Georgi
D. S. Postle
W. O. Sack

Class of 1974

R. E. Habel
C. E. Hall
J. M. King
J. B. Tasker

Class of 1973

J. F. Cummings
J. E. Lowe
B. C. Tennant

Special Committees 1972-73

Clinical Pathological Conference

A. de Lahunta, Chairman
G. R. Bolton
B. C. Tennant

Sixty-Fifth Annual Conference for Veterinarians

J. Bentinck-Smith
R. F. Kahrs
L. P. Krook
D. S. Postle
W. O. Sack

Senior Seminar Committee

J. E. Lowe, Chairman
S. I. Bistner
G. R. Bolton
P. H. Craig
F. H. Fox
R. B. Hillman

Committee on Equine Research Program

H. F. Schryver, Chairman
L. Coggins
L. P. Krook
J. E. Lowe
C. E. Stevens

Members from Department of Animal Science

College-State Society Liaison Committee

J. E. McCormick, Chairman
H. E. Nadler
R. W. Batchelder
R. F. Kahrs, Chief Faculty
Representative

R. W. Kirk (protem for
N. B. Haynes)
K. McEntee

Veterinary College Representatives to Cornell University Senate

S. I. Bistner
L. Coggins
S. B. Hitchner

Committee on Aquatic and Laboratory Animal Health

J. H. Gillespie, Chairman
J. A. Baker
G. R. Bolton
H. E. Evans
S. B. Hitchner
G. Rumsey
W. S. Schwark
F. W. Scott
C. I. Boyer, Jr.—ex officio

Student-Faculty Liaison Committee*

A. L. Aronson
G. R. Bolton
A. de Lahunta
A. Charlebois '75
B. P. MacNeil '74
K. G. Lynch '73

* Student representatives and faculty members are elected by the student body. One student serves as chairman.

Graduate-Faculty Liaison Committee

L. E. Carmichael
H. E. Evans
L. P. Krook
A. J. Winter
L. Corbeil
E. D. Erickson
J. M. Gaskin

Students, Veterinary College*

Graduate Students, Fall 1971-72

Al-Khayyat, Ali Aziz, B.V.Sc., M.S., Baghdad,
Iraq
Allen, Ralph W., B.S., D.V.M., Fort Lauderdale,
Florida
Balaban, Jerry G., A.B., M.A., Cherry Hill,
New Jersey
Ballas, Lawrence, B.S., M.S., Hamden,
Connecticut

* Those cities, in this section, not followed by the name of a state are in New York State.

Bemis, David A., B.S., Ithaca
 Berkhoff, German A., D.V.M., Santiago, Chile
 Braide, Ekumen, M.S., Ibadan, Nigeria
 Braide, Victor B. C., D.V.M., Ibadan, Nigeria
 Bräutigam, Fred E., D.V.M., Managua D.N.,
 Nicaragua
 Brown, Talmage T., D.V.M., B.S., Raleigh,
 North Carolina
 Bubar, Richard H., A.B., D.V.M., Urbana,
 Illinois (Leave of absence)
 Carlson, Jack H., B.S., D.V.M., Heber, Utah
 Carlson, Pamela, B.S., West Hatfield,
 Massachusetts
 Chmielewski, Richard, B.S., Utica
 Conrad, Charles R., D.V.M., Afton
 Corbeil, Lynette B., D.V.M., M.S., British
 Columbia, Canada
 Cowen, Barrett S., B.S., M.S., Lebanon,
 New Hampshire
 Davies, D. Hugh, B.V.Sc., Patea, New Zealand
 Dellers, Robert W., D.V.M., New York
 (Leave of absence)
 El-Attar, Abdallah F., B.V.Sc., Cairo, Egypt
 Erickson, Eric D., D.V.M., Qualicum Beach,
 British Columbia, Canada
 Fathalla, Mahmood A. R., B.V.M.S., F.R.V.A.,
 Baghdad, Iraq
 Fullmer, Curtis, B.S., M.S., Angola
 Gaskin, Jack M., D.V.M., Watertown
 George, Lisle W., B.S., D.V.M., Blairsville,
 Pennsylvania
 Gerwitz, Myrna, B.S., M.S., Brooklyn
 Hedhammar, Åke A., D.V.M., Danderyd,
 Sweden
 Higgins, David A., B.V.Sc., Manchester,
 Lancashire, England
 Holmes, Dorothy F., D.V.M., Groton
 (Leave of absence)
 Hong, Chuen-Bin, B.V.Sc., M.S., Taipei,
 Taiwan, China
 Humphrey, Peter W., B.A., Ithaca
 Jacobson, Frederick L., B.S., M.S., North Bend,
 Oregon
 Kalunda, Maurice, B.V.Sc., Masaka, Uganda,
 E. Africa
 Kaufman, Charles F., A.B., D.V.M., M.S.,
 New York
 Keen, James, B.A., Forest Hills
 LaFaunce, Norman A., B.S., D.V.M., Eureka,
 California
 Lippiello, Louis, A.A.S., B.S., M.S., Newfield
 Mills, Daniel C., B.S., Penn Yan
 Mohler, Nancy, B.A., Eugene, Oregon
 Molt, James, A.B., Plainfield, New Jersey
 Morgan, Robert A., B.A., M.A., Kalamazoo,
 Michigan
 Robinson, Donald L., B.S., D.V.M., Pleasantville
 Rogerson, Katherine M., B.S., Brookfield, Ohio
 Russell, Harold, B.S., M.S., Atlanta, Georgia
 Sagan, Cyril E., B.S., M.Ed., M.S., Detroit,
 Michigan
 Sample, Jedith, B.A., Colorado Springs,
 Colorado
 Schurig, Gerhardt D., D.V.M., Santiago, Chile

Smith, Maurice W., D.V.M., Lloydminster,
 Alberta and Saskatchewan,
 Taylor, Tex S., D.V.M., Altha, Florida
 Toth, Thomas E., D.V.M., Budapest, Hungary
 Trotter, Eric J., B.S., D.V.M., River Forest,
 Illinois
 Twisselmann, Kenneth L., D.V.M., Bakersfield,
 California
 Ubertini, Tito, D.V.M., Brescia, Italy
 Uhazy, Leslie S., M.S., Edmonton, Alberta,
 Canada
 Wallin, Bruce, B.A., Mansfield, Pennsylvania
 Wright, Joseph, B.S., D.V.M., Alpine, Texas
 (Leave of absence)
 Wu, Fu-Ming, B.V.M., Taipei, Taiwan, China

Fourth Year, Class of 1973

Ackerman, David Bruce, Brooklyn
 Adams, Robert John, Little Neck
 Allen, Bruce Dain, Hartsdale
 Ansley, James Rawlings, Killarney, Florida
 Baldwin, Charles Alexander, Northfield,
 Massachusetts
 Bandes, John David, Valley Stream
 Barra, Michael Joseph, Catskill
 Berman, Eli Michael, Brooklyn
 Bird, Richard John, Spencer, Massachusetts
 Brown, Kerry Lee, Berwick, Pennsylvania
 Butterfield, Timothy James, Windham, New
 Hampshire
 Carlson, David Jon, W. Hatfield, Massachusetts
 Coley, David Sherwood, Weston, Connecticut
 Cooke, Gary Stephen, Bridport, Vermont
 De Boer, Henry, Jr., Tallman
 Ecklund, Thomas Todd, Bellmore
 Ford, Donald Eugene, Scarsdale
 Gardner, Charles Edward, Elmer, New Jersey
 Gerber, William Andrew, Niagara Falls
 Goldstein, Martin Gene, New Hyde Park
 Haggerty, George Francis, Holtsville
 Hopek, Stanley Frank, Syosset
 Kanter, Peter Maurice, New York
 Kester, Richard Arthur, Boston, New York
 Killewald, William R., N. Tonawanda
 Korol, Constance, Wappingers Falls
 Krause, Jon Don, Hancock
 La Porte, Michael Andrew, Kenmore
 Leiby, Kent Dean, Tamaqua, Pennsylvania
 Lyman, Stuart Creighton, Middlefield,
 Connecticut
 Lynch, Kevin Gerard, Huntington Station
 MacDonald, James Allen, Albany
 Maier, William Joseph, Batavia
 Nirschi, David Lee, Sharon Springs
 Nolan, Thomas Edward, Genoa
 Olson, James Koenig, Jamestown
 Parver, Edward, Laurelton
 Pekala, Stanley John, Burlington, Vermont
 Powers, Timothy Cruise, Madison, Maine
 Rink, Douglas Bruce, Huntington
 Robertson, Nils Walter, Foster, Rhode Island
 Rogoff, Jay Howard, New York
 Ross, Gary Sterling, Rome, Pennsylvania
 Rothstein, Howard William, Merrick

44 Students

Ruksznis, Dennis Alan, Sangerville, Maine
Sammons, Lenora Y., Union City, Pennsylvania
Sammons, Myrl Lynn, Union City, Pennsylvania
Schalk, William K., Rochester
Scherline, Eugene Dexter, Wantagh
Simon, Allan Bruce, Franklin Square
Sprague, Edward Lee III, Versailles
Stinga, Adrian, Clifton, New Jersey
Stockman, Denise Schweitzer, Grand Island
Thompson, Ross William, Buffalo
Tisdale, Robert J., Canaserga
Witter, Larry Willis, Richmond, Virginia
Wright, John Jerome, Hamburg
Yartz, Franklin Henry, Jamestown
Zagraniski, Michael Joseph, New Haven, Connecticut

Third Year, Class of 1974

Arnold, Stephen Alfred, Seaford
Aylesworth, Chris, Johnson City
Barsanti, Jeanne Ann, Minoa
Bluvas, Peter Jan, Amsterdam
Brooke, Gregory Paul, Baldwin, Wisconsin
Campbell, Bruce Carter, Fort Collins, Colorado
Chamberlin, Mark Elton, Waverly
Chang, Wen C., Morton Grove, Illinois
Cochrane, Jack Alan, Ripley
Deans, Margaret Alice, Alfred, Maine
Dykes, Nathan Leonard, Teaneck, New Jersey
Evans, David Allen, Springville
Evans, Douglas Edward, Georgetown
Fagan, Richard Howard, Rochester
Fisher, James Lee, Glens Falls
Glauber, Aaron Frank, Hewlett
Gonzalez, Theodore R., E. Brentwood
Harris, Robert Lee, Norman, Oklahoma
Hodsdon, Wayne Kenneth, Dryden
Holden, Matthew Elden, West Paris, Maine
Jagar, John Eugene, Charleston, South Carolina
Jones, Cody Luther, Wauseon, Ohio
Kent, Frederick Howe, Rumford, Maine
Kernahan, James William, Nunda
Kneen, Timothy Arthur, Armonk
Koslow, Gary Lee, Massapequa Park
Kram, Malcolm Alexander, Bronx
Lee, John William, Jr., Wilmington, Delaware
Lemieux, Gerald Philip, Middlebury, Vermont
Lemieux, Lynda Beattie, Middlebury, Vermont
MacDonald, John Milner, Plymouth, New Hampshire
MacNeil, Bradley Patton, Fayetteville
Medic, David V., Irwin, Pennsylvania
Meuten, Donald John, Sharon, Connecticut
Morena, Craig Thomas, Massapequa
Muller, Henry Otto, Northport
Myers, Bernard Samuel, Orlando, Florida
Naef, Henry Milford J., Woodhaven
Nelson, Gary Howard, Pearl River
Nelson, Thomas Philip, Webster
Nichols, Robert W., Jr., Skaneateles
Nugent, Martin Francis, Westfield, New Jersey
Peduzzi, Roger James, Kinderhook
Rees, Roger Elliot, Morgan, Utah

Rosenfeld, Irv Steven, Island Park
Rowe, Donald Lawrence, Vassalboro, Maine
Russo, Elizabeth A., Staten Island
Schlafer, Donald Hughes, Oxford
Seader, Richard Paul, Merrick
Seleen, William Arvid, DeWitt
Sherman, Bruce Aner, Woodstock, Connecticut
Shriro, Alan G., Mt. Vernon
Tedeschi, Mitchell J., Little Neck
Terry, Charles Miles II, Huntington Station
Travis, Henry Joseph, Huntington
Weinstein, Susan Jane, Cobleskill
Westfall, Geoffrey James, Cazenovia
Winn, Kenneth Frank, Hamburg
Zambito, Michael J., Newburgh

Second Year, Class of 1975

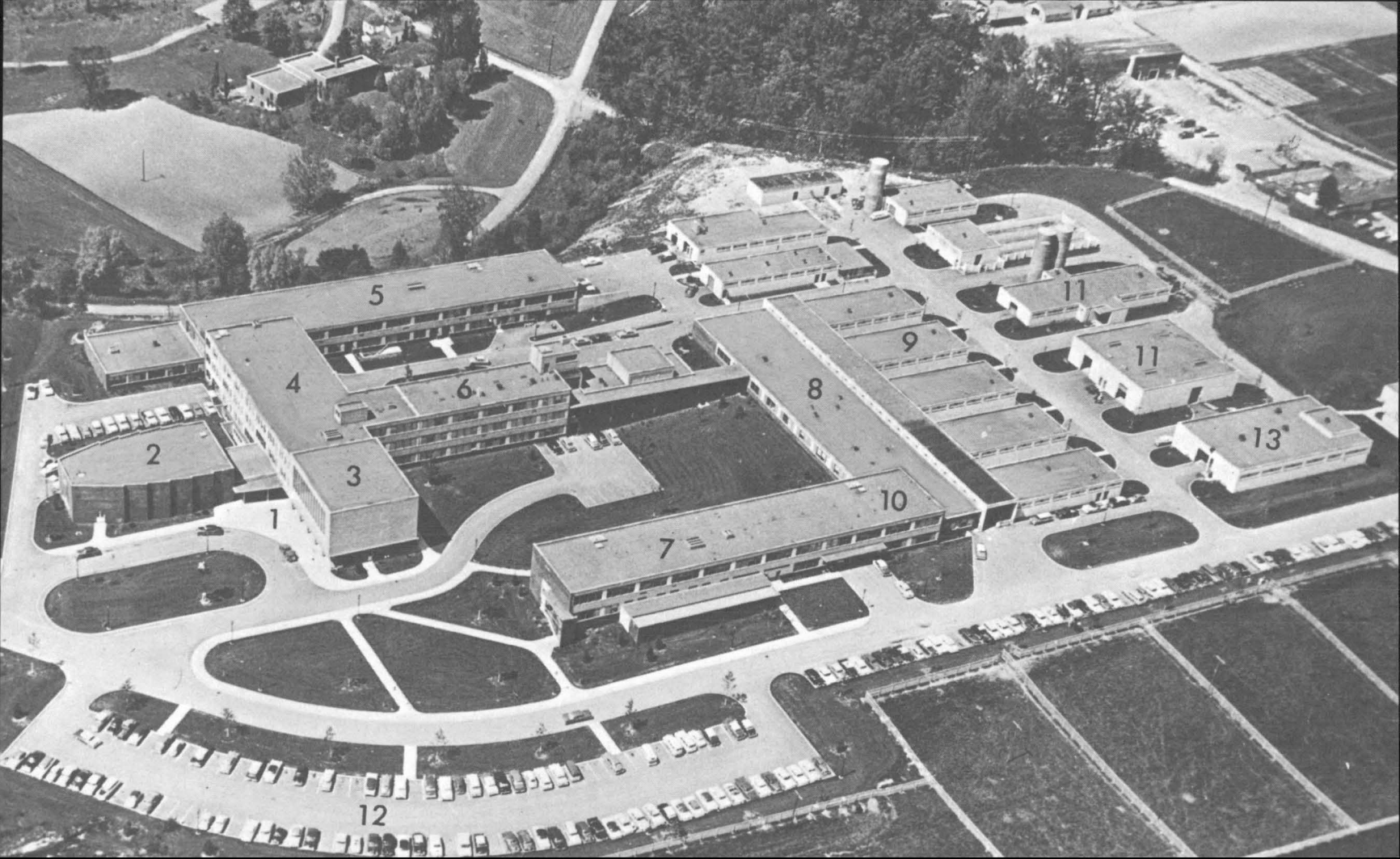
Abair, Harold W., Hauppauge
Adams, Stephen B., Hector
Aspros, Douglas G., Flushing
Balonek, Gerald J., Rochester
Breen, Robert E., Pleasantville
Brownie, Cecil, F. G., Jamaica, West Indies
Bruzgul, Joseph B., Jr., LaGrangeville
Charlebois, Andre, Redwood
Cogar, John D., Fairport
Cohen, Steven Jay, Rochester
Cole, John F., Sherrill
Collier, Linda, Caribou, Maine
D'Amura, Thomas, East Hampton
Dattner, Leslie B., Brooklyn
Deutsch, Philip O., Freeville
DeJong, David, Coram
Deutsch, David E., East Orange, New Jersey
DiRusso, Nicholas, Pelham
DuBato, George A., Amityville
Efron, Robert F., Douglaston
Epstein, Allen W., New York City
Fish, Stanley G., New Hyde Park
Geasling, Jay W., Sagaponack
Gray, James H., Wilmington, Delaware
Greene, Jerry A., Brooklyn
Hancock, David H., Carthage
Hulslander, Ronald, Elmira Heights
King, Linda R., Madison, Wisconsin
King, Michael J., Madison, Wisconsin
Kryger, Michael, Centerport
Langweiler, Marc, Bayside
Leventhal, Rita S., Albany
Linderman, Ira A., Brooklyn
Manning, Thomas O., Floral Park
McCarthy, Walter K., Kenmore
Mindlin, Douglas S., New Rochelle
Mirro, Elmer J., Monroeville, Pennsylvania
Moffa, John V., Blenheim, New Jersey
Morris, Alan S., New Haven, Connecticut
Morris, Robert, Staten Island
Mroz, Sharon M., New City
Olender, Steven, Great Neck
O'Neil, John W., Lancaster
Pane, Robert T., Tonawanda
Pollak, William, New York City
Rotondo, Kenneth, Franklin

Rubin, Nolan P., Freeport
 Russell, Donald E., Ogdensburg
 Schatz, Howard R., Brooklyn
 Schechter, Lee, Valley Stream
 Spalding, Elizabeth D., Ithaca
 Strachan, Douglas, Ithaca
 Tangorra, Lewis, Flushing
 Tanneberger, Thomas, Westport
 Tausz, Alan M., Flushing
 Truelove, Robin, Bethany, Connecticut
 Vail, David G., Lagrangeville
 Van Wie, Stephen A., Middletown
 Vukman, Gerald, Batavia
 Wallace, Lee A., Rockville Centre
 Walter, Mark K., Delanco, New Jersey
 White, Maurice E., Pine Bush
 Wilcox, Leigh T., Fulton
 Zwart, James, Washingtonville

First Year, Class of 1976

Amann, John F., Rochester
 Appel, Roy J., Rego Park
 Bartiromo, Teresa, Chicopee, Massachusetts
 Baum, Samuel, Scarsdale
 Begg, Susan, Bucksport, Maine
 Bloch, Peter W., Flushing
 Bouffard, John F., Cleverdale
 Bush, Wende E., Rochester
 Carlson, Robert W., Bedford, Massachusetts
 Caviness, Solomon, Atlantic City
 Clark, John A., Palmyra
 Contino, John A., East Northport
 Daab, Barbara J., Glens Falls
 DeVerna, John C., Jr., Seaford
 Family, Laurence, Schenectady
 Freyburger, Peter J., Tonawanda
 Friel, Michael A., Wilmington, Delaware
 Garbutt, George J., Staten Island
 Goldberg, Gary P., Newburgh
 Gould, Willard J., III, Staten Island
 Gross, John F., Orono, Maine
 Gumaer, Kenneth I., Jr., Rhinebeck

Heslink, Paul I., Clymer
 Holden, Lawrence, Brooklyn
 Hughes, Judith M., Sauquoit
 Humphrey, Peter, Ithaca
 Ingraham, Peter J., Ransomville
 Jacobs, Eric, New Rochelle
 Jaworski, Walter C., Loudonville
 Johnson, Francis M., Jr., Miami, Florida
 Johnson, Jolyon, Wendell, New Hampshire
 Kay, Michael R., Flushing
 Kittell, John C., Elmora
 Kline, Roger A., Churchville
 Lawless, James M., Oneonta
 Levine, Mark R., Bayside
 Marshall, Kent R., North Rose
 Martorana, Francis S., Schenectady
 Morizi, John L., Pelham
 Murphy, Randall L., East Northport
 Novick, Joseph F., Milton, Massachusetts
 Nusbaum, Kenneth E., Ithaca
 O'Connor, Robert, Glens Falls
 Peckham, Susan B., Freeville
 Petro, Russell J., Westbury
 Phillips, Frances L., Cortland
 Randall, William E., Gouverneur
 Rogers, Robert A., Collins Center
 Rosser, Edmund J., Jr., Brooklyn
 Rothwell, Thomas P., Ithaca
 Schwarz, David J., Bayside
 Shepherd, William F., Clark Mills
 Shull, Robert M., Cheshire, Connecticut
 Shultz, Craig, E., Berwick, Pennsylvania
 Smiley, Daryl, New York City
 Smith, Gary E., Bainbridge
 Stack, Robert M., Syracuse
 Storozum, Sidney H., New York City
 Sutton, George F., Georgetown, Kentucky
 Trenka, Susan M., Denville, New Jersey
 Venezia, Lawrence E., Osterville, Massachusetts
 Veralli, Paul J., Mamaroneck
 Volpini, Lucia M., Astoria
 Walsh, John M., Roslyn Heights
 Wilderoter, Katharine, East Aurora



Index

- Academic calendar, 2
- Admissions, 8; Graduate, 10
- Advanced standing, 10
- Agriculture and Life Sciences, College of, courses in, 35
- Anatomy, 23
- Animal Breeding and Physiology, 35
- Animal Nutrition, 35
- Animal practice requirement, 8
- Announcements, list of, 48
- Application procedure, 8
- Avian Diseases, 29

- Biochemistry, 24
- Buildings and facilities, 5; aerial view, 46

- Careers for veterinarians, 17
- Clinic: Ambulatory, 32; Large Animal, Small Animal, 31
- Clinical courses, 34
- Combined courses, 9
- Committees of the College, 41
- Course descriptions, 23
- Curriculum, 20-21

- Dining facilities, 17
- Double registration, 9

- Entrance requirements, 8
- Expenses, 11

- Facilities, 5
- Faculty, 38
- Farm Animal, Clinical Surgery of, 32
- Fees, 11
- Financial aids, 13

- Graduate students, list of, 42
- Graduate study, 10
- Graduation requirements, 20

- Health services, 16
- Housing, 16-17

- Large Animal Medicine, Obstetrics, and Surgery, 31
- Legal requirements for practice, 20
- Library, 5
- Living costs, 11
- Loans, 13

- Mastitis Control Program, 6
- Medical care for students, 16
- Microbiology, 28

- Obstetrics, large animal, 31

- Pathology, 26
- Pharmacology, 24
- Physical Biology, 25
- Physiology, Biochemistry, and Pharmacology, 24
- Poisonous Plants Garden, 7
- Prizes, 14
- Professional service, 40

- Registration, 10
- Research: facilities, 5; opportunities for, 34; Poultry disease, 6
- Residents and Interns, 40

- Scholarships, undergraduate, 13
- Small Animal Medicine and Surgery, 31
- Students, list of, 42
- Surgery: large animal, 31-32; small animal, 31

- Tuition, 11

- University requirements, 9

The Veterinary College. (1) Main Entrance, Schurman Hall. (2) James Law Auditorium. (3) Library. (4) Microbiology, Physical Biology. (5) Anatomy and Physiology. (6) Pathology. Avian Diseases. (7) Small Animal Clinic and Hospital. (8) Large Animal Clinic. (9) Large Animal Hospital Barns. (10) Medicine and Obstetrics. Ambulatory Clinic and Mastitis Control. (11) Ancillary Barns. (12) Visitor Parking. (13) Garage and Farrier Shop.

List of Announcements

Following is a list of *Announcements* published by Cornell University to provide information on programs, faculty, facilities, curricula, and courses of the various academic units.

New York State College of Agriculture
and Life Sciences
College of Architecture, Art, and Planning
College of Arts and Sciences
Department of Asian Studies
Graduate School of Business and Public
Administration
Field of Education (Graduate)
College of Engineering
Engineering at Cornell
Graduate Study in Engineering and Applied
Sciences
General Information*
Graduate School
Graduate School: Course Descriptions
School of Hotel Administration
New York State College of Human Ecology
New York State School of Industrial and
Labor Relations
Law School
Medical College (New York City)
Graduate School of Medical Sciences
(New York City)
Cornell University—New York Hospital
School of Nursing (New York City)
Graduate School of Nutrition
Officer Education (ROTC)
Summer Session
Veterinary College

* The *Announcement of General Information* is designed to give prospective students pertinent information about all aspects and academic units of the University.

Requests for the publications listed above should be addressed to

CORNELL UNIVERSITY ANNOUNCEMENTS
Edmund Ezra Day Hall
Ithaca, New York 14850.

(The writer should include his zip code.)