

CORNELL

U N I V E R S I T Y



College of Veterinary Medicine

1996–1997 Catalog

Cover: Senior clinician emeritus Dr. Robert Hillman and fourth-year student Kerry Kablack (Class of 1996) examine a young foal at Cornell's Equine Research Park.

Opposite: Dr. Thomas Divers (right), recipient of the 1996 Norden Distinguished Teacher Award, and DVM student Scott Sutor (Class of 1997) examine a patient in the Farm Animal Hospital.

**Cornell University
(USPS 132-860)**

Volume 88 of the series "Cornell University" consists of ten catalogs, of which this is number eight, dated August 15, 1996. Issued twice in February, once in May, twice in June, once in July, three times in August, and once in November. Published by Media Services, Cornell University, Comstock Hall, Ithaca, NY 14853-0901.

Periodicals postage paid at Ithaca, New York.

Postmaster: Send address changes to "Cornell University," College of Veterinary Medicine, Office of Admissions, S1 006 Schurman Hall, Ithaca, New York 14853-6401.



College of Veterinary Medicine

Cornell University 1996–1997

<http://www.vet.cornell.edu>



Academic Calendar for 1996–1997

Fall Semester	Class of 2000	Class of 1999	Class of 1998	Class of 1997
Orientation/registration	August 19–21, 1996	August 27–28, 1996	August 27–28, 1996	
Instruction begins	August 22	August 19	August 22	May 20
Fall recess	October 12–15	September 21–24	October 12–15	
Thanksgiving recess	November 27– December 1	November 27– December 1	November 27– December 1	
Last day of classes	December 20	December 13	December 20	
Examination periods	During term	December 16–19	During term	

Spring Semester

Registration	January 17, 1997	January 17, 1997	January 17, 1997	
Instruction begins	January 6	January 27	January 27	
Spring recess	March 22–30	March 22–30	Variable	
Last day of classes	May 16	May 23	May 23	May 19
Examination periods	May 19–22	During term	During term	
Commencement				May 25

This calendar is subject to modification and is not legally binding.

In enacting this calendar, the university has scheduled classes, laboratories, and examinations on religious holidays. It is the intent of the university that students who miss those activities because of religious observances be given adequate opportunity to make up the missed work.

It is the policy of Cornell University actively to support equality of educational and employment opportunity. No person shall be denied admission to any educational program or activity or be denied employment on the basis of any legally prohibited discrimination involving, but not limited to, such factors as race, color, creed, religion, national or ethnic origin, sex, sexual orientation, age, or handicap. The university is committed to the maintenance of affirmative action programs that will assure the continuation of such equality of opportunity. Sexual harassment is an act of discrimination and, as such, will not be tolerated. Inquiries concerning the application of Title IX may be referred to Cornell's Title IX coordinator (assistant director, gender equity) at the Office of Equal Opportunity, Cornell University, 234 Day Hall, Ithaca, New York 14853-2801 (telephone: 607-255-3976; TDD: 607-255-7665).

Cornell University is committed to assisting those persons with disabilities who have special needs. A brochure describing services for persons with disabilities may be obtained by writing to the Office of Equal Opportunity, Cornell University, 234 Day Hall, Ithaca, New York 14853-2801. Other questions or requests for special assistance may also be directed to that office.

 printed on recycled paper

Photography:
Cover: Robert Barker, University Photography
Title page: Alexis Wenski-Roberts, The Image Lab

Produced by Media Services

8/96 3M GPP MS50724

Contents

4 The College of Veterinary Medicine

5 Admission to the D.V.M. Program

- 5 Academic Preparation
- 5 Selection Criteria
- 6 Application Procedures
- 6 Guaranteed Admission Program
- 6 Combined Programs

7 The D.V.M. Curriculum

- 7 Foundation Courses
- 7 Distribution Courses
- 8 Summary of D.V.M. Curriculum
- 10 Requirements for Graduation
- 10 Legal Requirements to Practice
- 10 Use of Animals in the Curriculum

11 Academic Policies and Procedures

- 11 Registration and Validation
- 11 Graduation Requirements
- 11 Course Enrollment
- 11 Changes to Course Enrollment
- 11 Auditing Courses
- 11 Leave of Absence and Withdrawal
- 11 Tuition Refunds and Financial Aid Adjustment
- 12 Financial Aid Repayment
- 12 Grading Guidelines
- 12 Academic Standards
- 12 Repeating a Semester
- 13 Transcripts
- 13 Student Records
- 13 Conduct of Students



14 Financial Planning

- 14 Tuition and Fees
- 14 Financial Planning
- 14 Scholarships
- 16 Honor Day Prizes and Awards
- 18 Faculty Awards

19 Student Services

- 19 Academic and Personal Counseling
- 19 Health Services
- 19 Placement
- 19 Services for Persons with Disabilities

20 Student Life

- 20 Housing and Dining
- 20 Activities and Organizations

22 Special Programs

- 22 D.V.M. Students
- 22 High School Students

23 The Graduate School

- 23 Graduate Education
- 23 Admission
- 24 Financial Support
- 24 Graduate Record Examinations
- 24 Additional Information
- 24 Graduate Faculty Representatives

25 Internships and Residencies

- 25 Internships
- 25 Residencies

27 Academic Facilities and Resources

- 27 Flower-Sprecher Library and Learning Resources Center
- 27 Office of Educational Development
- 28 Kimball and Salmon Academies
- 28 Irving W. Wiswall Learning Laboratory
- 28 Learning Laboratory II
- 28 Modular Resource Center
- 28 Tutorial Rooms

29 Collegewide Support Services

- 29 Center for Research Animal Resources
- 29 Computing Services
- 29 Microcomputer Center
- 29 The Image Lab

30 Professional Service and Outreach

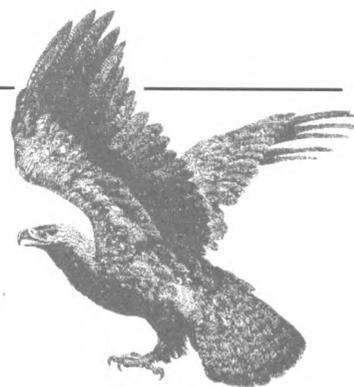
- 30 Veterinary Medical Teaching Hospital
- 30 Diagnostic Laboratory
- 31 Equine Drug Testing and Research Program
- 31 Quality Milk Promotion Services, New York State Mastitis Control Program

32 Species-Oriented Programs and Facilities

- 32 Avian and Aquatic Animal Programs
- 32 James A. Baker Institute for Animal Health
- 32 Bovine Research Center
- 32 Equine Performance Testing Clinic
- 33 Equine Research Park
- 33 Cornell Feline Health Center
- 33 Wildlife and Exotic Animal Medicine Service

34 Faculty and Administration

- 34 University Administration
- 34 College Administration
- 34 College Advisory Council
- 34 Faculty

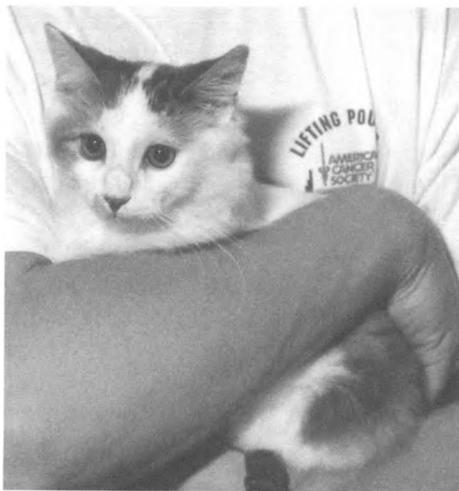


The College of Veterinary Medicine

The College of Veterinary Medicine at Cornell University has a rich heritage and distinguished record in education, research, and professional service. The history of the teaching of veterinary medicine at Cornell predates the establishment of the college in 1894. Shortly after the university was founded in 1865, Ezra Cornell insisted that a chair of veterinary medicine be instituted. His own experience as an owner of purebred livestock had taught him the importance of animal health, and he instructed Andrew D. White, the university's first president, to seek the best-qualified person to teach courses in veterinary medicine and surgery.

President White secured the services of Dr. James Law, an already distinguished veterinarian and teacher of his day, who was a graduate of the Edinburgh Veterinary College in Scotland. Dr. Law became the first professor of veterinary medicine in the United States, and thus Cornell was the first American university to accord veterinary medicine equal rank with other sciences.

When the university opened in the fall of 1868, Dr. Law's first classes included students who were working toward degrees in agriculture and the biological sciences, as well as those pursuing veterinary degrees. At Law's urging, Cornell set much higher requirements for a veterinary degree than any other institution at that time. Four years of study were required for a Bachelor of Veterinary Science (B.V.Sc.) and an additional two years for a Doctor of Veterinary Medicine (D.V.M.). In 1876, Cornell was the first university in the United States to award a D.V.M. degree—to Daniel Elmer Salmon, who had been a member of the university's first entering class and received the B.V.Sc. degree in 1872. Dr. Salmon became the founding chief of the U.S. Bureau of Animal Industry and is probably best known today for identifying the pathogen *Salmonella*.



Biomedical Communications

Funding to construct a veterinary building was provided by the state in 1894 at the time of the establishment of the New York State Veterinary College. When the college first opened for classes in the fall of 1896, there were six professors, two instructors, and eleven students. The scholastic requirement for entrance was a high school diploma, a high standard at the time.

The early faculty recognized the importance of a good library and set this goal as one of their priorities. Governor Roswell P. Flower made a personal donation in 1897 to the library that now bears his name and houses an impressive collection of veterinary and biomedical resource materials. In 1992, the library was renamed the Roswell P. Flower-Isidor I. and Sylvia M. Sprecher Library and Learning Resources Center, to recognize Dr. Isidor Sprecher (D.V.M. '39) and his wife for their many generous gifts to the college.

Women have played an important role in the college since its early days. Florence Kimball, the first woman in the United States to receive the D.V.M. degree, graduated from Cornell in 1910. Seven of the first eleven women to become licensed veterinarians in this country were Cornell graduates. Today approximately 70 percent of Cornell's veterinary students are women.

The college remained at its original site at the southeast corner of East Avenue and Tower Road until 1957, when it moved to the present site at the east end of Tower Road. The main group of buildings occupies about 20 acres. Several additional facilities are nearby, including the James A. Baker Institute for Animal Health located on Snyder Hill.

The ten-story Veterinary Research Tower was added in 1974 and the Diagnostic Laboratory in 1978. A major expansion of college facilities has recently been completed. The Veterinary Education Center, consisting of expanded lecture, teaching laboratory, and library facilities, opened in 1993. The Veterinary Medical Center was completed in 1995. It houses the Companion Animal, Equine, and Farm Animal Hospitals on the ground level and research laboratories and academic offices on the three upper floors.

More than 700 faculty and staff members work together to provide teaching, research, and professional service programs that are recognized as among the best in the world. Approximately 320 women and men are enrolled in the four-year professional education program leading to the Doctor of Veterinary Medicine degree. The curriculum was modified for students arriving in the fall of 1993, making it more flexible and providing greater opportunities for students to learn in an active educational environment.

Approximately 100 graduate students are enrolled in Ph.D. or M.S. degree programs in the graduate fields of Veterinary Medicine, Physiology, Immunology, Toxicology, and others. Internship and residency programs in the Veterinary Medical Teaching Hospital and the Departments of Clinical Sciences and Pathology enroll approximately thirty individuals seeking advanced work in various clinical specialties.

For more information about the college, including recent newsletters and admission procedures, visit our site on the World Wide Web at <http://www.vet.cornell.edu>

Admission to the DVM Program

The college welcomes applications from energetic, academically talented, and highly motivated individuals with diverse backgrounds. Eighty-two students are admitted each year: approximately sixty New York residents, four to five from contracting states (New Jersey, New Hampshire, and Puerto Rico), and the remainder from any country or U.S. state.

The college will accept applications through the national Veterinary Medical College Application Service (VMCAS) from nonresidents. Nonresidents may check the Cornell box on the VMCAS application or they may request a veterinary college application package and apply directly to Cornell. New York State residents should apply directly to the college, not through VMCAS.

Academic Preparation

Prospective applicants should complete a minimum of 90 semester credits, preferably at an undergraduate institution with a reputation for academic excellence that offers the prerequisite courses as part of an accredited baccalaureate program. For those who find it necessary to complete some course work at a two-year college, at least 30 of the 90 credits must be completed at the upper division level in a four-year baccalaureate program.

The table below lists the college-level course requirements that are prerequisites



Fourth-year (Class of 1996) DVM students Robin O'Neal (left) and Karen Fessler monitor the progress of a dog recovering from surgery in the Companion Animal Hospital.

for admission and must be taken for both grade and credit (not pass/fail or credit only).

If advanced placement credit has been received for a basic course, it is expected that a more advanced course in the same subject, which is not listed as another requirement, will be completed with a grade in fulfillment of the requirement.

Selection Criteria

Academic Achievement and Aptitude

Because veterinary medical education requires strong academic abilities, 65 percent of the total admissions evaluation is given for academic achievement and aptitude. Cumulative grade point average (GPA) is weighted 30 percent. Grades are considered reliable indicators of academic motivation and aptitude. A minimum of 3.0 (on a 4.0 scale) is expected. The average GPA for recently admitted classes has been approximately 3.5. Scores on the general tests of the Graduate Record Examination (GRE) are also allocated 30 percent of the total admissions score. The advanced biology test or other advanced tests are not required. The GRE must be taken no later than October of the year of application, whether applicants take the group paper-and-pencil test or the computer-based testing program. Scores from GRE tests taken more than five years before the application deadline will not be considered. A bonus of up to 5 percent may be awarded by the admissions committee for quality of academic program. Factors considered in giving this bonus are: enrolling in a challenging curriculum, carrying a full

	<i>Minimum Semester Credits</i>	<i>Minimum Quarter Credits</i>
English Composition ¹	6	9
Biology (full year with laboratory)	6	9
Inorganic (general) Chemistry (full year with laboratory)	6	9
Organic Chemistry ² (full year with laboratory)	6	9
Biochemistry ³ (upper division)	4	6
Physics (full year with laboratory)	6	9
General Microbiology (with laboratory)	3	4.5

¹One-half of this requirement may be satisfied with an oral communication course.

²Chemistry 251 and 253 at Cornell University will satisfy this requirement.

³This should be a complete course in general biochemistry; half of a two-term sequence does not constitute a complete course.

course load to completion, and exceeding minimum preveterinary course requirements.

All prerequisite courses must be completed with at least a grade of C. It is possible to have up to 12 credits in progress at the time of application, provided that at least one semester of any two-semester series has been completed. All requirements must be completed by the end of spring term of the year of intended matriculation. The admissions committee reserves the right to review the content of courses submitted in fulfillment of these requirements to ensure an adequate, current knowledge base.

Experience Working with Animals and with the Veterinary Profession

Understanding the veterinary medical profession and proper animal care are important considerations, accounting for 20 percent of the evaluation. This experience can be gained by working in a veterinary practice or by breeding, rearing, feeding, and showing various kinds of animals, including companion animals, livestock, laboratory animals, zoo animals, or wildlife. The quality and quantity of this experience are evaluated on the basis of the applicant's description and by letters of evaluation from supervisors.

Other Achievements and Character

The well-rounded candidate demonstrates achievement outside of academic and animal-oriented activities. The committee values community involvement and any significant nonacademic interests and abilities, as well as desirable personality characteristics such as reliability, honesty, good communication skills, and dedication to service. The evaluations and essay that accompany the application serve as indicators of these factors. These factors account for another 15 percent of the evaluation.

Application Procedures

Application forms and detailed information may be obtained by writing to the D.V.M. Admission Office, S1 006 Schurman Hall. Application materials will be ready for distribution July through October annually. The complete application material, applica-

tion fee, and supporting documents must be submitted with a postmark no later than October 1.

University Requirements

Applicants accepted for admission are required to pay a \$500 matriculation fee by April 15 of the year of enrollment (unless the applicant is otherwise notified). No refunds will be made to applicants who withdraw after the due date of the fee. Entering students must also fulfill the health requirements adopted by the Board of Trustees of Cornell University.

Applications from International Students

International students may compete for nonresident positions. In addition to fulfilling all other requirements, international students must have completed at least one year of undergraduate studies at an accredited college or university in the United States. The TOEFL exam is also required of students whose native language is not English.

Reapplication

Previous applicants who would like to reapply should submit a new application, together with application fee, and any new information necessary to update the record. Application files are retained by the college for one year. Reapplicants may request in writing that documents from the prior year's application be reconsidered in the current application.

Guaranteed Admission Program

Highly qualified students may apply in the spring of their sophomore year for early admission to the D.V.M. professional program. Their outstanding academic qualifications can guarantee them admission at the completion of their junior year or, if they choose, after graduation with a baccalaureate degree. With their professional education assured, they are free to plan an undergraduate curriculum that broadens their general education or focuses on a specialized interest. Application and requirements for guaranteed admission are the same as for other applicants, except that

candidates for guaranteed admission must have grades of B or better in all prerequisite courses. Students who have not completed all required courses must complete them by the end of the spring term before matriculation in the professional curriculum. The latest acceptable GRE test date for guaranteed admission is February of the year of application. Completed applications for guaranteed admission must be sent to the D.V.M. Admission Office of the College of Veterinary Medicine with a postmark no later than April 1.

Combined Programs

Double Registration

Through a program of double registration, it is possible for D.V.M. students who completed their preveterinary work in the College of Agriculture and Life Sciences at Cornell University, and who were accepted after their third year of undergraduate study, to complete a B.S. degree while working on the D.V.M. degree. Students interested in this program should consult their undergraduate faculty advisers.

DVM/PhD Program

Veterinary students aspiring to academic or research careers may apply for the combined D.V.M./Ph.D. program. Details of this program are provided in the section on the Graduate School.

Information about admission to the College of Veterinary Medicine is available on the World Wide Web at <http://www.vet.cornell.edu>



The DVM Curriculum



Cornell DVM students begin learning the art and science of physical examination in the first year of the academic program as part of the foundation course *Animals, Veterinarians, and Society*. Above: Daniel Chan (Class of 1998)

The veterinary medical curriculum was modified in 1993 to better prepare students for the challenges of the twenty-first century. Four classes are now enrolled in the new curriculum, which graduates its first students in 1997. The curriculum consists of seven *Foundation Courses*, which comprise approximately 70 percent of the total credits required for graduation. An extensive selection of *Distribution Courses*, arranged in sets, comprises the remaining 30 percent. See page 8 for a diagram that provides an overview of the four-year curriculum.

Foundation Courses

Foundation courses are scheduled throughout all four years and are taken by all students in the same sequence. They are comprehensive interdisciplinary courses designed to provide the student with an essential, comparative knowledge of each discipline. They stress the comparative veterinary and biomedical aspect of the discipline and provide a firm general knowledge of the subject areas. They are scheduled using a block system, thereby allowing students to concentrate on a single course at a time without having

competing priorities from other courses.

The first four Foundation Courses—*The Animal Body* (12 credits), *Genetics and Development* (8 credits), *Function and Dysfunction* (16 credits), and *Host, Agent, and Defense* (12 credits)—are scheduled during the first three semesters and use small-group problem-based learning as the principal educational modality. Tutorials are supplemented by organized lectures, laboratories, and interactive large-group sessions, with afternoons available for independent study. These four courses are scheduled during the first three semesters and range in length from seven to twelve weeks, excluding assessment periods.

Foundation Course V, *Animals, Health, and Disease* (30 credits), is twenty-four weeks long and is scheduled during semesters four and five. This course incorporates a variety of educational formats: lectures, large-group case discussions, organized laboratory and self-directed study. Foundation Course VI (37 credits) comprises a series of *Clinical Rotations*, based within the Veterinary Medical Teaching Hospital and Large Animal Ambulatory Clinic.

This course is scheduled during semesters six, seven, and eight and is interspersed with distribution courses in semesters six and eight.

Foundation Course VII, *Animals, Veterinarians, and Society* (5 credits), is scheduled concurrently with other foundation courses during the first three years of the curriculum and emphasizes the practical aspects of the basic biomedical science education.

Distribution Courses

Distribution courses are designed to fill specific educational requirements in each discipline or area. The principles covered in distribution courses are as much “core” as those in foundation courses, the difference being that these courses use species or topics of greatest interest to the student to illustrate the principles being learned. In this manner, distribution courses are designed to recognize the distinctive interests and abilities of each student and are built upon the collective and individual strengths of the faculty.

Distribution courses are scheduled throughout all four years of the curriculum, allowing students to increase their level of understanding of the basic sciences as they expand their clinical knowledge base. During years one and two, the distribution course period extends for eight weeks from late January to mid-March. During years three and four, the January-to-March period is supplemented by an additional eight-week period from March to May. During both intervals, upper-class students will be involved in either clinical rotations (Foundation Course VI) or in a block of distribution courses.

Students are required to accumulate 37 credits of non-hospital-based distribution courses for graduation. This represents approximately 7 credits in year one and an average of 10 credits per eight-week period during each of years two, three, and four. Although some courses are restricted to students in years three and four, many others are available in the last three years or in all four years of the curriculum. This allows students from different classes to

Summary of D.V.M. Curriculum

Fall Semester

Spring Semester

Year 1

The Animal Body	Genetics and Development	→	Distribution Courses	Function and Dysfunction: Part I
Animals, Veterinarians, and Society (A.V.S.)				A.V.S.

Year 2

Function and Dysfunction: Part II	Host, Agent, and Defense	→	Distribution Courses	Animal Health and Disease: Part I
Animals, Veterinarians, and Society (A.V.S.)				A.V.S.

Year 3

Animal Health and Disease: Part II	→	Distribution Courses
Animals, Veterinarians, and Society		Clinical Rotations

Year 4 (12 months: May to May)

Clinical Rotations	Distribution Courses
	Clinical Rotations

Year 1

<i>Fall Term</i>	<i>Credits</i>	<i>Spring Term</i>	<i>Credits</i>
VTMED 510 The Animal Body	12	VTMED 520 Genetics and Development	8
VTMED 517 Animals, Veterinarians, and Society: Part A	1	VTMED 527 Animals, Veterinarians, and Society: Part B	1
VTMED 520 Genetics and Development*	–	VTMED 521 Neuroanatomy and Clinical Neurology	3
VTMED 527 Animals, Veterinarians, and Society: Part B*	–	(variable) Distribution Courses	7
	<u>13</u>		
		VTMED 530 Function and Dysfunction: Part I	9
		VTMED 537 Animals, Veterinarians, and Society: Part C ₁	<u>1</u>
			<u>29</u>

*Course continues into the spring semester

Year 2

<i>Fall Term</i>		<i>Credits</i>	<i>Spring Term</i>		<i>Credits</i>
VTMED 531	Function and Dysfunction: Part II	7	(variable)	Distribution Courses	10
VTMED 538	Animals, Veterinarians, and Society: Part C ₂	1			
VTMED 540	Host, Agent, and Defense	12	VTMED 550	Animal Health and Disease: Part I	10
VTMED 547	Animals, Veterinarians, and Society: Part D	<u>1</u>	VTMED 557	Animals, Veterinarians, and Society: Part E*	<u>—</u>
		21			20

*Course continues in the third year, fall semester

Year 3

<i>Fall Term</i>		<i>Credits</i>	<i>Spring Term</i>		<i>Credits</i>
VTMED 551	Animal Health and Disease: Part II	20	(variable)	Distribution Courses	10
VTMED 557	Animals, Veterinarians, and Society: Part E	<u>1</u>	VTMED 560	Clinical Rotations	<u>2–10</u>
		21			12–20

Year 4

<i>Fall Term</i>	<i>Credits</i>	<i>Spring Term</i>		<i>Credits</i>	
(variable)	Clinical Rotations	20	(variable)	Clinical Rotations	10
			(variable)	Distribution Courses	<u>10</u>
					20

Clinical Rotations. Students must satisfactorily complete a total of 35 credits in the course, plus an additional 4 credits of Clinical Distributions. These courses may be scheduled during the spring term of year 3 and during the fall and spring terms of year 4.

<i>Foundation Clinical Rotations</i>		<i>Credits</i>	<i>Distribution Clinical Rotations (minimum of 4 credits required)</i>		
VTMED 561	Community Practice Service–Medicine	2	VTMED 700	Theriogenology Service	2–4
VTMED 562	Primary Care Surgery and Anesthesiology	2	VTMED 701	Cardiology Service	2
VTMED 563	Small Animal Medicine	4	VTMED 702	Laboratory Animal Medicine	2
VTMED 564	Small Animal Surgery	4	VTMED 703	Clinical Wildlife and Exotic Animal Medicine	2
VTMED 565	Ambulatory Medicine	4	VTMED 704	Quality Milk	2
VTMED 566	Large Animal Medicine	3	VTMED 705	Special Opportunities in Clinical Veterinary Medicine	(variable)
VTMED 567	Large Animal Surgery	4			
VTMED 568	Anesthesiology	3			
VTMED 569	Dermatology	2			
VTMED 570	Ophthalmology	2			
VTMED 571	Pathology	2			
VTMED 572	Radiology	2			
VTMED 573	Fourth-Year Clinical Seminar	1			

35

take these courses simultaneously and to benefit from peer interaction.

The number of students in each distribution course varies from fewer than six to a maximum of more than eighty, depending on the subject and the method of instruction. Some courses are open to graduate students. The range of educational formats used is highly variable—lecture, discussion, independent project, laboratory, small-group tutorials—depending upon the nature and the objectives of the course and the number of students enrolled. Faculty are encouraged to be creative and to experiment in the development of innovative formats.

Distribution courses are grouped in the following series of sets according to their subject material. Students are required to take sufficient number of courses to satisfy the minimum number of credit, requirements for each set. Some sets also have a maximum number of credits which may be applied toward the 37 credits required for graduation.

Sets of Distribution Courses

(minimum/maximum credits applied to graduation)

	<i>minimum</i>	<i>maximum</i>
Specialized Veterinary Anatomy	3	6
Animal Management	2	6
Veterinarians in Society	0	2
Courses Associated with <i>Genetics and Development</i>	0	no max
Courses Associated with <i>Function and Dysfunction</i>	4	no max
Courses Associated with <i>Host, Agent, and Defense</i>	3	no max
Courses Associated with <i>Animal Health and Disease</i>	8	no max
Specialty Courses	0	no max
Critical Reasoning	0	no max
Seminars and Rounds	0	2
Applied Clinical Education	4	no max

Requirements for Graduation

To receive the Doctor of Veterinary Medicine (D.V.M.) degree, candidates must successfully complete the curricular requirements as listed, pay all fees due, and be recommended for graduation by the faculty of the College of Veterinary Medicine.

The academic year, divided into two terms, begins in late August and ends in late May. At the conclusion of each term, the college faculty reviews the records and conduct of students. Students whose grades are not satisfactory may be denied permission to register in the subsequent term or to graduate or may be assigned varying degrees of academic warning or probation.

Legal Requirements to Practice

Before graduates can practice veterinary medicine in the United States, they must obtain licenses from the states in which they locate their practices. These licenses are generally issued by the department of education or the department of agriculture of the state on the basis of an examination by a veterinary licensing board. Some states issue licenses without examination, based upon reciprocity, when the applicant has been licensed in other states.

The licensing agency in New York is the State Education Department. Application for the examination must be filed at least sixty days before the scheduled date. Requests for information about fees and all inquiries should be addressed to the Executive Secretary of the State Board for Veterinary Medicine, Room 3041, Cultural Education Center, Albany, New York 12230.

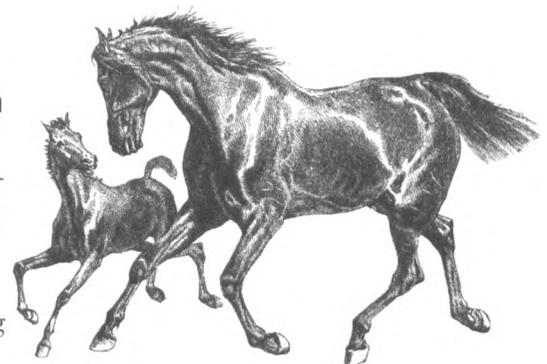
Use of Animals in the Curriculum

Applicants for the D.V.M. program should know and understand the following criteria relative to the use of animals in the D.V.M. teaching program, as passed by the faculty in 1988:

1. Live animals will be used for teaching in certain obligatory core (and foundation) courses.

2. Some animals will require humane euthanasia after they have been used for teaching.
3. The college conforms to the rules for the care of such animals as outlined in *Guiding Principles in the Care and Use of Animals* (as approved by the Council of the American Physiological Society), the *Guide for the Care and Use of Laboratory Animals* (DHEW publication 86-23, revised 1996), the Animal Welfare Act, and the New York State Public Health Law.
4. Each course in which animals are used receives a formal review annually by the college Committee on the Use of Live Animals in Teaching.
5. Any concerns regarding the use of live animals in teaching should be addressed first to the faculty member responsible for that course. Alternatively, students may choose to address their concerns to the chair of the Committee on the Use of Live Animals in Teaching, whose name may be obtained from the Office of Student Services or from the dean's office. The chair may initiate discussion between the said committee and the faculty member responsible for a particular course without involving the student if he or she would prefer to remain anonymous.

Applicants must acknowledge having read the above information by signing the application form in the designated place.



Academic Policies and Procedures

Registration and Validation

At registration, the university registrar and colleges certify the eligibility of each student to enroll in courses and to purchase or use a variety of services available at the university, such as CornellCard, Co-op dining, libraries, campus bus passes, and housing. The university registration process also includes the issuance of identification cards to new students and the collection of information for the student directory and for state and federal reports.

Registration is accomplished when the student, in a timely manner, fulfills financial obligations to the university, meets the college's standards for continued course enrollment, and complies with health requirements as set forth by University Health Services.

Registration is complete when both the university and the college have recorded that the student is on campus.

Late university registration begins the first day of classes. Students who have not cleared their financial obligations to the university, course problems with the college, or health requirements with Health Services before the first day of classes are considered late and are charged a penalty fee for late registration. The university registrar establishes the final registration date, usually the end of the third week of classes. Unregistered persons may not attend classes. The university reserves the right to require unauthorized, unregistered persons who attend classes or in other ways seek to exercise student privileges to leave the university premises.

Graduation Requirements

Each student is responsible for knowing the requirements (foundation and distribution) for completion of the D.V.M. program and for properly enrolling in and completing the appropriate courses each term. Requirements for each year of the program are outlined in section "The D.V.M. Curriculum" in this catalog.

Course Enrollment

Course enrollment at the College of Veterinary Medicine is accomplished as follows:

Foundation Courses

The college registrar's staff automatically enrolls each student in required courses.

Distribution Courses

Before the start of each term, the list of courses to be offered and the Distribution Course Enrollment Form are distributed by the Office of the College Registrar. After choosing distribution courses, each student completes the enrollment form according to the accompanying instructions. Completed enrollment forms should be submitted to the college registrar as soon as possible and may not be turned in later than noon on the date of the end of the open add/drop period, which is stated on the form.

Following the add/drop period, each student is sent a course enrollment schedule that should include all foundation and distribution courses in which the student is enrolled. It is the student's responsibility to examine this schedule and report any errors to the Office of the College Registrar immediately.

Changes to Course Enrollment (Add/Drop Policy)

Distribution courses may be added or dropped during the first two weeks of the term. Credit will not be awarded for a course in which the student was not officially enrolled, even if the student attended all classes and completed the work. This is a Cornell University policy that may not be waived by the college.

College course enrollment is reported to various university, state, and federal offices at the end of the sixth week, after which no further changes may be made.

Changes to fourth-year rotation schedules, whether they affect required, required elective, or extra clinical rotations, are subject to a special college add/drop calendar provided to rising fourth-year students in the spring term of

their third year, and also to the stipulation by the Veterinary Medical Teaching Hospital that no change may be made less than six weeks before the first rotation affected by the change.

Auditing Courses

The university does not allow veterinary students to audit courses.

Leave of Absence and Withdrawal

Requests for leave of absence and notification of intention to withdraw should be submitted, in writing, to the associate dean for student services. A leave of absence is granted for a specified time, after which the student is expected to resume course work. The associate dean's written authorization of the leave will specify a date by which the student on leave must notify the college of intent to resume studies. A student may withdraw at his or her discretion. A college may, however, withdraw a student who fails to return at the end of a period of authorized leave or who fails to provide notice of intent to return by the specified date.

Medical leaves are granted and processed through University Health Services, but any student taking medical leave should consult the associate dean for student services concerning arrangements to resume studies in the college.

Tuition Refunds and Financial Aid Adjustment

Amounts personally paid for tuition may be refunded if the student requests a leave of absence or withdrawal from the associate dean for student services. The date of this request will determine the tuition liability for the term. Students who terminate their registration with the university in this manner during any term will be charged tuition from the university registration day through the date of their request on a pro rata basis. Contact the Office of the Bursar, Cornell University, 260 Day Hall, Ithaca, New York 14853 (telephone: 607-255-2336) for details.

The university makes available tuition insurance, which provides refunds in the

event of leave of absence or withdrawal for medical or emotional reasons. Applications and complete details of this coverage accompany the August tuition bill.

The application fee for university residence halls is nonrefundable, except when lack of space prevents the offer of a room assignment, in which case a full refund will be made on request.

Students who withdraw from a prepaid dining plan during a term are eligible for a prorated refund based on the number of days the contract was in effect.

Financial Aid Repayment

Students receiving financial aid through the university who withdraw during a term will have their aid reevaluated, possibly necessitating repayment of a portion of aid received. Repayment to aid accounts depends on the type of aid received, government regulations, and the period of time in attendance. A partial term will generally count as one of the eight terms of financial aid eligibility normally allowed a student.

Grading Guidelines

Students are evaluated at the end of each foundation and distribution course. The course grade represents the composite of the grades from each component of the evaluation process, as determined by the course leader. The official university grading system uses letter grades with pluses and minuses. Passing grades range from A+ to D-; F is failing. Distribution courses may be graded using either the letter (A+ to F) or S/U (satisfactory/unsatisfactory) grade. Course faculty have the prerogative not to use the full range of the A-F grading scale depending on the course objectives, course content, and the nature of the assessment methods used. [Between 1993 and 1995, courses in the new curriculum were graded using the whole-letter system without plus or minus designation.]

A grade of incomplete is designated by "INC". The student is responsible for seeing that all incomplete grades are

made up within the deadline set by the college faculty and that the grade has been properly recorded with the college registrar. The grade "R" is given at the end of the first term of a year-long course. The student is responsible for re-enrolling in the following term in any course for which a grade of R is received. Quality point equivalents for A+ to F grades are

A+ = 4.3	C+ = 2.3
A = 4.0	C = 2.0
A- = 3.7	C- = 1.7
B+ = 3.3	D+ = 1.3
B = 3.0	D = 1.0
B- = 2.7	D- = 0.7
	F = 0

The grades of INC and R do not have quality points attached. A grade may be changed only if the instructor made an error in calculating the original grade.

Reporting of Grades to Students

For each course, students may select to be notified of their grades by the faculty member responsible for the course by using one of two grading options: the letter grading option or the S/U grading option. If the letter grading option is selected, the letter grade will be provided to the student, and examinations will be corrected and returned with errors and omissions noted. If the S/U option is selected, grades will be reported to the student as "Satisfactory" (C or above) or "Unsatisfactory (D or F). On the examinations, errors and omissions will be indicated, but the letter grade will not be reported to the student. Letter grades, however, will appear on transcripts and official grade reports provided to the university whenever appropriate. For either option, steps will be taken to ensure the confidentiality of individual students' work and results.

Academic Standards

Foundation Courses

A student who achieves a grade of F in two foundation courses or a grade of D in three foundation courses will not be allowed to reregister in the College of Veterinary Medicine. A student who achieves a grade of F in one foundation course or a grade of D in two foundation courses in any one semester will be denied permission to advance to the subsequent term; the student will, however, be permitted to repeat the term in which the above grade(s) was (were) achieved. A student who achieves a grade of D in one foundation course shall be placed on academic warning and will be required to attain a grade point average of 2.0 or above in foundation courses taken the following semester. A student who does not achieve this required grade point average shall be denied permission to advance to the subsequent term; however, the student will be permitted to repeat the semester.

Distribution Courses

There are no credit requirements for distribution courses. Although receiving a grade of D or F for individual distribution courses will not, by itself, constitute grounds for denial to advance to the subsequent semester, only courses for which a passing grade (D or above) is achieved will count toward the minimum credit requirement for graduation or toward fulfilling minimum requirements for distribution courses from required sets. Furthermore, no more than four distribution courses with D grades will count toward the minimum credit requirements for graduation.

Repeating a Semester

A student who has been denied permission to advance may repeat only once. A student who repeats a term will be required to take all foundation courses normally offered during that term, unless exempted by the faculty responsible for teaching the course.

These academic standards do not compromise the prerogative of the college faculty, which may, under unusual circumstances, make exception to these standards.

Transcripts

Transcripts may be obtained only through the Office of the University Registrar, 222 Day Hall. An official transcript is one that bears the official seal of the university and the signature of the university registrar, sent in a sealed envelope directly from the Office of the University Registrar to another institution or agency as directed by the student. A fee is charged for each official transcript. A student may also request that an unofficial transcript be sent to a particular office on campus. There is no fee for this service. Transcript request forms may be picked up in the Office of Student Services.

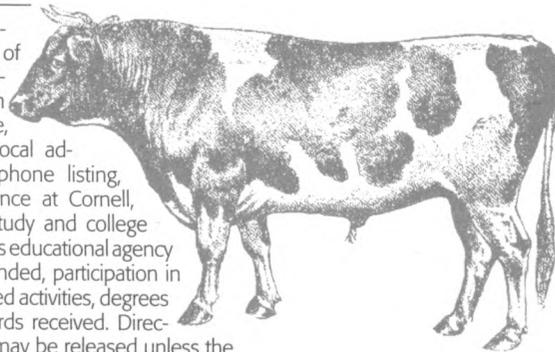
Student Records

Under the Family Educational Rights and Privacy Act of 1974 (FERPA), students must be advised of their rights concerning their education records. Education records include records directly related to a student and maintained by an educational institution or party acting on its behalf. The law gives students the right to inspect and review their education records; challenge contents of education records; request a hearing if the challenge is unsatisfactory; include an explanatory statement in the education records if the outcome of the hearing is unsatisfactory; prevent disclosure of personally identifiable information,¹ secure a copy of the institutional policy, which includes the location of all education records,² and file complaints with the Department of Education concerning institutional failure to comply with the act.

Conduct of Students

The standards of conduct expected of a Cornell University veterinary student are defined by various university regulations and by the College of Veterinary Medicine Student Honor Code. The code was established in recognition of the importance of ethics, honor, and integrity in an individual's training for the profession. It places the responsibility for ethical and professional conduct on the students and is implemented by the Student Administrative Board, which is granted initial jurisdiction by the faculty. It is the responsibility of each student to become familiar with the contents of the code and to abide by it throughout his or her involvement with the college.

¹Directory information is a category of personally identifiable information that includes name, home address, local address, local telephone listing, dates of attendance at Cornell, major fields of study and college attended, previous educational agency or institution attended, participation in officially recognized activities, degrees earned, and awards received. Directory information may be released unless the student indicated otherwise at the time of registration. Students who wish no release of their directory information must inform the Office of the University Registrar in writing within ten days of the date of official university registration each academic year. Students may rescind their no-release request at any time in writing to the Office of the University Registrar.



²Copies of the "Cornell University Policy on Access to and Release of Student Education Records" are available at the Office of the University Registrar, 222 Day Hall.

Financial Planning

Tuition and Fees

Tuition and fees for Doctor of Veterinary Medicine degree candidates are estimated at \$13,800 for New York State residents and \$18,600 for nonresidents for the 1996–97 academic year, subject to final approval by SUNY. Most students in the college do not live in university housing. The cost of room and board in Ithaca for 1996–97 is estimated at \$6,460. Required books, instruments, and supplies cost approximately \$760 a year. An additional allowance of \$3,710 should cover student health insurance (estimated at about \$700), clothing, laundry, local transportation (including approximately \$250 for a parking permit), telephone, and incidentals. These estimates are based on standard budget figures provided by the university's Office of Financial Aid and Student Employment for the purpose of allocating funds and budgeting for financial aid. Individual expenditures may exceed these figures, depending on personal preferences. The university may change the amount, time, and manner of payment of tuition, fees, or other charges at any time without notice.

Students who wish to pay tuition in monthly installments should contact the Office of the Bursar. Information about this plan is mailed to continuing students in April of each year and to incoming students in May of each year.

Courses of Study provides further information about university policies, student services, fee schedules, and payment procedures.

Financial Planning

Information and guidance regarding financial aid for veterinary students are available through the college Office of Financial Aid. Details of the methods, procedures, calendar, resources, and policies are provided in the college's publications *Guide to Applying for Student Financial Aid at the College of Veterinary Medicine at Cornell* and *Financial Aid Handbook: A Guide to Student Financial Aid at the College of Veterinary Medicine at*

Cornell University, which are updated and distributed to students annually.

Approximately 85 percent of financial aid available for the 1996–97 academic year will be through loans and other forms of self-help. College grant and scholarship monies permit modest awards of gift aid to about 25 percent of each class. Such awards are usually based on student/family need. Some scholarships, such as the SUNY Underrepresented Graduate Minority Fellowship, stipulate additional eligibility criteria. In recent years, eligible minority students have received awards ranging from \$5,000 to \$15,000 per year, depending on documented need. The average award was \$15,000 in 1995–96. The college's policy of support is based on the assumption that parents and spouses are willing to help finance the education of their family members to the extent possible.

Scholarships

Scholarships are financial aid funds for D.V.M. students, established primarily by gifts from college alumni and friends. Awards are need based and are made by the Office of Financial Aid as part of college aid packages. No special application is necessary; all students who apply for financial aid are considered for available scholarship funds. Securing additional support for scholarships is one of the college's top fund-raising priorities. Following is a list of scholarship funds established as of July 1, 1996.

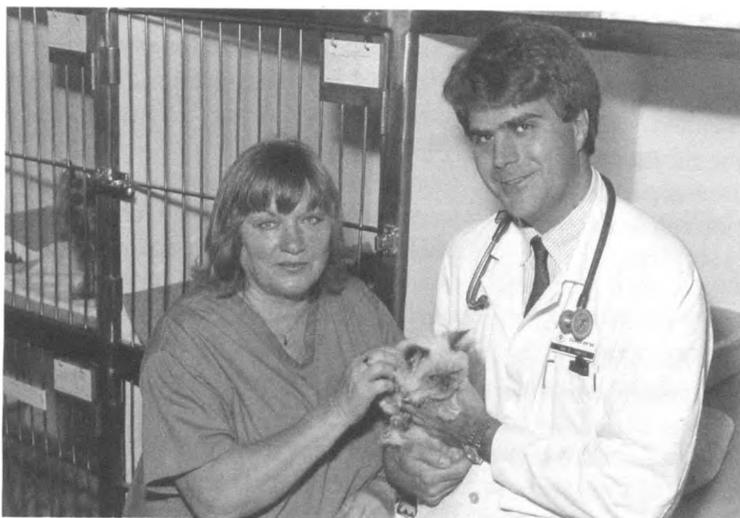
Stanley & Dorothy Aldrich Scholarship
All-Celia Scholarship
Stephen Arnold Memorial Scholarship
Robert I. Ashman Scholarship
Auxiliary Long Island Veterinary Medical Association Scholarship
Auxiliary to the New York State Veterinary Medical Society Scholarship
Clark J. and Martha B. Baker Scholarship
Jack Edward Baker Scholarship
Mr. and Mrs. H. R. Baukhage Book Scholarship
Ralph Bell and Patricia Roe Bell Scholarship in Veterinary Medicine

Barbara R. Benz Scholarship
Bloch Family Scholarship
Mary Jane Brandt Scholarship
Joseph Brender Student Aid Fund
James D. Brennehan '77 Memorial Scholarship
Dorsey W. and Beatrice C. Bruner Scholarship
Charlie and Chico Memorial Scholarship
Dorothy R. Clay Scholarship
The Cornell Veterinarian Endowed Scholarship
Ben B. & Elizabeth J. Cox Scholarship
William A. and Walter R. Dennis Scholarship
Sadie and Pearl DeRidder Scholarship
Duncan Memorial Scholarship
Henry Winfield Dustan Memorial Scholarship
Dr. John W. & Vivian M. Earl Scholarship
Priscilla Maxwell Endicott Scholarship
Matthew Eskeli Scholarship
Mary Essaian Memorial Scholarship
Myron G. Fincher Memorial Scholarship
Francis H. Fox Scholarship
Tracy Garman Memorial Scholarship
Irene H. & John L. Given Foundation Scholarship
Grambow Family Scholarship
Sheila D. Grummick Scholarship
Arthur G. Hall Scholarship
Richard M. Hartenstein Memorial Scholarship
Billy Houghton Memorial Scholarship
Hobbes Scholarship
Hudson Valley Veterinary Medical Society Scholarship
Jaqua Foundation Scholarship
David Kennedy Johnston Endowment
George Kerr Scholarship
Valentine Mott Knapp Scholarship
Mary Buczkowski Kopec and Francis Buczkowski Endowed Scholarship
Dita and Francis J. Koppstein Scholarship
Madelyn C. Kreisler Scholarship
Chester and Carol Lange Memorial Scholarship
Le Schin-Weiler Empire Cat Club Scholarship
Joel Rosenman Leventhal Scholarship
Germaine B. Little Student Scholarship
Lloyd's Underwriters, Lloyd's Brokers, & Lloyd's Kentucky Agents Bursar Award
Miles C. Markham Scholarship
Massapequa Hospital for Animals Scholarship
Ronald F. Mayhew '63 Memorial Scholarship
Dr. Lykerguss W. and Alma Fay Messer Scholarship

Sewell Metzger Memorial Scholarship
 Lloyd E. Moore, Sr. & Lloyd E. Moore, Jr.
 Scholarship
 David Morrow Scholarship
 Joseph Mosher Incentive Award
 New York State Veterinary Medical Society
 Scholarship
 James T. Noonan Scholarship
 North Shore Animal League Scholarship-Loan
 Fund
 Pfizer Veterinary Scholarship Award
 Plainfield Kennel Club Scholarship
 Mrs. Cheever Porter Foundation Scholarship
 Wilburn H. and Florence B. Potter Scholarship
 Ryman & Katherine Powell Veterinary Student
 Aid Fund
 Putnam Kennel Club Scholarship
 Merlin H. Reed Memorial Scholarship
 Frank and Rosa Rhodes Veterinary Scholarship
 Frank and Rosa Rhodes Presidential
 Scholarship in Veterinary Medicine
 Tessa Ross Scholarship
 The Salisbury Scholarship Endowment Fund
 The Dorothy Schiff Scholarship
 Isidor Sprecker Wildlife Medicine Award
 Meg St. John Scholarship
 P. Daniel Stevens Memorial Scholarship
 Susque-Nango Kennel Club Scholarship
 Richard M. Sweezey Memorial Scholarship
 Thomas F. Tanneberger Memorial Scholarship
 Jim Dale Thomas Memorial Scholarship
 Tinsel Scholarship
 Union County Kennel Club Scholarship
 Dominick Frank Vietro Scholarship
 Donald B. Wade Memorial Scholarship
 Hilda G. and Walter D. Way Scholarship
 Colonel and Mrs. Louis G. Weisman
 Scholarship
 Westminster Kennel Foundation Scholarship
 Hulda Anna White Scholarship
 Deborah M. Wohlfort Scholarship
 Leo A. and Virginia B. Wuori Scholarship
 Wyoming Valley Kennel Club Scholarship
 Yonkers Raceway Foundation Scholarship
 Dr. Irving Zimmerman '35 Memorial
 Scholarship in Veterinary Pathology

Scholarships established by Veterinary Alumni Classes:

Class of 1929 Scholarship	Class of 1967 Scholarship
Class of 1939 Scholarship	Class of 1968 Scholarship
Class of 1941 Scholarship	Class of 1969 Scholarship
Class of 1942 Scholarship	Class of 1970 Scholarship
Class of 1943 Scholarship	Class of 1972 Scholarship
Class of 1944 Scholarship	Class of 1974 Scholarship
Class of 1945 Scholarship	Class of 1975 Scholarship
Class of 1946 Scholarship	Class of 1976 Scholarship
Class of 1949 Scholarship	Class of 1977 Scholarship
Class of 1950 Scholarship	Class of 1979 Scholarship
Class of 1951 Scholarship	Class of 1980 Scholarship
Class of 1952 Scholarship	Class of 1981 Scholarship
Class of 1954 Scholarship	Class of 1984 Scholarship
Class of 1955 Scholarship	Class of 1985 Scholarship
Class of 1956 Scholarship	Class of 1986 Scholarship
Class of 1957 Scholarship	Class of 1988 Scholarship
Class of 1958 Scholarship	Class of 1991 Scholarship
Class of 1959 Scholarship	
Class of 1960 Scholarship	
The Plaque Class of 1961 Scholarship	
Class of 1962 Scholarship	
Class of 1963 Memorial Scholarship	
Class of 1964 Scholarship	
Class of 1965 Scholarship	



Animal care supervisor Betty Leete and David Frantz (Class of 1995)

Biomedical Communications

Honor Day Prizes and Awards

The Honor Day ceremony is held the week before graduation each May. The prizes and awards distributed at the ceremony have been established by alumni, friends, corporations, foundations, and organizations interested in veterinary education and animal health. Most awards are for fourth-year D.V.M. students and recognize scholarly achievement in a particular discipline or outstanding aptitude for working with a particular species. Following are descriptions of prizes and awards presently available.

American Association of Feline Practitioners Award

A recognition plaque and two years free membership in the American Association of Feline Practitioners is awarded to a fourth-year student for special interest and accomplishment in feline medicine and surgery. The recipient is selected by the faculty in the Companion Animal Hospital.

American College of Veterinary Radiology Prize

A certificate and one-year subscription to the journal *Veterinary Radiology & Ultrasound* is awarded to the fourth-year student excelling in clinical radiology.

American College of Veterinary Surgeons Award

This award is given to the fourth-year student who has demonstrated outstanding motivation and interest in the art and science of veterinary surgery.

Prize of the Auxiliary of the American Veterinary Medical Association

This prize, restricted to one student, is presented to the member of the fourth-year class who is deemed to have best advanced the standing of the College of Veterinary Medicine on the campus by special contributions of an extracurricular nature.

James Gordon Bennett Prize

In 1916, Mr. James Gordon Bennett, New York City, endowed this prize for the

student who shows the greatest humaneness in handling animals, with special reference to the use of anesthesia. Mr. Bennett was the editor of the *New York Herald* (forerunner of the *Herald Tribune*) a century ago. A man of diverse abilities and interests, he dispatched Henry M. Stanley in 1870 to find Dr. David Livingstone in Africa. Nominations are made by the faculty of the Section of Anesthesiology in the Department of Clinical Sciences.

Anne Besse Prize

Miss A. B. Jennings of New York City endowed this prize in 1925 for the best work in large animal medicine. Nominations are made by the Medicine Section faculty of the Department of Clinical Sciences.

Frank Bloom Pathology Award

This prize was established in 1978 with an endowment by Dr. Frank Bloom. Dr. Bloom, a 1930 Cornell graduate, was a Charter Diplomate of the American College of Veterinary Pathologists as well as a Diplomate of the American College of Laboratory Animal Medicine. He practiced in Flushing, New York, taught at Downstate Medical, and published extensively. The nomination for a fourth-year student excelling in pathology is made by the Department of Pathology.

Gary Bolton Memorial Cardiology Award

Funds for the endowment of this award were donated by friends and colleagues of Dr. Gary R. Bolton in memory of his outstanding contributions to the field of small animal cardiology. Dr. Bolton was a member of the faculty and taught cardiology for a decade. He was also known and respected as a compassionate veterinarian who exhibited empathy for his patients and their owners. A fourth-year student who has demonstrated understanding and expertise in cardiology and empathy for patients compatible with the philosophy of Dr. Bolton has been nominated by the faculty of the Companion Animal Hospital.

Charles Gross Bondy Prize

Mr. Richard Bondy, New York City, endowed this prize as a memorial to his son, in 1929, for the best work in the courses in practical medicine and surgery of small animals. Nominations were made by the faculty of the Medicine and Surgery Sections of the Department of Clinical Sciences responsible for teaching in the Companion Animal Hospital.

A. Gordon Danks Large Animal Surgery Award

This award was initiated in 1978 by the faculty of the Department of Clinical Sciences to recognize the outstanding contributions of professor emeritus A. Gordon Danks, first director of student administration and admissions and chairman of the former Department of Large Animal Medicine and Surgery. It is presented to a fourth-year student demonstrating outstanding knowledge and talent in the diagnosis and treatment of surgical problems of large animals. Basic and applied knowledge, diagnostic abilities, general surgical skills, and patient care exhibited during the clinical rotations are considered in the presentation of this award.

Donald D. Delahanty Memorial Prize

This prize was established as a special memorial to Dr. Donald Delahanty, a member of the former Department of Large Animal Medicine, Obstetrics and Surgery from 1952 to 1975. The prize is given to a fourth-year student showing an interest in equine practice and a high level of proficiency in the field. The candidate is nominated by the faculty of the Department of Clinical Sciences concerned with the equine patient.

Hugh Dukes Prize in Experimental Physiology

This prize was established by former students and friends of Dr. H. Hugh Dukes, who was a pioneer in the education of students in physiology and who served the university and college for twenty-eight years as professor and chair-

man of the Department of Physiology. With a view to encouraging veterinary graduates to undertake research and teaching in physiology, the prize is awarded upon the judgment of the veterinary physiology teaching faculty to a veterinary student who has done excellent work in physiology laboratory courses and shows potential for teaching and contributing new knowledge to physiology. Nominations may be made by any faculty member in the College of Veterinary Medicine.

Ettinger Incentive Award

Dr. Stephen Ettinger, Class of 1964, established this award to provide encouragement to all veterinary medical students at Cornell. The award, consisting of his *Textbook of Veterinary Internal Medicine*, is given to a second-year student who has made the greatest improvement in cumulative GPA between the first and second year.

Myron G. Fincher Prize

This award was initiated in 1980 through an endowment from Dr. Neil W. Pieper '32, given in honor of Professor Emeritus Myron G. Fincher '20. It is in recognition of the many contributions to the college by Dr. Fincher. Always a gentleman, he firmly demanded the best from his students and played a leading role in the instruction of large animal medicine and obstetrics for forty-five years. It is presented to a fourth-year student demonstrating the best work in courses dealing with large animal obstetrics and reproductive diseases. Both academic and practical performance are considered. Nominations are made by the Section of Theriogenology in consultation with other clinical faculty.

Gentle Doctor Award

The Gentle Doctor Award was originally made possible by Dr. William Hornbuckle's contribution of prize money from the Norden Distinguished Teacher Award he received in 1979. Dr. and Mrs. Robert Kirk established a permanent endowment fund for the continuation of

this award. The recipient of the award is a fourth-year student who, in the opinion of the faculty of the Department of Clinical Sciences, exemplifies enthusiasm, motivation and dedication to the delivery of excellent veterinary patient care.

Grant Sherman Hopkins Prize

The endowment for this prize was given by Ms. Ann Ottaway Hopkins in 1955 in memory of her husband who had served the university and college for forty-five years as professor of veterinary anatomy. It is awarded upon the recommendation of the faculty in the Department of Anatomy on the basis of interest, ability, perseverance, and performance in the work in that department.

P. Philip Levine Prize in Avian Medicine

This prize was established from gifts made by friends and colleagues of Dr. P. Philip Levine in memory of his many contributions to the field of avian medicine, both nationally and internationally. Dr. Levine was a long-time member of the Cornell faculty and was the first chairman of the Department of Avian Diseases. Much of his life was dedicated to the training of young people and to encouraging them to aspire to excellence. In the spirit of encouraging excellence, this prize is awarded to the third-year veterinary student attaining the highest grade in the course on avian medicine.

Merck Manual Awards

Merck and Company, Inc., offers copies of the *Merck Veterinary Manual*, embossed with the names of the recipients, to members of the fourth-year class who will graduate highest in their class.

Jane Miller Prize

Funds for the endowment of this prize were given by Dr. Frank H. Miller, a graduate of McGill University and a trustee of Cornell University for twenty consecutive years. As a memorial to his wife, the prize is awarded to a member of the second-year class who have done the best work in veterinary physiology.

Candidates are nominated by the faculty in the Department of Physiology.

Malcolm E. Miller Award

In 1965, Ms. Mary Wells Miller Ewing established this award in memory of her husband, Dr. Malcolm E. Miller '34, a former professor of anatomy and the head of that department from 1947 to 1960. The recipient is to be a fourth-year student who, in the judgment of the dean, has demonstrated perseverance, scholastic diligence, and other personal characteristics that will bring credit and distinction to the veterinary profession.

Mary Louise Moore Prize

Dr. Veranus A. Moore established this endowed prize, as a memorial to his wife, for the best work in bacteriology. Dr. Moore served as chairman of the former Pathology and Bacteriology department and as dean of the Veterinary College from 1908 to 1930. Nominations are made by faculty in the Department of Microbiology and Immunology.

Neuroanatomy–Clinical Neurology Prize

In memory of Dr. William B. Forsythe, this prize is awarded to the fourth-year student who has demonstrated the most outstanding expertise and interest in neuroanatomy and clinical neurology. Nominations are made by the faculty who have primary responsibility for instruction in neuroanatomy and in clinical neurology.

New York State Veterinary Medical Society Prize

This prize, which consists of an engraved plaque and a cash award, is provided annually by the Society for the best Senior Seminar. Members of the fourth-year class are eligible to compete. Nominations are made by the Senior Seminar Committee, which judges the quality of the seminars.

Leonard Pearson Veterinary Prize

This award, endowed in 1993, is for the fourth-year student who most successfully demonstrates the potential for professional and/or academic leadership in veterinary medicine.

Phi Zeta Award

The Alpha Chapter of Phi Zeta, the honor society of veterinary medicine, acknowledges the second-year student with the best academic record upon completion of the first three semesters of study. The recipient of the award receives Ettinger's *Textbook of Veterinary Internal Medicine*, Volumes I and II.

Pfizer Animal Health Veterinary Award

This award was established by the Pfizer Animal Health company to foster veterinary medical education, by recognizing the outstanding third-year student who, through his or her ability, dedication, and character, attains a high level of academic achievement and productivity.

Colonel Floyd C. Sager Equine Obstetrics and Pediatrics Award

This award, created on the occasion of Dr. Sager's ninetieth birthday in 1984 by another Cornellian who trained under Dr. Sager, recognizes a Cornell veterinarian whose name is synonymous with excellence in equine obstetrics and pediatrics. Following Dr. Sager's graduation in 1917, he served in the army Remount Service until after World War II. He then became the veterinarian for the world-famous Claiborne Farm in Kentucky where he remained until his death in February 1986. The fourth-year student receiving this award, in the opinion of the faculty of the Department of Clinical Sciences, has displayed outstanding aptitude in equine obstetrics and pediatrics.

E. L. Stubbs Award

This prize, contributed by the Mid-Atlantic States Association of Avian Veterinarians, is to be awarded to the fourth-year student who has demonstrated the most outstanding competence

and motivation in various areas of avian medicine. Nominations are made by the faculty who have primary responsibility for instruction in avian diseases and clinical avian medicine, including the adviser of the Avian Clinic.

Anna Olafson Sussex Pathology Award

This award was endowed in 1974 by Dr. and Mrs. Peter Olafson in memory of Dr. Olafson's sister. The award is given to a third-year student who has done outstanding work in pathology. Recommendations are made by faculty actively engaged in teaching pathology.

Jacob Traum Award

Through an endowment established by friends of Jacob Traum '05, professor emeritus of bacteriology, University of California, and formerly chief scientist at the federal Plum Island Animal Disease Laboratory, this prize is awarded to the fourth-year student who is judged by the Department of Microbiology and Immunology as having exhibited superior interest and accomplishment in bacteriology, epizootiology, pathology, and virology, including an aptitude for and expressed interest in research on infectious diseases.

Upjohn Clinical Awards

The Upjohn Pharmaceutical Company offers a prize to the student considered to be the most proficient in the practice of large animal medicine and the student considered to be the most proficient in the practice of small animal medicine. Nominations for these awards are made by the faculty members of the respective departments.

Horace K. White Prize

An endowment for this prize was originally given by Mr. Horace K. White (and later his sons of Syracuse, New York) for the student with the highest academic record during his or her veterinary training. This award, originally called the President's Prize, dates back to 1873 and is probably the longest-standing prize at Cornell. The original donor was a brother to Andrew

Dickson White, the first president of the university.

Wild Bird Research and Rehabilitation Award

This award, from a university endowment by the same name, is given to a fourth-year veterinary student who has demonstrated concern for the rehabilitation of wild birds or who has been involved in research related to wild bird treatment and rehabilitation. Nominations are made by the Jay Hyman Professor of Wildlife Medicine based upon recommendations of concerned faculty.

Faculty Awards

Pfizer Animal Health Award for Research Excellence

This award is presented annually to a young investigator whose research achievements are likely to have a significant impact on our understanding of the biology or medical management of animals. Nominees must be permanent faculty or senior research associates of the College of Veterinary Medicine at Cornell and must have completed their formal training not more than eight years before being nominated. Most of the research must have been conducted at Cornell within three years of the time of nomination.

Norden Distinguished Teacher Award

This award goes to a full-time member of the veterinary medical faculty who has demonstrated continued excellence in teaching. Fourth-year students elect the recipient of this prestigious award from candidates nominated by students in all four years of the D.V.M. program.

Outstanding Clinical Resident Award

This honor is awarded to a resident judged to demonstrate exemplary compassion for animal patients and clients, outstanding clinical proficiency in the management of Veterinary Medical Teaching Hospital patients, and noteworthy dedication to the training of veterinary students. The recipient is selected by a vote of the fourth-year class.

Student Services

The Office of Student Services addresses the needs of students in the college by providing a variety of services. These include all admission-related activities for prospective D.V.M. students; academic and personal counseling; facilitating contact with resource groups elsewhere on campus (e.g., psychological services); placement information for externships, opportunity blocks, and jobs following graduation; information regarding D.V.M. licensure; dissemination of information regarding scholarships and other special opportunities; maintenance and scheduling of Academy events (see p. 28); organizing Honor Day and Commencement activities, as well as other student-related services.

Academic and Personal Counseling

Faculty advisers assist with questions concerning academic progress and career goals within the profession. In addition, the associate dean for academic programs provides assistance in resolving academic problems and personal difficulties that affect students' achievement.

Health Services

University Health Services provides medical care for all full-time undergraduate and graduate students enrolled at Cornell University in Ithaca. Gannett Health Center, at 10 Central Avenue, is open twenty-four hours a day during the school year and is available for overnight care and urgent outpatient services outside of normal working hours. Normal hours are Monday through Friday from 8:30 A.M. to 11:30 A.M.; 1:00 P.M. to 4:30 P.M.; and Saturday from 8:30 A.M. to 12:00 noon during regular academic terms.

The center's medical staff, under the supervision of the medical director, consists of attending physicians and health associates from the university staff and consulting physicians and surgeons from the Ithaca area. All medical records are strictly confidential.

To make a medical appointment, call 255-6958 or go to the center. For an

appointment with Psychological Services, call 255-5208 or go to the offices at the center. A doctor is on call for urgent problems twenty-four hours a day (telephone: 255-5155).

General medical care, psychological services, gynecological care, and overnight and after-hours care are provided at Gannett Health Center without additional cost. There may be a charge for laboratory service, radiographs, physical therapy, limited consultations, allergy shots, drugs, and other services provided on-site. There is a fee for all services off-site. Students may call 255-4082 for additional information.

Student Accident and Sickness Insurance Plan

Cornell sponsors a health insurance plan underwritten by a private insurance company to supplement the services outlined above. This plan may be waived if the student has other health insurance. The university plan does not cover preexisting conditions. Students are urged to consider carefully the comprehensive benefits available for a relatively modest fee before waiving the plan. The plan covers most services available at the center for which a fee may be charged. It also covers services not available on campus, such as hospital care and consultations. Further, it provides for expenses relating to illness or accidents outside Ithaca during the academic year and vacation periods. Families of students are eligible for coverage and must enroll annually. Information about this insurance may be obtained by calling 607-255-6363 or by visiting Gannett Health Center, where a representative of the insurance company has an office.

Health Care Plan for Student Spouses

The University Health Services provides health care for student spouses on a prepaid or fee-for-service basis. The fee schedule and other information about this service are available at the front desk and in the Student Insurance Office.

Emergency Health Service

Students requiring after-hours or urgent care should call the health center at 255-5155 to receive instructions on the proper course of action to follow.

Placement

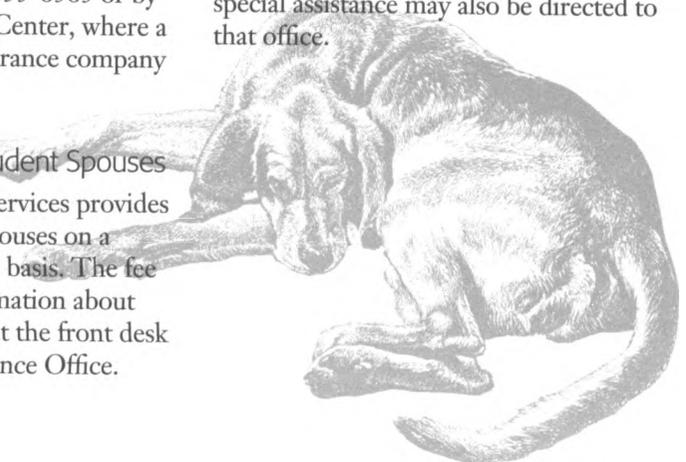
The placement service, a part of the Office of Student Services, S1 006 Schurman Hall, offers valuable information to students attending the College of Veterinary Medicine at Cornell. Alumni and other practitioners seeking associates also benefit from this service.

Employment opportunities for permanent positions, summer jobs, and externships, solicited from all over the country, are stored on a central computer and accessed by remote terminal. Type of practice (small, large, or mixed) and desired geographic location can be selected and viewed on the screen or printed on a remote printer in the student services office.

The placement service also compiles national and state board information and collects and distributes employment statistics.

Services for Persons with Disabilities

Cornell University is committed to assisting those persons with disabilities who have special needs. To obtain a brochure describing services for persons with disabilities, write to the Office of Equal Opportunity, Cornell University, 234 Day Hall, Ithaca, New York 14853-2801. Other questions or requests for special assistance may also be directed to that office.



Student Life

Housing and Dining

Off-Campus Housing

Most veterinary medical students live off campus. Students should plan to visit Ithaca well in advance of registration if they wish to obtain quarters off campus. Information on housing is available at the Off-Campus Housing Office, 205 Robert Purcell Community Center. The college Office of Student Services also maintains lists of housing suitable for veterinary students.

On-Campus Housing

Graduate residences are conveniently situated and provide a comfortable multicultural atmosphere for study, recreation, and socializing. Maplewood Park apartments, near the College of Veterinary Medicine on the southeast side of campus, house 308 single graduate students and 90 student families. Schuyler House, located in a residential area within walking distance of campus and downtown shopping areas, accommodates 140 graduate men and women. Two small coeducational residences, 112 Edgemoor and The Oaks, are situated on the west side of campus and together house approximately 70 graduate students. Thurston Court, a small apartment

building situated on the north side of Fall Creek gorge, accommodates 21 students.

Room assignments are made in the order in which applications are received. The housing contract for Maplewood Park and Thurston Court apartments is for a twelve-month period beginning August 15. In the other graduate residences, the contract period is for the academic year. Requests for information and applications should be directed to the Campus Life Housing Office, Robert Purcell Community Center, Cornell University, Ithaca, New York 14853-6001 (telephone: 607-255-5368).

Student Family Housing

The university maintains apartments for approximately 420 student families in three different complexes. Hasbrouck and Pleasant Grove apartments, located on the north side of campus, have one- and two-bedroom unfurnished apartments. The family units in Maplewood Park are furnished and have one bedroom and a study. Requests for further information and applications should be directed to the Campus Life Housing Office, Robert Purcell Community Center, Cornell University, Ithaca, New York 14853-6001 (telephone: 607-255-5368).

Dining Services

Breakfast and lunch are available in the cafeteria in the Veterinary Research Tower. Vending machines are also located at various places throughout the college.

Students who plan to live on campus may choose to participate in the Co-op dining program. Additional information on the various plans available may be obtained from Cornell Dining, 233 Day Hall (telephone: 607-255-8582).

The Big Red Barn, a dining and social center for graduate and professional students, is centrally located near Bailey Hall. For current hours and services, telephone 254-GRAD.

Activities and Organizations

SCAVMA

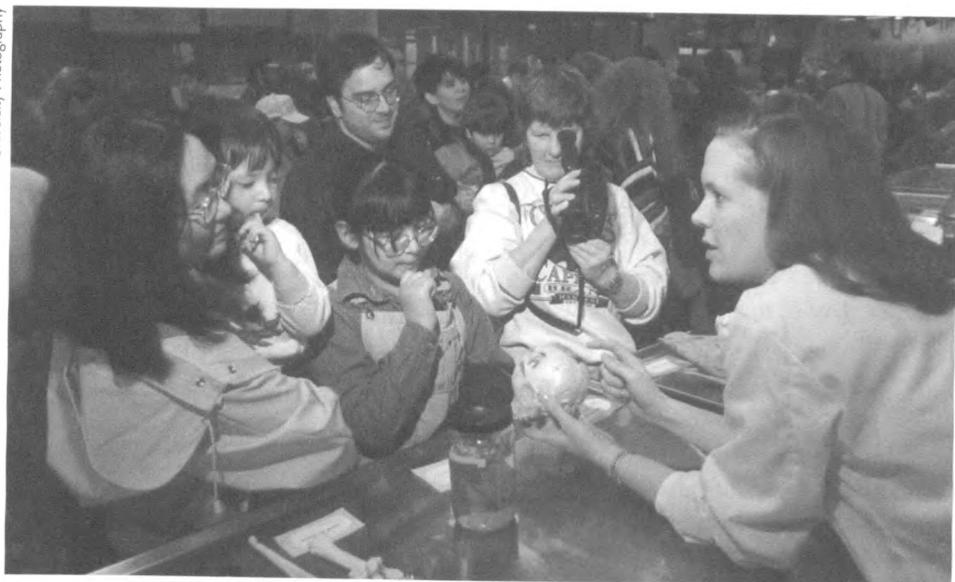
Student Chapter of the American Veterinary Medical Association, SCAVMA, is the official organization representing veterinary students at Cornell. The national veterinary medical student organization is SAVMA and is the only recognized voice of veterinary students to universities, to AVMA and state veterinary organizations, and to the state and federal governments.

SCAVMA sponsors many social and educational activities. SCAVMA is becoming increasingly active in national and legislative roles. It sponsors many lectures throughout the year.

SCAVMA is managed entirely by students with the assistance of a faculty and administrative adviser. Representatives from each class are elected in the fall, and executive officers are elected in the spring. About 90 percent of all veterinary students at Cornell are members of SCAVMA. Members in good standing are eligible, upon graduation, to belong to AVMA Insurance Trust and to receive a one-year free membership in AVMA.

Other Organizations

Student chapters of the following organizations are affiliated with a national organization of the same name. They usually have a charter and fee structure similar to the same organizations at other schools.



The annual Open House is organized by first- and second-year DVM students and draws thousands of visitors to the college each April. Above: Wendy Breckenridge (Class of 1999) talks to a group of visitors.

- AABP** American Association of Bovine Practitioners
- AAEP** American Association of Equine Practitioners
- AAFP** American Association of Feline Practitioners
- AASRP** American Association of Small Ruminant Practitioners
- AAV** Association of Avian Veterinarians

The following organizations reflect special student interests and may or may not be related to a national organization.

AHVMA
American Holistic Veterinary Medical Association

Canine Club

College Yearbook

IAAAM
International Association of Aquatic Animal Medicine

SCAVAR
Student Chapter Association of Veterinarians for Animal Rights

Ultrasound
Singing group

The Veterinary Players
Theater group

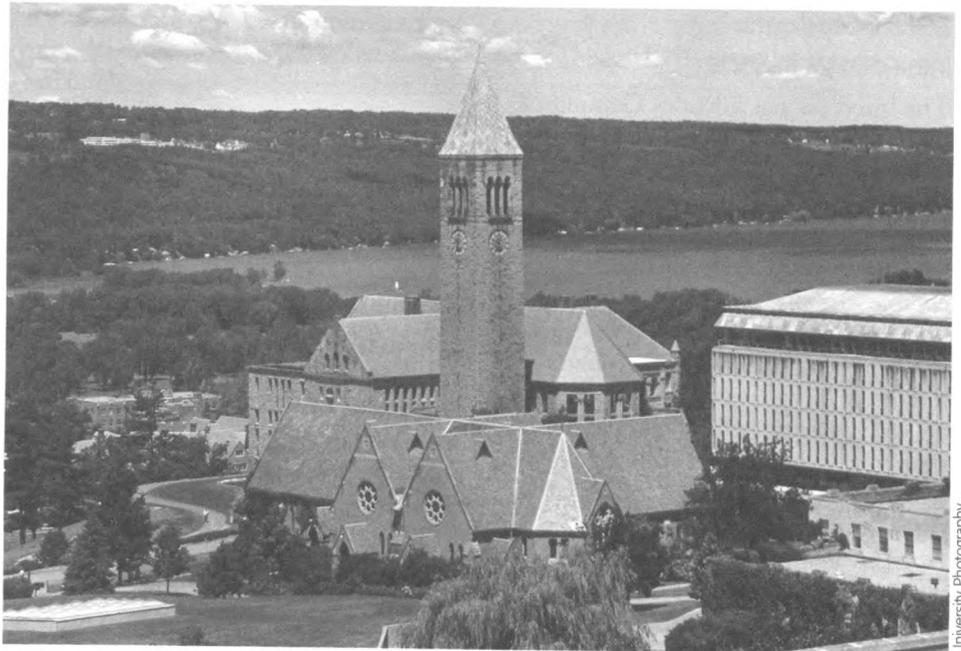
VIDA
Veterinarians Interested in Developing Areas

Wildlife Clinic

ZAWS
Zoo and Wildlife Society

Students also are members of the following college committees:

- Affirmative Action Committee
- Common Environment Committee
- Faculty-Student Liaison Committee
- Honor Board
- International Advisory Committee
- Student Curriculum Committee



University Photography

Founded in 1865, Cornell University comprises thirteen colleges and is home to six national research centers. The university has 2,250 faculty members and more than 18,000 students.

Open House

Each year, students at the college participate in the planning and presentation of Open House. On a Saturday in April, the college is opened to several thousand members of the public and offers displays and exhibits, tours, films, and instruction on many aspects of veterinary medicine directed toward various age groups.

Honor Societies

Students of the College of Veterinary Medicine are eligible for three honor societies.

Phi Kappa Phi: The society of Phi Kappa Phi was founded in 1897 and soon became a national organization. Its primary objective is to recognize and encourage superior scholarship in all fields of study. Good character is essential for those elected to membership.

Phi Zeta: Founded in 1925 by the veterinary students at Cornell University, Phi Zeta strives for the constant advance-

ment of the veterinary profession, higher educational requirements, and superior scholarship. The object of the society is to recognize and promote scholarship and research pertaining to the welfare and diseases of animals.

Sigma Xi: Any student or research staff member is eligible for membership in Sigma Xi, the Scientific Research Society of North America. It is the responsibility of the admission committee of Sigma Xi to select for membership those individuals whose research aptitude or achievement deserves special recognition.

Fraternities

Omega Tau Sigma has a house in Ithaca. This veterinary fraternity is coeducational and encourages all students to join whether or not they live at the house.

Special Programs

D.V.M. Students

International Projects

The International Advisory Committee makes funds available on a competitive basis to D.V.M. students interested in becoming involved in veterinary projects in developing countries. All D.V.M. students in good academic standing are eligible to apply. Proposals for international projects must include a description of the project, personal background, interest in work overseas, language ability, a realistic budget, and plans for sharing the experience with the college community. Decisions are made by the International Advisory Committee, and funds are administered by the director of international programs. For more information, contact Dr. S. Gordon Campbell, Department of Microbiology and Immunology.

Academic Program Development

Employment opportunities are available on a competitive basis to students interested in assisting faculty in the development of course materials for the D.V.M. curriculum. Specific projects include developing problem-based case tutorials and computer-assisted learning modules. For more information, contact Dr. Donald Smith, associate dean for academic programs.

Leadership Program for Veterinary Students

For the past seven years, the College of Veterinary Medicine at Cornell has hosted a leadership program for veterinary students. The program targets gifted students from veterinary colleges throughout the world who aspire to leadership positions in academic institutions, government, or industry. Major objectives of the program are to develop leadership skills in the participating students and to acquaint them with career opportunities for veterinarians; to assist them in their professional development; and to establish a network that will encourage interaction among students

later in their careers. Approximately twenty fellowships are offered each year. Successful candidates typically stand in the top 10 percent of their veterinary college class, many have had research experience, and all have distinguished themselves in a wide range of professional and personal pursuits.

Fellowships enable students to spend ten weeks at Cornell during June, July, and August. Student fellows engage in faculty-directed research and take part in a variety of professional enrichment activities that have been selected for their excellence and relevance to the program.

Features of the program include a stipend, free in-residence housing, research experience, career counseling, and group discussions of leadership, ethics, graduate education, and careers in industry. Visits to the research facilities of NIH and the USDA are additional features of the program.

Application forms for admission to the 1997 program may be obtained by writing to Ms. Linda A. Griswold, Graduate Education Coordinator, College of Veterinary Medicine.

Aquavet

Aquavet I, a basic four-week intensive summer course introducing students to aquatic veterinary medicine, is cosponsored by the School of Veterinary Medicine at the University of Pennsylvania and the College of Veterinary Medicine at Cornell. Aquavet II extends the basic course and permits more detailed study of specific areas of aquatic animal medicine. The program is conducted at Woods Hole, Massachusetts. For more information, contact Aquavet Associate Director, Dr. Paul Bowser, Department of Microbiology and Immunology.

High School Students

Explorations in Veterinary Medicine Cornell University Summer College offers a six-week program for high school juniors or seniors interested in



gaining realistic insights into modern veterinary medicine. Through lectures, laboratories, visits, and demonstrations, students become acquainted with the wide range of disciplines within the profession. Participants have the opportunity to meet current veterinary students and faculty involved in a variety of research and clinical programs. In addition, they take a freshman writing course and choose one or more courses from those offered by the summer college. Students successfully completing the program receive college credit and a certificate from Cornell University Summer College. For more information, write to Cornell University Summer College, B20 Day Hall, Ithaca, New York 14853-2801, or call 607-255-6203.

Research Apprentice Program for Minority High School Students

The purpose of this six-week program is to stimulate students to pursue careers in biomedical research. Students are assigned to investigators who are committed to developing in high school students both an understanding of the research in which they participate and the technical skills involved. Students are also assigned to other colleges and units at Cornell, including the College of Agriculture and Life Sciences, College of Human Ecology, and Boyce Thompson Institute. Students who are U.S. citizens or permanent residents and who identify themselves as African American, Hispanic, Native American, Alaskan Native, or Pacific Islander are eligible to apply. Application forms and further information may be requested from the Office of Student Services, S1 006 Schurman Hall.

The Graduate School

Graduate Education

Graduate education at the College of Veterinary Medicine is administered by the Graduate School. Students who hold a baccalaureate or equivalent degree may apply for admission to the Graduate School with a view to pursuing graduate studies leading to the M.S. or Ph.D. degree.

Graduate education at Cornell is organized by field of study as opposed to discipline or department. The graduate fields of Veterinary Medicine, Physiology, Immunology, and Pharmacology are the most highly represented in the College of Veterinary Medicine. On occasion, however, students find it expedient to enroll in other graduate fields such as Animal Science, Biochemistry, Environmental Toxicology, Microbiology, Neurobiology and Behavior, Nutrition, or Zoology. Each graduate field contains several areas of concentration. A description of each field, including its individual requirements and areas of concentration, is contained in the current Graduate School catalog and in *Peterson's Guide to Graduate Programs in the Biological, Agricultural, and Health Sciences*.

Combining the Professional (DVM) and Graduate (PhD) Degrees

A combined D.V.M./Ph.D. program is offered by the College of Veterinary Medicine and the Graduate School. The

program targets highly qualified students who aspire to an academic career. Students pursuing the combined degree register in the Graduate School during summer vacation periods to obtain residence credits toward the Ph.D. degree. With proper planning, it is possible to complete the D.V.M./Ph.D. in six calendar years, although students typically take longer.

Before a student can be considered a combined-degree candidate, he or she must be accepted into the professional degree program. Therefore, the first step is application to the Office of Admissions, College of Veterinary Medicine, Cornell University. When the student has enrolled in the veterinary college, application can be made to the Cornell Graduate School. Additional information about the admission process can be obtained from the graduate education coordinator at the address given at the end of this section.

Combined-degree candidates major in a concentration within the field of their choice. The student's major professor must be a member of the graduate faculty of the student's field as well as a member of the faculty of the College of Veterinary Medicine.

Veterinary students with superior academic records and demonstrated research interests are encouraged to apply for admission to the combined program. Qualified

applicants will be admitted only if the funding and research resources are available. Students are encouraged to express their interest in the combined-degree program at least six months before they register in the Graduate School. A student cannot be registered in both the College of Veterinary Medicine and the Graduate School at the same time; however, students may register in the college during the fall and spring terms and then register in the Graduate School during the summer semester. By doing so, they can earn ½ residence unit each summer semester up to a maximum of two units. After the veterinary degree is awarded, the student may petition the Graduate School to transfer two additional residence units for their time spent in the D.V.M. program. At least two residence units must be earned by full-time graduate study.

Special Programs in Graduate Education

Two new programs have been organized in the College of Veterinary Medicine: the Graduate Program in Cellular and Molecular Medicine and the Graduate Program for Veterinary Scientist/Scholars. The new programs target exceptionally well qualified students who aspire to academic careers. They offer highly structured training experiences under the supervision of faculty members who are nationally competitive research scientists and experienced mentors. The programs are not linked to a single field or group of fields, and participation in them does not relieve students of their field obligations. Applicants for admission to the special programs must be accepted by the Cornell Graduate School and must remain in good standing in their graduate field.

Admission

Applicants are encouraged to communicate with one or more faculty members of the graduate field in which they are interested. These individuals may be identified by referring to the Graduate School catalog or communicating with the graduate faculty representative of the selected field. Applicants from countries outside the United States must submit a Test of English as a Foreign Language (TOEFL) score of 550 or



Biomedical Communications

As a student enrolled in the combined DVM/PhD program, Ashley Reynolds (Class of 1996) worked with Dr. Joel Baines, assistant professor of virology, running experiments for his research study on herpes simplex virus replication.

greater if their native language is not English. This requirement applies to all fields.

Applications for admission to the Graduate School may be submitted any time; however, students who contemplate matriculation in the fall should submit their applications by March 1, and applications for spring matriculation should be submitted by October 1. Applications should be directed to the Graduate School, Sage Graduate Center, Cornell University, Ithaca, New York 14853-6201.

Financial Support

Most graduate students receive financial support from fellowships or graduate research or teaching assistantships. Students are seldom admitted to a graduate field without assurance that funding is available for the duration of their graduate studies.

Research and teaching assistantships are available from several sources: training grants, individual research grants and contracts, or by positions assigned to particular departments or operating units of the college.

Approximately twenty assistantships are reserved for applicants with the D.V.M. degree. These are awarded annually following a collegewide competition and are funded at a level comparable to that of other schools of veterinary medicine. Fellowship support for up to three years is provided to students seeking the Ph.D. degree. Successful applicants who are newly enrolled in the Graduate School are provided an additional six months of support with the specific purpose of enabling students to rotate through three or more laboratories. The rotation enables students to experience a variety of training opportunities before they designate their special committee chair. During their D.V.M. studies, successful candidates for admission to the combined program are assured of financial support at current work-study rates when they conduct relevant research during intersessions and summer breaks. Course work will not be subsidized during these periods, however. Once students have been awarded the D.V.M. degree and are enrolled as full-time students in the Graduate School, they will receive

tuition (currently worth \$11,350 a year) and a minimum salary of \$21,248 a year with yearly increments. Decisions on the awards are made in early spring of the year before fall matriculation. The deadline for submission of college D.V.M. graduate fellowship applications is December 13, 1996.

Assistantship recipients may be eligible to enroll in the college's Graduate Program for Veterinary Scientists/Scholars or the Graduate Program in Cellular and Molecular Medicine. The two programs target individuals who aspire to careers as nationally competitive research scientists. Successful applicants become eligible for stipend supplements, training-related benefits, or both through an annual competition. Program guidelines can be obtained from the Graduate Education Office.

Two graduate fellowships are reserved for individuals who belong to underrepresented ethnic minorities—one for a D.V.M. graduate and another for a baccalaureate graduate.

Graduate School fellowships are also available. These are awarded following a university-wide competition. Only the strongest candidates are nominated by their respective fields. The deadline for submission of Graduate School Fellowship applications is January 10, 1997.

Graduate Record Examinations

The graduate fields at Cornell have varying requirements regarding the Graduate Record Examination (GRE) general test. Clarification of the requirements can be obtained from the appropriate field representative. For applicants to the Field of Veterinary Medicine, the requirement for GRE scores may be waived for students from countries outside the United States if evidence is provided of superior academic performance (e.g., high class rank) as an undergraduate. Combined scores on the general test (verbal and quantitative) are expected to be 1200 or higher. Some fields (e.g., Physiology) also require that the advanced subject test be completed.

Applicants for graduate training should arrange for their GRE scores to be sent directly to the Graduate School. This can be

done at the time of registration by entering the Cornell Graduate School number, 2098, at the appropriate place on the test form.

Additional Information

Additional information on graduate education and Graduate School applications can be obtained by contacting the graduate education coordinator, Ms. Linda A. Griswold, Graduate Education Office, College of Veterinary Medicine, Cornell University, Ithaca, New York 14853-6401 (telephone: 607-253-3276; fax: 607-253-3756); or e-mail: lag13@cornell.edu.

Graduate Faculty Representatives

Field of Veterinary Medicine

Professor Karel A. Schat
C4 125 VMC
607-253-4032

Field of Biochemistry

Professor Gerald W. Feigenson
201 Biotechnology Building
607-255-4744

Field of Environmental Toxicology

Professor Andrew Yen
T3 021B Veterinary Research Tower
607-253-3354

Field of Immunology

Professor Judith A. Appleton
James A. Baker Institute
607-256-5648

Field of Microbiology

Professor Valley J. Stewart
W326 Wing Hall
607-255-2416

Field of Neurobiology and Behavior

Professor Thomas Seeley
W301 Seeley Mudd Hall
607-254-4301

Field of Pharmacology

Professor Clare M. S. Fewtrell
C3 125 VMC
607-253-3870

Field of Physiology

Professor John F. Wootton
T8 022 Veterinary Research Tower
607-253-3465

Field of Zoology

Professor John W. Hermanson
S2 064 Schurman Hall
607-253-3542

Internships and Residencies

Internships

As funding allows, the Veterinary Medical Teaching Hospital offers internship programs in ambulatory medicine (Ambulatory Clinic), large animal surgery (Equine and Farm Animal Hospitals), and small animal medicine and surgery (Companion Animal Hospital). Currently, internships are available only in ambulatory medicine.

Objectives

Internships are nondegree programs that provide training for practice, clinical teaching, and specialty board eligibility. Generally a one-year rotating internship in medicine and surgery is a prerequisite for residency programs and for board certification. Internships provide postgraduate education and training leading to a higher level of clinical proficiency.

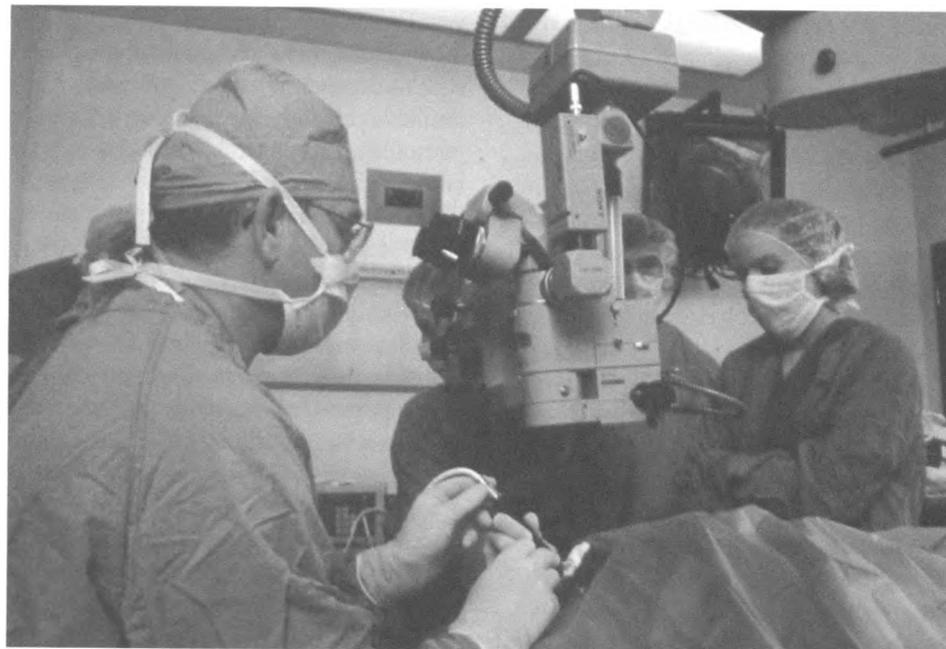
Programs

Interns in Small Animal Medicine and Surgery are assigned on a rotating basis to the Internal Medicine Service, Soft Tissue Surgery Service, Orthopedic Surgery Service, Community Practice Service, and Anesthesiology Service in the Companion Animal Hospital. Each service consists of one faculty member, at least one resident, at least one intern, and several third- and/or fourth-year students.

Interns in Ambulatory Medicine are assigned to one of four geographic service areas of the Ambulatory Clinic, each of which is the responsibility of an individual faculty member. Schedules are arranged so that the intern has the opportunity to work with most of the faculty.

Interns in Large Animal Surgery spend most of their time assigned to either the Soft Tissue Surgery Service or the Orthopedic Surgery Service of the Equine and Farm Animal Hospitals. Interns do, however, spend approximately one month each year on assignment to the Large Animal Medicine Service.

Interns in all programs share weekend duty and the responsibility for emer-



The Companion Animal Hospital has a special surgery suite equipped with a dual-headed operating microscope specially designed for teaching in ophthalmic surgery. The image seen through the microscope can be transmitted to video monitors or recorders in the surgical suite or other areas of the hospital.

gency service on a rotating basis, with residents and senior faculty available for consultation. Residents assigned to each service are responsible for the direct supervision of interns and, along with faculty members, evaluate the performance of interns at the end of each rotation.

Interns are expected to attend and participate in hospital rounds and seminars. With permission, interns may attend a limited number of elective courses. Interns are generally required to prepare a clinical paper suitable for publication under the supervision of a faculty member of the intern's choice.

Residencies

The Veterinary Medical Teaching Hospital has clinical residency programs in anesthesiology, behavior, dermatology, large animal medicine, large animal surgery, ophthalmology, small animal medicine, small animal surgery, theriogenology, and ambulatory medicine.

Objectives

Residency programs provide the resident with a high level of clinical proficiency in a specific clinical discipline. Each program allows the resident to meet the postgraduate education requirements of the specialty board related to that discipline. Residents also gain experience in professional veterinary medical education and in teaching. Residency programs provide training leading to a high level of specialized veterinary service to the public.

Programs

Residency programs combine both clinical and academic activities. During the course of each program approximately 70 percent of time is devoted to clinical training and service, while approximately 30 percent is spent in academic pursuits, including research and didactic teaching opportunities. During clinical training periods each resident is supervised by the chief of the service to which the resident is assigned. Academic

training is supervised by the section coordinator and designated faculty of the section representing the academic discipline. Each residency program consists of advanced clinical as well as academic training in a specific discipline. Progression through the program leads to increased responsibility for clinical case management as well as the opportunity to become involved in clinical research.

Descriptions of specific residency programs are available from the director of the Veterinary Medical Teaching Hospital.

Each clinical service consists of one faculty member, resident(s), intern(s), and several fourth-year students. The resident is responsible for the direct supervision of the interns on the service and participates in the clinical teaching of third- and fourth-year students. Residents have the opportunity to work with all faculty involved in the respective clinical discipline. Residents also participate in after-hours emergency duty on a rotating basis.

A minimum of two calendar years is required for successful completion of residency programs in anesthesiology, behavior, dermatology, large animal internal medicine, small animal internal medicine, and ambulatory medicine. Three years of training are required for completion of residency programs in small animal surgery, large animal surgery, ophthalmology, and theriogenology. Opportunities for obtaining an advanced degree (Master of Science) are available with the residencies in large animal surgery and theriogenology. In appropriate circumstances individuals are encouraged to pursue advanced academic training leading to the doctoral degree after completion of a residency.

Residencies in Veterinary Pathology

The Department of Pathology supports separate residency training programs in anatomic and clinical pathology. These programs are designed to address a national need for veterinary diagnostic pathologists by providing an environment in which the trainee can acquire disciplinary skills and expertise in mod-

ern diagnostic and toxicologic pathology. The training consists of rotating exposure to the extensive case material available through the necropsy, surgical pathology, and clinical pathology laboratories of the Veterinary Medical Teaching Hospital as well as the New York State Diagnostic Laboratory. Learning via responsibility for diagnostic casework is supplemented by slide seminars, lectures, diagnostic journal clubs, tutorials, and rotations through specialty service laboratories in the Department of Pathology and the Diagnostic Laboratory. Summer courses are conducted in immunohistochemistry, the use of molecular techniques in diagnostic pathology, laboratory animal pathology, and toxicologic pathology offered in collaboration with faculty from other universities. Special courses include the Olafson Pathology Course and Organ System Workshops held annually with the faculty and students from the University of Guelph.

The duration of training in either the anatomical or clinical track of the residency program is determined by the entry-level skill of the resident but generally lasts two to three years. Specialty board certification by the American College of Veterinary Pathologists is a goal of both residency training programs.

Resident Program in Anatomic Pathology

Trainees will acquire considerable skill in the recognition and description of organ and tissue lesions, the formulation of morphologic diagnoses, the correlation of antemortem functional changes with postmortem structural alterations, and the conceptual approach to understanding the pathologic expression of a wide variety of disease processes affecting the common animal species.

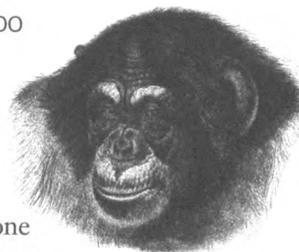
Resident Program in Clinical Pathology

Residents will acquire skills and knowledge in the areas of hematology, clinical biochemistry, clinical immunology, and diagnostic cytology. A period of partici-

pation in the surgical pathology service is provided for each resident. Residents develop their abilities to interpret laboratory results and morphologic patterns and to relate observations to pathologic and physiological processes. Residents also acquire knowledge of laboratory procedures and management through involvement in the laboratory operation.

San Diego Zoo Residency Program

Veterinarians who have completed a minimum of one year of pathology residency at Cornell University are eligible to apply for a special one-year period of residency training in the pathology of exotic animal species. Trainees may return to complete their training at Cornell University.



Academic Facilities and Resources

Roswell P. Flower-Isidor I. and Sylvia M. Sprecher Library and Learning Resources Center

The library was initially endowed by a gift from Roswell P. Flower, governor of the state of New York when the college was founded. In 1992 it was renamed to recognize Dr. and Mrs. Isidor I. Sprecher for their generous support of the college. Originally located on the second floor of Schurman Hall, the library was expanded into the Veterinary Education Center in 1993. A large reading room, which seats sixty-six; display shelves for current journals; and areas for indexes, abstracts, and other reference books are provided. The three levels of adjoining stacks include journals and monographs and are open for use. Individual study carrels are also available on the lower compact shelving level.

The library contains more than 89,500 volumes and regularly receives nearly 1000 periodicals and series titles. This represents a worldwide selection of veterinary titles plus publications in the biomedical sciences designed to support undergraduate, graduate, clinical, and research programs. Through the various libraries on campus, nearly 6 million volumes and serials are available to students. These collections, interlibrary loans, and photoduplicated materials supplement the research potential of the veterinary library, which is rich in historical and basic research resources as well as recent monographs and selected government publications. A newsletter is issued periodically. The library also features an on-line catalog that includes the holdings of all campus libraries, an automated circulation system, and access to the World Wide Web and various other network resources and databases, including Veterinary Information Network (VIN).

Information on policies and suggestions for the use of the library are provided to students and faculty. A printed guide is also available. Additional instruction in bibliographic research is available for advanced problems.

The wide range of information services

offered includes reference assistance, on-line literature searching, interlibrary loan, photoduplication, and current awareness such as a table-of-contents service. In particular, the mediated computer-assisted literature search service provides rapid access to numerous bibliographic databases using the skills and searching expertise of a trained reference librarian. MEDLINE, CAB ABSTRACTS, and BIOSIS are also available on-line for convenient searching of the biomedical literature. In addition, beginning in 1994, members of the college community can directly access MEDLINE and other biomedical databases located at the National Library of Medicine via Internet using GRATEFUL MED. Current awareness bibliographies can be generated each month through the on-line systems as well, including a networked version of REFERENCE UPDATE implemented in 1995.

The library's audiovisual collection contains more than 1,400 titles in slide, audiotape, and videotape format. Various image-based resources are also available to students on laser video disc. These multimedia resources enhance academic programs as well as provide opportunities for self-study.

Office of Educational Development

The Office of Educational Development (OED) has played a pivotal role in the development and implementation of the new academic program. It provides faculty development activities, administrative support for the foundation courses, and serves as a central source of course-related materials for students. It also sponsors new student orientation activities and informational sessions for matriculating students and provides workshops and other services that pertain to the improvement of study skills and learning strategies.

The new academic program is continually evolving. Course materials are regularly reviewed and revised, updated, and occasionally replaced. The OED provides a range of services to veterinary faculty in support of their teaching efforts. One important function of the office is the ongoing support and training for faculty tutors; another is the assistance it provides to faculty in generating course materials and other resources. The OED staff includes a curriculum specialist, a team of courseware developers, and a medical illustrator. The office sponsors a seminar series for faculty and course support staff on topics that pertain to teaching, learn-



Pathology professor Dr. Barry Cooper (right) works with a group of students in the Irving W. Wiswall Learning Laboratory.

ing, curriculum design, student assessment, and program evaluation. Other activities and services include workshops on innovative teaching methods; demonstrations and discussions of the use of educational technologies; tutor training workshops and ongoing support; consultations regarding student assessment and course evaluation; support for individual faculty members' professional development; and the development of curricular materials. The OED staff have helped faculty to develop an extensive and expanding library of case-based exercises and computer courseware and provide medical illustrations for cases, modules, courseware, and scholarly publications. Faculty development activities continue to be important for sustaining the educational changes that distinguish the new curriculum, and the OED continues to sponsor numerous workshops for faculty on education, student learning, and the tutorial process.

The OED routinely seeks student assistance and input in developing and refining curricular materials and educational computer programs. Students have been integrally involved in developing the curricular materials used in the foundation courses. The course materials have been created to foster student autonomy and self-directed learning, and student input has been beneficial to the students and to faculty. Cases are written to generate a particular line of questioning; modules are developed as manipulative models and prompts to thinking more globally about a body region or system. They and the computer applications are intended to be as interactive as possible. For example, rather than traditional tutorial or drill-and-practice models of educational computing, courseware developed within the college involves simulations, animations, prediction tables, audio, and video. Development and evaluation of these materials by students has been an important element in the design and development process and has contributed to their success in classroom use. The OED helps to ensure curricular coherence and availability of the necessary support

structures that faculty, staff, and students need for veterinary education of the highest quality.

Kimball and Salmon Academies

When the new curriculum was instituted in 1993, two academic societies were created to strengthen advising and other student support systems. Named for Cornell's first male and female D.V.M. graduates, Daniel E. Salmon (D.V.M. 1876) and Florence Kimball (D.V.M. 1910), each academy is led by three faculty members: a director and two associate directors. The societies, which are open to all students and faculty, are designed to foster student-faculty interaction and to provide opportunities for career counseling, supplemental academic programming, and input and involvement in the new academic program.

Irving W. Wiswall Learning Laboratory

The Irving W. Wiswall Learning Laboratory is located on the second floor of the Veterinary Education Center and contains sixteen "Y"-shaped laboratory benches, each accommodating six students at three stations. Pairs of students share a dual-headed microscope and a networked computer at each workstation. The room is also furnished with portable radiographic viewers and video display equipment. Faculty and students working in this facility make use of a variety of integrated media, including interactive computer courseware, glass and film slides, analog and digital video, and audio.

Learning Laboratory II

A second instructional laboratory was opened in the fall of 1995 as part of the Veterinary Medical Center. The 5,000-square-foot facility accommodates approximately ninety students using standard laboratory benches, equipped with dual-headed microscopes and access to water and sinks, biological safety hoods, centrifuges, and other equipment necessary for microbiological and molecular biological teaching.

Modular Resource Center

Located on the second floor of Schurman Hall, the Modular Resource Center was developed to provide veterinary students, interns, residents, faculty, and staff with access to unique learning resources not found in laboratory, classroom, tutorial, research, or clinical settings. Often described as a "walk-in atlas" or "visual library," the center consists of self-contained learning stations called modules. Each module is designed to help develop concepts that are difficult to convey in the conventional lecture or laboratory setting or in textual materials. The interactive learning resources at each station may include bone preparations, plastinated and/or wet specimens, radiographs, models, illustrations, microscopes and slides, computer-generated images, and other materials. A brief script guides students in their interaction with these materials. The modules are arranged in thematic clusters such as body system (musculoskeletal, nervous), body region (head and neck, body cavities), or discipline (histology/cytology, physical examination) that develop an understanding of the morphologic, comparative, pathologic, and/or applied aspects of the subject matter. Developed by faculty and students, a number of the modules have been funded by grants from the college's Alumni Unrestricted Gifts Fund.

Tutorial Rooms

Located throughout Schurman Hall, fourteen rooms specifically designed for small-group tutorial sessions are equipped with blackboards, slide projectors, video equipment, radiographic viewers, flip charts, and reference books. The rooms are also available for independent and informal small-group study during afternoons and evenings.

Collegewide Support Services

Center for Research Animal Resources

Cornell University established the Center for Research Animal Resources (CRAR) in 1980. The center's director is responsible to the associate vice president for research. The center is responsible for implementing animal care programs throughout the university to assure compliance with all state and federal laws regarding the use of animals for teaching, research, and testing. It is also responsible for providing the associate vice president for research and advanced studies, the University Animal Welfare Committee, and the Institutional Animal Care and Use Committee with information on developments in the field of animal welfare legislation and methods of compliance with new regulations.

CRAR offers instructional sessions to faculty, students, research technicians, and animal care technicians, introducing the participants to the ethics of using animals for research, the occupational health program for animal handlers, relevant federal and state regulations, and proper handling and restraint of common laboratory animals, as well as approved methods of euthanasia, available veterinary services, and the proper channels for reporting discrepancies in animal care.

The CRAR staff is also available to counsel and advise investigators, technicians, and others on procedures for proper housing, maintenance, care, sanitation, and disease control of animals and animal facilities. The center maintains information on the suitability of various animal models for research purposes and available alternatives to the use of living animals and regularly updates a listing of sources of disease-free animals.

The center assembles data required by state and federal legislation relative to animal care and use within the university and also maintains files and records all animal protocols for active research, teaching, and extension projects at Cornell.

The center also offers a polyclonal (rabbit and goat) and monoclonal (mouse) antibody production service on a fee-for-service basis and maintains the college

(multiuser) cell biology laboratory, which is equipped to develop, maintain, and store primary and transformed cell lines.

Computing Services

The college has developed a sophisticated Medical Information System (MIS) in support of the Teaching Hospital and Diagnostic Laboratory.

The MIS integrates several stand-alone systems to provide a unified view of medical data for teaching, research, and hospital operations. The MIS is available from networked computers throughout the college.

Microcomputer Center

The Veterinary Microcomputer Center is located in C2 009 Schurman Hall. The "Microcenter" has eighteen Macintosh and ten IBM-compatible computers available seven days a week for use by students, staff, and faculty. The center is fully networked, allowing use of the Bear Access suite of network applications, including Eudora for electronic mail and Netscape Navigator for World Wide Web browsing. A local server provides each of the computers in the center a variety of word processing, graphics, desktop publishing, statistical, and spreadsheet programs. Microcenter staff are available to assist users with most hardware and software questions.

Both color and black and white laser printers are available; a fee is charged per page printed. Scanners are available to create digital images from radiographs, photographic slides, and regular photographs. Users can also scan paper documents into text files using the flatbed scanners. There is no charge for use of the scanners.

Users are requested to save files on their own disks, which can be stored at the Microcenter help desk if desired. Special arrangements can be made for storage on the server of projects, such as Senior Seminar presentations, that will not fit on floppy disks.

For further information, contact Peter Gunn, the MicroCenter coordinator, at pdg1@cornell.edu, or at 253-3505 from 8:00 A.M. to 5:00 P.M.

The Image Lab

Located in TB 007 Veterinary Research Tower, the Image Lab provides a full range of digital photography, photomicroscopy, illustration, and graphic design services to all members of the college community. Information about their services is available on the World Wide Web (<http://imabelab.vet.cornell.edu>) or by calling 253-3318. Order forms may be filled out on the Web and jobs may be dropped off and/or picked up at the Flower-Sprecher Library reference desk.



Biomedical Communications

Cornell's new Veterinary Medical Center opened in 1995.

Professional Service and Outreach

Veterinary Medical Teaching Hospital

The Veterinary Medical Teaching Hospital (VMTH) has three missions: teaching, professional service, and research. The setting of Cornell University in a major agricultural area facilitates the availability of a significant large animal caseload; the city of Ithaca and surrounding urban centers of Syracuse, Rochester, Albany, and Buffalo provide an adequate number of routine and more complex secondary care small companion animal cases.

The VMTH provides clinical training for professional students in the D.V.M. curriculum, in particular, third- and fourth-year students who spend much of the spring semester third year and the entire fourth year engaged in the various clinical services of the four service units: the Equine and Farm Animal Hospitals, Companion Animal Hospital, and Ambulatory Clinic. Training is under the close supervision of the faculty.

The varied caseload ensures that all students will receive experience with both large and small animal species and in primary care medicine as well as in a variety of clinical specialties. The VMTH also provides advanced clinical training to graduate veterinarians who are enrolled in internships or residency programs in specialty areas.

The second mission is clinical service. The combined caseload in the hospitals exceeds 13,000 per year. Principal patient care areas include medicine, surgery, ophthalmology, dermatology, cardiology, neurology, theriogenology, dentistry, and behavior. Ancillary specialty service areas include anesthesiology and radiology, the latter providing diagnostic ultrasound, nuclear medicine, and computerized tomography (CT) services. The hospitals serve as referral centers for veterinarians practicing within a radius of approximately 150 miles of the college. A significant portion of the caseload consists of complicated medical or surgical problems referred by practicing veterinarians for evaluation by faculty specialists. The Community Practice Service is an active small animal service providing primary and healthy pet care for clients in the Ithaca area. This service has grown steadily since its inception in 1988. The Ambulatory Clinic provides on-site veterinary service to approximately 400 farms



Sarah Ford (Class of 1996) performs an ophthalmic exam on an injured golden eagle. Observing (left to right) are Dr. Thomas Kern, Dr. Edward Gentz, and Dr. George Kollias.

and stables in the upstate New York area. Many are dairy farms, but a significant number of other operations, including horses, sheep, goats, and swine, are also served by the practice.

The third mission of the VMTH is clinical research. Faculty are involved in developing safe new approaches to diagnosis and therapy. The clinical faculty provide the essential blend of medical, surgical, and investigative skills necessary to transfer and apply the discoveries of basic research in the clinical setting.

Diagnostic Laboratory

The Diagnostic Laboratory is a full-service laboratory that offers testing and consultation services in bacteriology, parasitology, virology, automated serology, toxicology, endocrinology, clinical pathology, and hematology as well as field service for testing. Pathology services are offered jointly with the Department of Pathology. The Diagnostic Laboratory services patients of the Veterinary Medical Teaching Hospital, as well as those of veterinary practitioners in New York State and nationally. Its services are used by researchers at Cornell as well as other universities and private industry. Research areas include test development,

automated testing, data handling, dissemination of information, pathogenesis, epidemiology, and preventive health programs. Recent research programs have led to the development of DNA probes for classifying enterotoxin and adhesions of pathogenic *E. coli*, a Lyme disease test for dogs and horses, a multispecies assay for von Willebrand factor, an automated antibody test for infectious bovine rhinotracheitis, monoclonal antibody development for bovine diarrheal virus, improved culture techniques for *Salmonella enteritidis*, and management practices for the eradication of Johne's disease and bovine leukosis in cattle. Researchers in the Diagnostic Laboratory have also developed cloning and characterization of *Actinobacillus pleuropneumonia* RTX-toxin, *Pasteurella haemolytica*-like leukotoxin, *Borrelia burgdorferi* outer surface protein gene, and *Mycobacteria paratuberculosis* 34kDa protein genes. A PCR (polymerase chain reaction) has been developed for a quick diagnosis of Lyme and Johne's diseases. Laboratory researchers are also participating in a gene therapy trial to treat hemophilia A and B.

An automated immunohistochemical staining process using the horseradish peroxidase method for formalin-fixed tissue specimens is being used to develop specific

diagnoses of several infectious diseases including rabies. Unique metabolic fatty acid profiles of isolates from Salmonellosis and Johne's disease cases in New York State are monitored with the assistance of computer programs. Computer programs are being tested to aid in the study of the epidemiological spread of these and other diseases.

The New York State Department of Agriculture and Markets is designated by law as having the responsibility for animal disease control. Therefore, a cooperative effort between Agriculture and Markets and the Diagnostic Laboratory was established. The two groups work jointly offering programs that allow New York farmers to determine the prevalence of Johne's disease and blue-tongue in cattle, sheep, goat, deer, and llama herds and bovine leukosis in cattle. Participants in these programs are provided management assistance and state-subsidized testing to eradicate these diseases and eventually to achieve certified-free status. Programs are also available to aid in the eradication of ovine progressive pneumonia (OPP) in sheep and caprine arthritis encephalitis (CAE) in goats. There is also an equine viral arteritis control program for the New York State thoroughbred breeding industry, a surveillance program for Potomac horse fever, and a surveillance program for *Salmonella enteritidis* in the state's egg-layer poultry industry.

The Diagnostic Laboratory operates a contagious equine metritis (CEM) quarantine station under state and federal government specifications, certifying breeding mares and stallions to be free of CEM before release into this country.

The Diagnostic Laboratory implemented oral wildlife rabies vaccination in the Niagara (539 square miles) and St. Lawrence (620 square miles) regions of New York State during 1995. The vaccination programs were financed with New York State Senate member item funding and county legislative support. The local County Health Departments, the Ontario Ministry of Natural Resources, and the New York State Department of Health rabies laboratory are also active participants in these continuing vaccination initiatives. The St. Lawrence region vaccination program was effected

(1) to evaluate the use of rabies vaccine in an area that is free of raccoon rabies and (2) to attempt to impede the northward progression of the virus into an unaffected area. The vaccination area is expected to be challenged by rabies during 1996. Niagara County was selected to test vaccination efficacy during an active rabies outbreak. During the first quarter of 1996, a statistically significant decrease in the prevalence of rabies was observed in the vaccination area.

In March 1993, a Regional Committee on Wildlife Rabies Vaccination (including Ontario, Quebec, New Brunswick, New York, Vermont, New Hampshire, Massachusetts, and Maine) was convened to discuss the potential for cooperative efforts to control rabies through vaccination of wildlife among the New England states and Canadian provinces. The Diagnostic Laboratory recently received authorization to prepare a proposal to coordinate large-scale rabies control programs for wildlife within the region. The United States Department of Agriculture (USDA) Animal Plant Health Inspection Service (APHIS), USDA Animal Damage Control (ADC), and Agriculture Canada will also participate in the regional rabies control program.

Equine Drug Testing and Research Program

The Equine Drug Testing and Research Program operates under a contract from the New York State Racing and Wagering Board. The program provides testing and research to guarantee the integrity of horse racing statewide. Laboratories for testing are located at all New York State pari-mutuel tracks. The central laboratory in Ithaca is recognized nationally and internationally as a reference and research center.

Recent research in the laboratory has led to the development of a series of immunoassays for screening of drugs in horses. The development has provided a more effective, rapid, and less expensive screening technique. Chemical analyses of positive samples are still required for legal confirmation and the study of new drugs. Continued research on the detection and pharmacologic action of new drugs and chemicals is paramount to the integrity of the New York State horse racing

industry, a major source of tax revenue for state and local governments.

Quality Milk Promotion Services (QMPS), New York State Mastitis Control Program

This unique mastitis control program was established in 1946 and is the largest in the country and in the world. It serves New York State dairy farmers, veterinary practitioners, and the whole milk industry from four regional laboratories strategically located in Cobleskill, Geneseo, Ithaca, and Potsdam. A computer network and a telecommunication-fax system are used to provide rapid communication between laboratories. Dairy farmers from neighboring states that ship milk to New York milk plants also benefit from QMPS services. Of the 9,400 New York State dairy farms, approximately 2,500 are visited annually by QMPS personnel, and approximately 150,000 milk samples are aseptically collected for bacteriological diagnosis of mastitis. Milking equipment evaluation, milking and dry cow management, housing conditions, equipment maintenance, and mastitis control practices are discussed and recorded. When culture results have been completed, a comprehensive report is developed, including recommendations, based on all available information. This report is then sent to the dairy farmer and his or her veterinarian. Dairy farmers who are enrolled in the Dairy Herd Improvement Association (DHIA) have a further advantage in that those records are combined with the herd survey information. All information is then used to monitor the herd and make recommendations for improved management and mastitis control. The QMPS also offers card and tube agglutination testing for brucellosis at the regional laboratories located in Cobleskill, Geneseo, and Potsdam.

The QMPS is making major contributions in the diagnosis, prevention, control, and treatment of several causes of mastitis, including agents such as *Streptococcus agalactiae*, *Staphylococcus aureus*, *Mycoplasma*, *Streptococcus sp.*, *Staphylococcus sp.*, and coliform bacteria. Research continues on new methods of mastitis diagnosis, epidemiology, financial effects, nonantibiotic therapy, bacterins, and association with stray voltage.

Species-Oriented Programs and Facilities

Avian and Aquatic Animal Programs

The Department of Microbiology and Immunology carries out multidisciplinary research programs in avian and aquatic animal medicine that encourage collaboration among faculty, staff, and graduate students. Major emphasis has traditionally been on the fields of virology and immunology, but bacteriology and parasitic diseases are also investigated. A thirty-nine-unit isolation building for studies on infectious diseases is located on campus, and flocks of several genetically defined, specific-pathogen-free chickens are maintained in secured buildings on Snyder Hill. These flocks provide chickens and embryos free of infectious pathogens and antibodies for use in experimental studies. The new Veterinary Medical Center contains seven isolation units designed specifically to house fish for experimental studies.

Poultry diagnostic laboratories serving the chicken, duck, and turkey producers of the state are located in Ithaca and Eastport, Long Island. Research on economically important diseases of chickens, turkeys, and ducks and various aquatic species is conducted in Ithaca and Eastport laboratories. Vaccines for the duck industry are produced at Eastport. The department operates a fish diagnostic laboratory designed to provide assistance to aquaculturalists and others experiencing problems with fish health.

James A. Baker Institute for Animal Health

Established in 1950 as the Veterinary Virus Research Institute, the name of the institute was changed in 1975 to honor the founding director's contributions to veterinary medicine and to reflect the broadened scope of the institute's activities.

The institute comprises the Cornell Research Laboratory for Diseases of Dogs, the Center for Canine Genetics and Reproduction, and the Cornell Equine Genetics Center. The institute's original mission was to prevent loss from

infectious diseases in animals. While maintaining that primary focus, the institute has grown to incorporate programs in arthritis, immunogenetics, reproduction, and inherited eye diseases. A limited number of graduate students, postdoctoral fellows, and visiting investigators are accepted for advanced training in those fields. Projects conducted here also involve recombinant DNA techniques, cell hybridization, embryo manipulation, and gene mapping.

In recent years, facilities have been renovated and expanded to accommodate increased program activity using contemporary methods of molecular and cell biology. Among the added facilities are buildings for the breeding and rearing of specific-pathogen-free dogs and laboratory rodents, the McConville Barn for equine reproductive studies, a new laboratory complex for the study of inherited canine diseases, and a conference center/visiting scholar residence.

Bovine Research Center

The Bovine Research Center at Cornell University fosters research to improve

the productivity, health, and well-being of cattle. It serves scientists with expertise and interest in a broad spectrum of scientific disciplines related to the dairy and beef industries. It encourages cooperative research programs in health, metabolism, reproduction, breeding, and management for improved production.

Equine Performance Testing Clinic

The Equine Performance Testing Clinic (EPTC) is the foundation of the college's program in equine sports medicine. The centerpiece of the clinic is a high-speed treadmill capable of generating speeds in excess of 30 miles per hour. The clinic facility also includes examination areas and laboratory spaces containing sophisticated monitoring equipment.

The EPTC has greatly improved the ability of college veterinarians to diagnose and treat patients with respiratory problems, lameness, or other conditions contributing to poor performance. Additionally, the facility permits college veterinarians to conduct sophisticated research on important diseases affecting the performance of the equine athlete. These research activities increase our



The high-speed treadmill is the centerpiece of the college's Equine Performance Testing Clinic.

basic knowledge of physiological or pathological changes associated with high-intensity exercise.

Equine Research Park

The Equine Research Park, situated on 165 acres of land about one mile from the college, includes stall facilities for ninety horses and ponies and shed facilities for sixty horses. The park contains a half-mile track, stallion barn, and separate brood mare barn that includes box stalls for foaling mares. A laboratory for reproductive studies and a central breeding facility are located in the brood mare barn. Research at the park covers a variety of equine problems, including reproduction, nutrition, behavior, metabolism, infectious disease, and the special problems of the equine athlete.

The Equine Annex, which includes the Contagious Equine Metritis Quarantine facility, is a separate complex of buildings on Snyder Hill. Adjacent to the annex is a stable and laboratory for the study of equine embryo biology.

Cornell Feline Health Center

Formally approved in 1974, the Cornell Feline Health Center has received worldwide recognition for its work on feline infectious peritonitis, feline lentiviruses (feline immunodeficiency virus), feline leukemia, and respiratory diseases.

Educational outreach is accomplished through continuing education programs and publications. Two newsletters, *Feline Health Topics* (for practitioners) and *Perspectives on Cats* (for cat owners and breeders), are published quarterly and distributed to more than 30,000 people. In addition, the annual *Information Bulletin* provides scientific data on a major feline health concern. Client information brochures are available on a cost basis to practitioners for distribution to their clients.

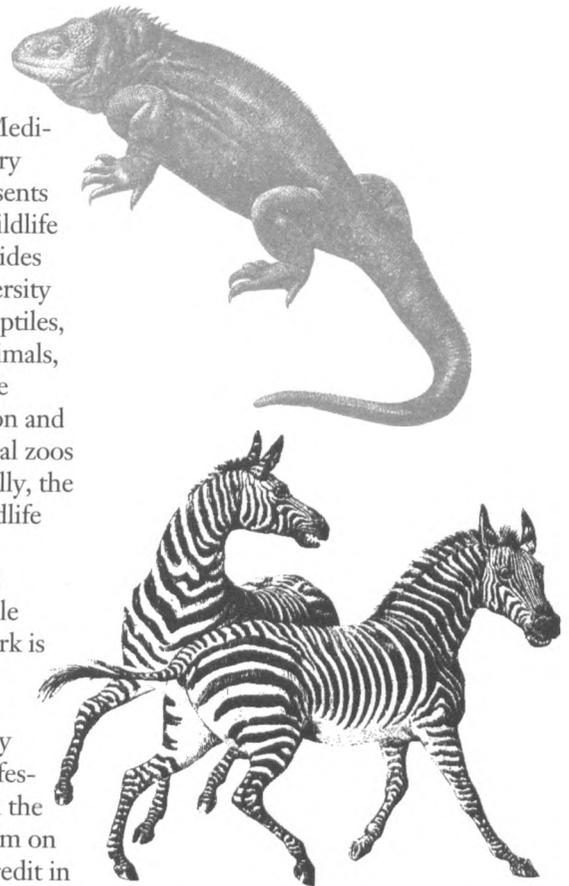
The Feline Health Center is funded primarily through contributions from cat fanciers and veterinarians, bequests, the

memorial program, memberships, and grants from government, industry, and foundations. The Dr. Louis J. Camuti Memorial Feline Consultation and Diagnostic Service is available for a fee to veterinarians and cat owners.

A consulting veterinarian is on hand to answer health-related questions about cats, along with providing written information.

Wildlife and Exotic Animal Medicine Service

The Wildlife and Exotic Animal Medicine Service, based in the Veterinary Medical Teaching Hospital, represents the clinical arm of the college's Wildlife Health Program. The service provides medical and surgical care for a diversity of privately owned nondomestic reptiles, birds, and small mammals. Zoo animals, such as large cats and elephants, are periodically presented for evaluation and treatment, with on-site visits to local zoos scheduled upon request. Additionally, the service provides care for native wildlife presented by the public, wildlife rehabilitators, and state and federal agency wildlife biologists as available funds permit, since this type of work is contingent upon support through donations and Veterinary Medical Center teaching subsidy. Veterinary students in all four years of the professional curriculum are involved with the service and clinical teaching program on a volunteer basis or for academic credit in clinical rotations. Faculty and staff with expertise in other clinical specialties are frequently called upon to assist in the care of the service's patients because a multidisciplinary approach is often required. Finally, the service team members provide telephone, electronic, and written consultation to veterinarians in private practice, zoos, wildlife professionals, and the public on a variety of issues relating to wildlife and exotic animal health.



Faculty and Administration

University Administration

- Hunter R. Rawlings III, *president*
Don M. Randel, *provost*
Carl Nathan, *acting dean of medical college and provost for medical affairs*
Frederick A. Rogers, Jr., *senior vice president and chief financial officer*
Harold D. Craft, Jr., *vice president for facilities and campus services*
Henrik N. Dullea, *vice president for university relations*
Ronald G. Ehrenberg, *vice president for academic programs, planning, and budgeting*
H. David Lambert, *vice president for information technologies*
Susan H. Murphy, *vice president for student and academic services*
Inge T. Reichenbach, *vice president for alumni affairs and development*
Norman R. Scott, *vice president for research and advanced studies*
Winnie F. Taylor, *associate vice president for human relations*
James J. Mingle, *university counsel and secretary of the corporation*
Peter C. Stein, *dean of the university faculty*

College Administration

- Franklin M. Loew, *dean*
Donald F. Smith, *associate dean for academic programs*
Douglas D. McGregor, *associate dean for research and graduate education*
Janet M. Scarlett, *associate dean for student services*
John A. Lambert, *assistant dean for finance and administration*
Bonita S. Voiland, *assistant dean for resources, marketing, development, and public affairs*
Roger J. Avery, *chair, Department of Microbiology and Immunology*
Cornelia E. Farnum, *chair, Department of Anatomy*
Bendicht U. Pauli, *chair, Department of Pathology*
David Robertshaw, *chair, Department of Physiology*
Geoffrey W. G. Sharp, *chair, Department of Pharmacology*
Maurice E. White, *chair, Department of Clinical Sciences*
Douglas F. Antczak, *director, James A. Baker Institute for Animal Health*
Francis A. Kallfelz, *director, Veterinary Medical Teaching Hospital*
Donald H. Lein, *director, Diagnostic Laboratory*
Linda L. Carr, *director of budget management*
Gloria R. Crissey, *registrar*
Katherine M. Edmondson, *director of educational development*
Robert O. Gilbert, *director, Cornell Bovine Research Center*
John M. Lewkowicz, *director of computing services*
George A. Maylin, *director, Equine Drug Testing Program*
Carol S. Peterson, *director of financial aid; registrar*

- Joseph M. Piekunka, *director of admissions*
H. Edward Quay, Jr., *director of human resources*
Fred W. Quimby, *director, Center for Research Animal Resources*
John E. Saidla, *director of continuing education*
Fredric W. Scott, *director, Cornell Feline Health Center*
Larry J. Thompson, *director of biosafety*
Susanne K. Whitaker, *librarian, Flower-Sprecher Veterinary Library*

College Advisory Council

- Richard C. Grambow, DVM (chair)
Robert W. Bitz (trustee emeritus)
Stephen J. Ettinger, DVM
Albert Fried, Jr.
Martha S. Gearhart, DVM
Ralph W. F. Hardy, PhD
John Patrick Jordan, PhD
John L. Mara, DVM
Robert R. Marshak, DVM
Mark L. Morris, Jr., DVM, PhD
Kenneth J. Rotondo, DVM
James L. Seward
Richard J. Sheehan, DVM
David Shepherd
Patricia L. Thomson, DVM
Kent R. Van Kampen, DVM, PhD
Patricia Wehle
Stephen H. Weiss (trustee)
Bruce Widger, DVM (trustee emeritus)
William E. Zitek, DVM
Harold M. Zweighaft, DVM

Faculty Anatomy

Professors

- Cummings, John F., DVM, MS, PhD; James Law Professor of Veterinary Anatomy
de Lahunta, Alexander, DVM, PhD, Dipl ACVIM; James Law Professor of Veterinary Anatomy
Farnum, Cornelia E., DVM, PhD; anatomy; chair, Department of Anatomy
Noden, Drew M., PhD; anatomy

Associate Professors

- Hermanson, John W., MS, PhD; anatomy
Suarez, Susan S., MS, PhD; anatomy

Assistant Professor

- Bertram, John E. A., MS, PhD; anatomy

Senior Lecturer

- Mizer, Linda A., DVM, MS, PhD; anatomy

Lecturer

- Hackett, M. Susan, DVM; anatomy

Instructors

- Eirmann, Laura, DVM
Revah, Irma, DVM, MPVM, PhD
Shaw, Jane, DVM

Emeritus Faculty Members

- Evans, Howard E., PhD; veterinary and comparative anatomy
Habel, Robert E., DVM, MSc, MVD; anatomy
Sack, Wolfgang O., DVM, PhD, DrMedVet; anatomy

Clinical Sciences

Professors

- Ducharme, Normand G., DMV, MSc, Dipl ACVS; surgery
Erb, Hollis N., DVM, MS, PhD; epidemiology
Hornbuckle, William E., DVM, Dipl ACVIM; medicine
Kallfelz, Francis A., DVM, PhD, Dipl ACVN; medicine; director, Veterinary Medical Teaching Hospital
Kollias, George V., DVM, PhD, Dipl ACZM; Jay Hyman Professor of Wildlife Medicine
Loew, Franklin M., DVM, PhD; dean of the college
Rebhun, William C., DVM, Dipl ACVO, Dipl ACVIM; medicine and ophthalmology
Scott, Danny W., DVM, Dipl ACVD; dermatology
Short, Charles E., DVM, MS, PhD, Dipl ACVA; anesthesiology
Smith, Donald F., DVM, Dipl ACVS; surgery; associate dean for academic programs
Tennant, Bud C., DVM, Dipl ACVIM; James Law Professor of Comparative Medicine
White, Maurice E., DVM; medicine; chair, Department of Clinical Sciences

Associate Professors

- Ball, Barry A., DVM, PhD, Dipl ACT; theriogenology
Barr, Stephen C., BVSc, MVS, PhD, Dipl ACVIM, MACVSc; medicine
Center, Sharon A., DVM, Dipl ACVIM; medicine
Divers, Thomas J., DVM, Dipl ACVIM; medicine
Flanders, James A., DVM, Dipl ACVS; surgery
Fubini, Susan L., DVM, Dipl ACVS; surgery
Gilbert, Robert O., BVSc, MMedVet, Dipl ACT; theriogenology
Gleed, Robin D., BVSc, MRCVS, Dipl ACVA; anesthesiology
Grohn, Yrjo T., BVSc, DVM, MPVM, MS, PhD; epidemiology
Guard, Charles, PhD, DVM; medicine
Hackett, Richard P., DVM, MS, Dipl ACVS; surgery
Harvey, H. Jay, DVM, Dipl ACVS; surgery
Kern, Thomas J., DVM, Dipl ACVO; ophthalmology
Ludders, John W., DVM, Dipl ACVA; anesthesiology
Miller, William H., Jr., VMD, Dipl ACVD; dermatology
Mohammed, Hussni O., BVSc, DPVM, MPVM, PhD; epidemiology

Moise, N. Sydney, DVM, MS, Dipl ACVIM; cardiology

Nixon, Alan J., BVSc, MS, Dipl ACVS; surgery

Randolph, John F., DVM, Dipl ACVIM; medicine

Rendano, Victor T., VMD, MS, Dipl ACVR; radiology

Riis, Ronald C., DVM, MS, Dipl ACVO; ophthalmology

Scarlett, Janet M., DVM, MPH, PhD; epidemiology, associate dean for student services

Smith, Mary C., DVM, Dipl ACT; medicine

Trotter, Eric J., DVM, MS, Dipl ACVS; surgery

Assistant Professors

Ainsworth, Dorothy M., DVM, MS, PhD, Dipl ACVIM; medicine

Daels, Peter F., DVM, PhD; theriogenology

Dykes, Nathan L., DVM, Dipl ACVR; radiology

Moon, Paula F., DVM, Dipl ACVA; anesthesiology

Reynolds, Arleigh J., DVM, PhD; nutrition

Simpson, Kenneth W., BVMS&S, PhD, MRCVS, Dipl ACVIM, Dipl ECVIM; medicine

Todhunter, Rory J., BVSc, MS, PhD, Dipl ACVS; surgery

Warnick, Lorin D., DVM, PhD; ambulatory and production medicine

Lecturers

Cooley, Anjilla J., DVM, MS; surgery

Cornetta, Angelyn M., DVM; medicine

Linn, Kathleen A., DVM, MS; surgery

Starrak, Gregory S., DVM; radiology

Instructor

Irby, Nita, DVM, Dipl ACVO; ophthalmology

Emeritus Faculty Members

Fox, Francis H., DVM, Dipl ACVIM; medicine

Hillman, Robert B., DVM, MS, Dipl ACT; theriogenology; senior clinician emeritus

Kirk, Robert W., DVM, Dipl ACVIM, Dipl ACVD, Dipl ABVP; medicine

Lowe, John E., DVM, MS; surgery

McEntee, Kenneth, DVM, PhD, Dipl ACVP, Dipl ACT; pathology

Melby, Edward C., Jr., DVM, Dipl ACLAM; medicine

Norcross, Neil L., MS, PhD; immunology

Postle, Donald S., DVM, MS; veterinary science

Roberts, Stephen J., DVM, MS, Dipl ACT; medicine, theriogenology

Schryver, Herbert F., DVM, PhD; nutrition

Postdoctoral Associate

Abou-Madi, Noha, DVM, MSc; wildlife medicine

Visiting Faculty Member

Paddleford, Robert R., DVM; anesthesiology

Diagnostic Laboratory

Professors

Henion, John D., MS, PhD; toxicology

Reimers, Thomas J., MS, PhD; endocrinology

Associate Professors

Dubovi, Edward J., MS, PhD; microbiology

Jacobson, Richard H., MS, PhD; immunoparasitology

Lein, Donald H., DVM, PhD, Dipl ACVP; theriogenology; director, Diagnostic Laboratory

Maylin, George A., DVM, MS, PhD; toxicology and environmental health

Shin, Sang J., DVM, Dipl ACVM; microbiology

Assistant Professors

Chang, Yung-Fu, DVM, MS, PhD, Dipl ACVM; microbiology

McDonough, Patrick L., MS, PhD; microbiology

Senior Research Associates

Catalfamo, James, MS, PhD; comparative hematology

Dewey, Elizabeth A., DVM; equine drug testing and research

Gonzalez, Ruben N., DVM, MPVM, PhD; microbiology, QMPS

Wade, Susan E., MA, PhD; parasitology

Research Associate

Wachs, Timothy, MS, PhD; analytical toxicology

Research Support Specialists

Bigler, Laura L., MS, PhD; extension

Harpending, Peter R., MS; bacteriology

Senior Extension Associates

Bennett, Gary J., DVM; Diagnostic Laboratory, QMPS, Potsdam

Brooks, Marjory, DVM; comparative hematology

Brunner, Michael A., PhD, DVM; Diagnostic Laboratory

Richards, James R., DVM; Cornell Feline Health Center

Rositer, Christine, MS, DVM

Saidla, John E., DVM; dentistry; director of continuing education

Schulte, Hal F., III, MS, DVM; QMPS, Geneseo

Stehman, Susan M., MS, VMD

Thompson, Larry J., DVM, PhD; Diagnostic Laboratory; director of biosafety

Wilson, David J., DVM, MS; Diagnostic Laboratory, QMPS, Ithaca

Field Veterinarian

Julius, Frederic S., DVM; QMPS, Cobleskill

Instructors

Hurley, Julie J., DVM, MS, PhD; CRAR, assistant director, farm animals

Hurley, Richard J., DVM, MS, PhD; CRAR, assistant director, laboratory animals

Lee, David, DVM; endocrinology

Adjunct Faculty Members

House, James A., DVM, MS, PhD

Torres, Alphonso, DVM, MS, PhD

James A. Baker Institute for Animal Health

Department affiliation is noted in parentheses.

Professors

Aguirre, Gustavo D., VMD, PhD, Dipl ACVO; Alfred H. Caspary Professor of Ophthalmology (Clinical Sciences)

Antczak, Douglas F., VMD, PhD; Dorothy Havemeyer McConville Professor of Equine Medicine; director, Baker Institute (Microbiology and Immunology)

Appel, Max J., DVM, PhD; virology (Microbiology and Immunology)

Bell, Robin G., PhD; immunology (Microbiology and Immunology)

Carmichael, Leland E., DVM, PhD, Dipl ACVM; John M. Olin Professor of Virology (Clinical Sciences)

Lust, George, PhD; physiological chemistry (Microbiology and Immunology)

Associate Professors

Appleton, Judith A., MS, PhD; immunology (Microbiology and Immunology)

Meyers-Wallen, Vicki N., VMD, PhD, Dipl ACT; comparative medical sciences (Anatomy)

Parrish, Colin R., PhD; virology (Microbiology and Immunology)

Assistant Professors

Davies, Christopher J., DVM, PhD; immunology (Microbiology and Immunology)

MacLeod, James N., VMD, PhD; molecular genetics (Physiology)

Ray, Jharna, MS, PhD; biochemistry (Physiology)

Senior Research Associates

Acland, Gregory M., BVSc, Dipl ACVO; ophthalmology

Ray, Kunal, MS, PhD; molecular genetics

Wurster, Nancy Burton, MS, PhD; physiological chemistry

Emeritus Faculty Member

Sheffy, Ben E., MS, PhD; nutrition; Alfred H. Caspary Professor of Nutrition, emeritus

Microbiology and Immunology

Professors

Avery, Roger J., PhD; virology; chair, Department of Microbiology and Immunology

Bloom, Stephen E., MS, PhD; avian medicine

Bowser, Paul R., MS, PhD; aquatic animal medicine

Campbell, S. Gordon, BVMS, MRCVS, MVSc, PhD; microbiology

Dietert, Rodney R., PhD; immunology and genetics

Marsh, James A., MS, PhD; immunology and animal physiology

McGregor, Douglas D., MD, D Phil; immunology; associate dean for research and graduate education

Naqi, Syed A., BVSc, MS, PhD, Dipl ACVM; avian medicine

Schat, Karel A., DVM, PhD; avian medicine

Scott, Fredric W., DVM, PhD, Dipl ACVM; virology

Associate Professors

Bowman, Dwight D., MS, PhD; parasitology

Casey, James W., PhD; virology

Assistant Professors

Baines, Joel D., VMD, PhD; virology

Clark, Theodore G., PhD; parasitology and immunology

Denkers, Eric, PhD; immunology

Holzschu, Don L., MS, PhD; microbiology

Pearce, Edward J., PhD; parasitology and immunology

Tullson, Elaine D., PhD; microbiology

Whittaker, Gary R., PhD; virology

Senior Extension Associate

Lucio-Martinez, Benjamin, DVM, MS, PhD; avian medicine

Senior Lecturer

Winter, Lola E., MS; microbiology

Senior Research Associates

Barr, Margaret C., DVM, PhD; veterinary medicine

Golemboski, Karen A., PhD; immunology

Sandhu, Tirath S., BVSc, MS, PhD; avian medicine

Shawky, Samia, DVM, PhD; avian medicine

Instructor

Trotter, Karen M., PhD

—Emeritus Faculty Members

Bruner, Dorsey W., PhD, DVM, Dipl ACVM, ABM; microbiology

Calnek, Bruce W., DVM, MS, Dipl ACVM, Dipl ACPV; avian medicine; Rudolph J. and Katharine L. Steffen Professor of Veterinary Medicine

Cole, Randall K., PhD; avian medicine

Fabricant, Julius, VMD, MS, PhD; avian medicine

Georgi, Jay R., DVM, PhD; parasitology

Gillespie, James H., VMD, Ch Dipl ACVM; microbiology

Hitchner, Stephen B., VMD, Dipl ACVM; avian medicine

Leibovitz, Louis, VMD; aquatic animal medicine

Noronha, Fernando M., DVM; virology

Poppensiek, George C., VMD, MS, Dipl ACVM, Dipl ACVPM; James Law Professor of Comparative Medicine; dean emeritus

Winter, Alexander J., DVM, MS, PhD, Dipl ACVM; James Law Professor of Veterinary Microbiology

Adjunct and Courtesy Faculty Members

Blissard, Gary W., MS, PhD

Rumsey, Gary L., MS, PhD; avian and aquatic medicine

Schachte, John, MS, PhD; aquatic animal medicine

Pathology

Professors

Cooper, Barry J., BVSc, PhD, Dipl ACVP; pathology

King, John M., DVM, PhD, Dipl ACVP; pathology

Lewis, Robert M., DVM, Dipl ACVP; pathology

Minor, Ronald R., VMD, PhD; pathology

Pauli, Bendicht U., DVM, PhD; pathology; chair, Department of Pathology

Phemister, Robert D., DVM, PhD, Dipl ACVP; pathology

Quimby, Fred W., VMD, PhD, Dipl ACLAM; pathology

Summers, Brian A., BVSc, MSc, PhD, Dipl ACVP; pathology

Yen, Andrew, MS, PhD; pathology

Associate Professors

Blue, Julia T., DVM, PhD, Dipl ACVP; clinical pathology

French, Tracy W., DVM, Dipl ACVP; clinical pathology

Schlafer, Donald H., DVM, MS, PhD, Dipl ACVP, Dipl ACT, Dipl ACVM; pathology

Assistant Professors

Guan, Jun-Lin, PhD; pathology

Levine, Roy, MA, PhD; pathology

Stokol, Tracy, BVSc, MRCVS, PhD, Dipl ACVP; clinical pathology

Valentine, Beth A., DVM, PhD, Dipl ACVP; pathology

Winand, Nena J., MS, DVM, PhD; pathology

Senior Research Associate

Abdel-Ghany, Mossaad, MSc, PhD

Research Associates

Elble, Randolph C., PhD

Wootton, Joyce, PhD

—Emeritus Faculty Members

Bentinck-Smith, John, DVM, Dipl ACVP; clinical pathology

Boyer, Clyde I., Jr., VMD, MS, Dipl ACLAM; laboratory animal medicine

Krook, Lennart P., DVM, PhD; pathology

McEntee, Kenneth, DVM, Dipl ACVP; pathology

Courtesy Appointments

Donnelly, Thomas, BVSc, Dipl ACLAM; laboratory animal medicine

Nguyen, H. T., VMD, Dipl ACLAM, Dipl ACVP

Nosanchuk, Jerome S., MD; clinical pathology

Posso, Manuel, MD; comparative pathology

Suter, Maja, DVM, PhD, Dipl ACVP; pathology

Adjunct Faculty Member

Shalloway, David, MS, PhD (Biochemistry, Molecular, and Cell Biology)

Postdoctoral Fellows

Gandhi, Renu, PhD

Goodwin, Andrew, MS, PhD

Guo, Chunmei, MS, PhD

Pharmacology

Professors

Cerione, Richard A., PhD; pharmacology

Oswald, Robert E., PhD; pharmacology

Schwark, Wayne S., DVM, MSc, PhD; pharmacology

Sharp, Geoffrey W.G., PhD, DSc; pharmacology; chair, Department of Pharmacology

Associate Professors

Fewtrell, Clare M. S., D Phil; pharmacology

Nowak, Linda M., PhD; pharmacology

Weiland, Gregory A., PhD; pharmacology

Assistant Professor

Brown, H. Alex, PhD; pharmacology

Research Associates

Bagrodia, Shubha O., PhD

Erickson, Jon W., PhD

Gamett, Daniel, PhD

Komatsu, Mitsuhsa, PhD

Manor, Danny, PhD

Sen Singh, Ugra, PhD

Straub, Susanne G., PhD

Yang, Wannian

Postdoctoral Associates

Byrnes, W. Malcolm, PhD

Cao, Jiancheng, PhD

Daniel, Samira, PhD

Kornreich, Bruce, DVM, PhD

Li, Qiubo, PhD

Mahmoud, Sahar, PhD

Mulvaney, Jennifer, PhD

Osman, Mahasin, PhD

Wu, Wen Jin, MD

Visiting Professors

Friedberg, Ilan, PhD

Noda, Mitsuhiro, MD, MEng

Rosas, Marcelo Jose Alfonso, MD, PhD

Physiology

Professors

Beyenbach, Klaus W., PhD; physiology; College of Agriculture and Life Sciences

Fortune, Joanne E., MS, PhD; physiology

Houpt, Katherine A., VMD, PhD; physiology

Houpt, T. Richard, VMD, MS, PhD; physiology

Nathanielsz, Peter W., MB, PhD, ScD, MD; James Law Professor of Reproductive Physiology

Quaroni, Andrea, PhD; physiology; College of Agriculture and Life Sciences

Robertshaw, David, BVMS, PhD; physiology; chair, Department of Physiology/Section of Physiology

Tapper, Daniel N., VMD, PhD; physiology

Wasserman, Robert H., MS, PhD; James Law Professor of Physiology

Wootton, John F., MS, PhD; biochemistry

Associate Professors

Corradino, Robert A., MS, PhD; physiology; College of Agriculture and Life Sciences

Gilmour, Robert F., Jr., PhD; physiology

Loew, Ellis R., MA, PhD; physiology; College of Agriculture and Life Sciences

Assistant Professor

Roberson, Mark S., MS, PhD; physiology

Senior Lecturers

McFadden, Carol H., MAT, PhD; physiology

Rawson, Richard E., DVM, PhD; physiology

Senior Research Associates

Concannon, Patrick W., MS, PhD; physiology

Fullmer, Curtis S., MNS, PhD; physiology

McDonald, Thomas, MS, PhD; physiology

Wentworth, Richard A., MS, PhD; physiology

Research Associates

Li, Cun, MD

Pannabecker, Thomas L., MS, PhD

Wu, Wen Xuan, MD, PhD

Emeritus Faculty Members

Dobson, Alan, MA, PhD, ScD; physiology

Gasteiger, Edgar L., MS, PhD; physiology

Hansel, William, MS, PhD; Liberty Hyde Bailey Professor of Animal Physiology

Lengemann, Fred W., MNS, PhD; physiology

Sellers, Alvin F., VMD, MSc, PhD; physiology

Postdoctoral Associates

Giussani, Dino, BSc, PhD

Wandji, Serge, MSc, PhD

Postdoctoral Fellows

Evans, Alexander, BSc, PhD

Pacioretty, Linda, MS, PhD



College of Veterinary Medicine Cornell University



Please send:

- Information on the summer high school program Explorations in Veterinary Medicine
- Information on the Minority High School Student Research Apprenticeship Program
- Application for admission (D.V.M.)
- Notice of the annual Open House
- Catalog of the Graduate School

Please specify areas of interest: _____

Name _____

Address _____

City _____

State _____ Zip _____

E-mail: _____

Cornell University
USPS 132-860
College of Veterinary Medicine
S1 006 Schurman Hall
Ithaca, New York 14853-6401

Periodicals