

College of  
**V**eterinary Medicine  
1998–1999 Catalog



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## Norden Distinguished Teacher

**Dorothy Ainsworth**, DVM, MS, PhD, Diplomate of the American College of Veterinary Internal Medicine, associate professor of medicine in the college's department of clinical sciences, and section chief of large-animal medicine in the college's Equine and Farm Animal Hospitals. Ainsworth, an expert in respiratory physiology and medicine, is the 1998–99 recipient of the college's Norden Distinguished Teacher award. She is shown here with Geraldine Aviza, veterinary student, Class of 2001, examining Pilot at the college's Equine Research Park.

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## Veterinary Medicine at Cornell

In 1876, Cornell was the first university in the United States to award a doctor of veterinary medicine degree.

### History

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 (BVSc) and an additional two years for a Doctor of Veterinary Medicine (DVM). In 1876, Cornell was the first university in the United States to award a DVM degree — to Daniel E. Salmon, who had

Today, more than 700 faculty and staff members at the College of Veterinary Medicine work together to provide teaching, research, and professional service programs that are recognized as among the best in the world.

been a member of the university's first entering class and received the BVSc degree in 1872. Dr. Salmon became the founding chief of the US Bureau of Animal Industry and is best known today for identifying the infectious pathogen Salmonella and pioneering the fight against contagious diseases.

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

Today, approximately 320 women and men are enrolled in Cornell's four-year DVM program. Nearly 70 percent of Cornell's veterinary students are women; this reflects a national trend.

six professors, two instructors, and 11 students. The scholastic requirement for entrance was a high school diploma, a high standard at the time.

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 DVM degree, graduated from Cornell in 1910. Seven of the first 11 women to become licensed veterinarians in this country were Cornell graduates.

The college remained at its original site at the southeast corner of East Avenue and Tower Road until 1957, when it moved to its present site at the east end of Tower Road.

## **Open House 1999**

The 33rd annual all-day Open House at the College of Veterinary Medicine at Cornell is scheduled Saturday, April 10, from 10am to 4pm. All are welcome!

## **In the Spirit of the Ivy League**

Today, 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.

The College of Veterinary Medicine at Cornell is one of 27 veterinary colleges and schools in the United States and one of only three in the Northeast. Renovations and expansions have made the college a state-of-the-art veterinary education center.

Approximately 320 women and men are enrolled in the four-year professional education program leading to the Doctor of Veterinary Medicine degree. Approximately 70 percent of Cornell's veterinary students are women.

The veterinary medical curriculum includes classroom and laboratory instruction and clinical rotations in our Veterinary Medical Teaching Hospital. 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 interactive, case-based educational environment.

Approximately 100 graduate students are enrolled in PhD or MS 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 biomedical sciences enroll approximately 30 individuals seeking advanced work in clinical specialties. A combined program leading to a DVM/PhD degree also is offered.

## **Web Site**

Learn more about Cornell's College of Veterinary Medicine on the World Wide Web at <http://www.vet.cornell.edu/>

# Admission to the DVM Program

The college welcomes applications from academically talented and highly motivated individuals with diverse backgrounds. Approximately 80 students are admitted each year: 57 to 60 New York residents, four to five from contracting states (New Jersey, New Hampshire, Puerto Rico), the remainder from any country or US state.

The college accepts all applications — from New York State residents and nonresidents — through the national Veterinary Medical College Application Service (VMCAS). Applicants shall check the “Cornell” box on the VMCAS application and request from Cornell a veterinary college supplemental application package. Applicants who do not complete the supplemental application will not be considered for the Cornell DVM program.

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

## 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. Those who plan to complete some course work at a two-year college must complete at least 30 of the 90 credits at the upper-division level in a four-year baccalaureate program.

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 college 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 September 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 are: enrolling in a challenging curriculum, carrying a full course load to completion, and exceeding minimum preveterinary course requirements.

All prerequisite courses must be completed with at least a grade of C-. Pass/satisfactory grades are not acceptable. 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 is underway. 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.

## **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, showing various companion animals, livestock, laboratory animals, zoo animals, or wildlife. Quality and quantity of this experience are evaluated on the basis of the applicant's description and letters of evaluation from supervisors.

## **Other Achievements and Character.**

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

One-hour tours of the college for preveterinary students and the general public are offered by the admissions office every Friday, 3:30 to 4:30 pm. Reservations: 607-253-3700, extension 1.

## **Application Procedures**

Application forms and detailed information may be obtained by writing to the DVM Admissions Office, S1-006 Schurman Hall, College of Veterinary Medicine. Application materials will be ready for distribution July through September annually. The complete VMCAS application, application fee, and supporting documents must be submitted with a postmark no later than October 1; supplemental applications are due October 5.

## **Prerequisite Courses**

These are the college-level course requirements that are prerequisites for admission; they must be taken for both grade and credit (not pass/fail or credit-only):

English composition, minimum of 6 semester credits or 9 quarter credits; one-half of this requirement may be satisfied with an oral communications course.

Biology, a full year with laboratory, minimum of 6 semester credits or 9 quarter credits

Inorganic (general) chemistry, a full year with laboratory, minimum of 6 semester credits or 9 quarter credits

Organic chemistry, a full year with laboratory, minimum of 6 semester credits or 9 quarter credits [*Chemistry 251 and 253 at Cornell University satisfy this requirement.*]

Biochemistry, complete course in general biochemistry, upper-division level, minimum of 4 semester credits or 6 quarter credits.

Physics, a full year with laboratory, minimum of 6 semester credits or 9 quarter credits [*AP credit acceptable*]

General microbiology, with laboratory, minimum of 3 semester credits or 4.5 quarter credits

**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 non-resident 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 Test of English as a Foreign Language (TOEFL) exam is required of students whose native language is not English. The minimum acceptable TOEFL score is 600.

**Reapplication.** Previous applicants who would like to re-apply should submit a new VMCAS application and Cornell supplemental application, together with application fees, and any new information necessary to update the record.

# A Letter from the Faculty to Prospective Veterinary Students

*The doctor of veterinary medicine degree* attests to the acquisition of skills and knowledge required for the practice of veterinary medicine. The college's DVM curriculum is necessarily broad in the variety of its educational experiences. All of these experiences contribute to the goal of educating students to be veterinarians. For that reason, a criterion for selection is that candidates for admission be capable of completing all aspects of the curriculum.

Veterinary medicine is an exciting and rewarding profession. The opportunities in clinical practice, research, and public health are almost unlimited. At Cornell, the curriculum is designed to impart the learning and cognitive skills that will enable graduates to cope with the steady increase in knowledge and sophistication occurring in all areas of the profession. However, those aspiring to be veterinarians should realize that the life of a veterinary student is arduous and requires mental and physical stamina.

Long days are particularly common during the clinical years. It is not unusual for each third- and fourth-year student on clinical duty to start the day with responsibility for the care of three to five different animal patients. Typically, students on clinical duty arrive at the hospital between 6 and 7am. Physical examinations are performed on each patient; blood, urine, or fecal specimens are obtained for diagnostic testing; and medications are administered. Detailed reports are written in the medical record that document changes in each patient's condition, explain diagnostic test results, describe surgical approaches and outcomes, and outline the direction of future therapies. Students may then participate in ward rounds with other veterinary students and the chief of service. Interspersed among additional diagnostic evaluations (for example, obtaining biopsies or performing ultrasonographic, radiographic, or computerized axial tomographic scans), students examine and admit new cases to the hospital, assist in surgery, communicate with owners of animal patients, and write instructions for the care of patients being discharged. At the end of the day, most clinical services hold rounds to discuss the day's events and use these experiences for case-based learning. For students participating in large-animal ambulatory services, days may begin early to accommodate visits to several different farms or stables and may end late depending on the season and size of the herds visited. Emergency cases and after-hour treatments are also a routine part of both small-animal and large-animal veterinary medicine.

The life of the veterinary student, while stimulating and varied, is also demanding. It is during the clinical years of veterinary college that the student has the opportunity to integrate and apply the knowledge acquired in the pre-clinical years and to do so under the guidance of faculty and staff veterinarians experienced in the many aspects of the profession.

Some students may find some of the routine duties expected of veterinary students to be difficult or impossible. Veterinary students rely on sensory ability to hear heart, gastrointestinal, and respiratory sounds; motor skills and coordination to restrain patients and obtain information by palpitation, manipulation, and percussion; physical agility to avoid injury from animal patients; and stamina to function at the necessary levels of proficiency, even after long work hours. They also rely on their ability to assimilate and analyze diagnostic data for several patients simultaneously in order to provide effective patient care.

Individuals considering a career in veterinary medicine are strongly encouraged to work with a practicing veterinarian to gain awareness of the mental and physical demands of the profession.

## Early Admission Program

Highly qualified students may apply in the spring of their sophomore year for early admission to the DVM professional program. Outstanding academic qualifications can guarantee admission at the completion of the 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 early admission are the same as for other applicants, except that candidates for early 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 early admission is March

of the year of application. Completed applications for early admission must be sent to the DVM Admissions Office at 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 DVM 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 BS degree while working on the DVM degree. Interested students should consult undergraduate faculty advisers.

**DVM/PhD Program.** Veterinary students aspiring to academic or research careers may apply for the combined DVM/PhD program. Details are provided in the section of this catalog on *Graduate Education*.

# The DVM Curriculum

The veterinary medical curriculum was modified in 1993 to better prepare students for the challenges of the 21st Century. The interactive, case-based academic program 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.

The college's academic program provides the opportunity for students to learn *in context*.

## 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

students 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

# An Overview of the DVM Curriculum

Fall Semester

Spring Semester

Year 1

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

Year 2

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

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

available for independent study. These four courses are scheduled in the first three semesters and range in length from seven to 12 weeks.

Foundation Course V — *Animals, Health, and Disease* (30 credits) — is 24 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 college's Veterinary Medical Teaching Hospital and the Equine and Farm Animal Hospital's 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; it 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 are as much core as those in foundation courses; the difference is 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.

# Course by Course

## 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
		13	VTMED 530	Function and Dysfunction: Part I	9
			VTMED 537	Animals, Veterinarians, and Society: Part C <sub>1</sub>	1
					29

[ \* course continues into 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 <sub>2</sub>	1	VTMED 550	Animal Health and Disease: Part I	10
VTMED 540	Host, Agent, and Defense	12	VTMED 557	Animals, Veterinarians, and Society: Part E*	—
VTMED 547	Animals, Veterinarians, and Society: Part D	1			20
		21			

[ \* course continues into year 3, 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	1	(variable)	Clinical Rotations	2–10
		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
		20	(variable)	Distribution Courses	10
					20

## Sets of Distribution Courses

(numbers shown are minimum and maximum credits that can be applied to graduation)

Specialized Veterinary Anatomy (3, 6)

Animal Management (2,6)

Veterinarians in Society (0,2)

Courses associated with Genetics and Development (0, no maximum)

Courses associated with Function and Dysfunction (4, no maximum)

Courses associated with Host, Agent, and Defense (3, no maximum)

Courses associated with Animal Health and Disease (8, no maximum)

Specialty Courses (0, no maximum)

Critical Reasoning (0, no maximum)

Seminars and Rounds (0, 2)

Applied Clinical Education (4, no maximum)

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 weeks 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 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 80. Some courses are open to graduate students. The range of educational formats used is highly variable — lecture, discussion, independent project, laboratory, small-group tutorials. Faculty are encouraged to be creative and to experiment in the development of innovative formats.

Distribution courses are grouped in a 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.

## Clinical Rotations

*Students must satisfactorily complete a total of 35 credits in Foundation Clinical Rotations, plus an additional 4 credits of Distribution Clinical Rotations (set K Distribution Courses). These courses may be scheduled during the spring term of year 3 and during the fall and spring terms of year 4.*

### Foundation Clinical Rotations

	<i>Credits</i>
VTMED 561 Community Practice Service: Medicine	2
VTMED 562 Primary-Care Surgery and Anesthesiology	2
VTMED 563 Small-Animal Medicine	4
VTMED 564 Small-Animal Surgery	4
VTMED 565 Ambulatory Medicine	4
VTMED 566 Large-Animal Medicine	3
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

### Distribution Clinical Rotations

[set K; minimum 4 credits required]

	<i>Credits</i>
VTMED 700 Theriogenology Service	2-4
VTMED 701 Cardiology Service	2
VTMED 702 Laboratory Animal Medicine	2
VTMED 703 Clinical Wildlife and Exotic Animal Medicine	2
VTMED 704 Quality Milk	2
VTMED 705 Special Opportunities in Clinical Veterinary Medicine	(variable)

## Graduation Requirements

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

The academic year (two terms) begins in late August and ends in late May. At the conclusion of each foundation course, the college faculty reviews records and conduct of students. Those 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 on 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 60 days before the scheduled date. 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 DVM program should know and understand the following criteria relative to the use of animals in the DVM 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 college's 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.

# Special Programs

## For DVM Students

**International Projects.** The International Advisory Committee makes funds available on a competitive basis to DVM students interested in becoming involved in veterinary projects in developing countries. All DVM 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; funds are administered by the director of international programs. Contact Dr. David Robertshaw, department of biomedical sciences.

**Academic Program Development.** Employment opportunities are available

on a competitive basis to students interested in assisting faculty in developing course materials for the DVM curriculum. Projects include case-based tutorials and computer-assisted learning modules. Contact Dr. Katherine Edmondson, assistant dean for learning and instruction.

**Leadership Program for Veterinary Students.** For the past nine years, the College of Veterinary Medicine at Cornell has hosted a leadership program for veterinary students. The program targets gifted students from veterinary colleges worldwide who aspire to leadership positions in academic institutions, government, or industry. Approximately 20 fellowships are offered each year. Successful candidates stand near the top of their veterinary class; many have research experience; all have distinguished records in various professional and personal pursuits.

Fellowships enable students to spend 10 weeks at Cornell during June, July, and August. Student fellows engage in faculty-guided research and a variety of professional enrichment activities. Program features include a stipend, in-residence housing, research experience, career counseling, and group discussions of leadership, ethics, graduate education, and careers in industry. Visits are made to the research facilities of the National Institutes of Health and US Department of Agriculture. Application forms for admission to the 1999 program may be obtained from: Diane M. Colf, Graduate Education Coordinator, S3-016 Schurman Hall, College of Veterinary Medicine, Cornell University, Ithaca, New York 14853-6401 USA

**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 the Marine Biological Laboratory, Woods Hole, Massachusetts. For more information, contact AQUAVET Associate Director, Dr. Paul Bowser, department of microbiology and immunology at Cornell.

## For 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 insights into modern veterinary medicine. Through lectures, laboratories, visits, and demonstrations, students become acquainted with the wide range of disciplines within the profession. Participants meet current veterinary students and faculty involved in a variety of research and clinical programs. Contact Cornell University Summer College, Day Hall B-20, Ithaca, New York 14853-2801; 607-255-6203.

**Research Apprentice Program for Minority High School Students.** This six-week program stimulates students to pursue careers in biomedical research. Students are assigned to investigators who develop in the students both an understanding of the research in which they participate and the technical skills involved. Students also are assigned to other colleges and units at Cornell, including the College of Agriculture and Life Sciences, College of Human Ecology, Boyce Thompson Institute. Students who are US citizens or permanent residents and who identify themselves as African American, Hispanic, Native American, Alaskan Native, or Pacific Islander are eligible to apply. Applications: Office of Student Services, S1-006 Schurman Hall, College of Veterinary Medicine, Cornell University, Ithaca, New York 14853-6401.



## Internships and Residencies

### Internships

Internships are non-degree 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. The Veterinary Medical Teaching Hospital offers internship programs in ambulatory and production-animal medicine and in small-animal medicine and surgery.

For the selection of interns and residents for its Veterinary Medical Teaching Hospital, the college subscribes to the American Association of Veterinary Clinicians (AAVC) Intern/Resident Matching Program. A directory of available internships is published by the AAVC each year (available in mid-September and accessible through many university libraries); typically, these advertised positions are salaried. To obtain forms and materials, contact the AAVC Matching Program at 614-488-0617 or <http://cvm.msu.edu/~judy/aavc1.htm>

or the office of clinical programs and professional service at Cornell's College of Veterinary Medicine at 607-253-3157 or via email at [mcf4@cornell.edu](mailto:mcf4@cornell.edu).

Apply by December 7, 1998, for internship programs that will begin in June 1999. Applications for programs beginning in 1999 may be obtained after September 1, 1998.

### Residencies

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 as well as to gain experience in professional veterinary medical education and in teaching. The Veterinary Medical Teaching Hospital has clinical residency programs in ambulatory medicine (2 years), large-animal surgery (3 years), anesthesiology (2 years), ophthalmology (3 years), behavior (2 years), small-

animal medicine (2 years), cardiology (2 years), small-animal surgery (3 years), dermatology (2 years), theriogenology (2 or 3 years), large-animal medicine (2 years).

During the program, approximately 70 percent of time is devoted to clinical training and service and approximately 30 percent is spent in academic pursuits, including research and didactic teaching opportunities. For descriptions of specific residency programs contact the college's office of clinical programs and professional service at 607-253-3157 or via email at [mcf4@cornell.edu](mailto:mcf4@cornell.edu).

Apply through the American Association of Veterinary Clinicians (AAVC) Intern/Resident Matching Program by December 7, 1998, for residency programs that will begin in July 1999. Applications for programs beginning in 1999 may be obtained after September 1, 1998. To obtain forms and materials, contact the AAVC Matching Program at 614-488-0617 or <http://cvm.msu.edu/~judy/aavc1.htm>.

## Residencies in Veterinary Pathology

The college's department of biomedical sciences 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 contemporary disciplinary skills.

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 at the college. 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 biomedical sciences and the Diagnostic Laboratory. Summer courses, in collaboration with faculty from other universities, include courses in immunohistochemistry, use of molecular techniques in diagnostic pathology, laboratory animal pathology, and toxicologic pathology.

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.

For information, contact the college's department of biomedical sciences at 607-253-3300.

**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 post-mortem 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 participation 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.

# 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 MS or PhD 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, its individual requirements and areas of concentration, is contained in Cornell's 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 DVM/PhD program is offered by Cornell's College of Veterinary Medicine and the Cornell 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 PhD degree. With planning, it is possible to complete the DVM/PhD 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. The first step is

application to the Office of DVM Admissions, College of Veterinary Medicine, Cornell University. When the student has enrolled in the DVM program, application can be made to Cornell Graduate School.

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 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 a half residence unit each summer semester up to a maximum of two units. Once the veterinary degree is awarded, the student may petition the Graduate School to transfer two additional residence units for time spent in the DVM program. At least two residence units must be earned by full-time graduate study.

## **Special Programs in Graduate Education.**

Two 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 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 special programs must be accepted by 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 director of graduate studies of the selected field. Applicants from countries outside the United States must submit a Test of English as a Foreign Language score of 550 or greater if their native language is not English. This requirement applies to all fields.

Applications for 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: Graduate School, Caldwell Hall, Cornell University, Ithaca, New York 14853-2602 USA

## 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 departments or operating units of the college.

Approximately 20 assistantships are reserved for applicants with the DVM degree. These are awarded annually following a college-wide 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 PhD 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 DVM 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 DVM degree and are enrolled as full-time students in Graduate School, they will receive tuition and a minimum salary with yearly increments. Decisions on the awards are made in early spring of the year before fall matriculation. The deadline for submission of college DVM graduate fellowship applications is in December.

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. Successful applicants become eligible for stipend supplements, training-related benefits, or both, through an annual competition. Guidelines can be obtained from the college's graduate education office at 607-253-3276.

Two graduate fellowships are reserved for individuals who belong to underrepresented ethnic minorities —

one for a DVM graduate and another for a baccalaureate graduate.

## 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 Diane M. Colf, graduate education coordinator, Graduate Education Office, College of Veterinary Medicine, Cornell University, Ithaca, New York 14853-6401; telephone: 607-253-3276; fax: 607-253-3756; email: [dmc18@cornell.edu](mailto:dmc18@cornell.edu)

# Graduate Field Representatives

Field of Veterinary Medicine  
Professor Karel A. Schat  
Veterinary Medical Center C4-125  
607-253-4032

Field of Biochemistry  
Professor P. Andrew Karplus  
223 Biotechnology Building  
607-255-5701

Field of Environmental Toxicology  
Professor Andrew Yen  
Veterinary Research Tower T3-021B  
607-253-3354

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

Field of Microbiology  
Professor Stephen C. Winans  
Wing Hall W-313  
607-255-2413

Field of Neurobiology and Behavior  
Professor Thomas Seeley  
Seeley Mudd Hall W-301  
607-254-4301

Field of Pharmacology  
Professor Clare M.S. Fewtrell  
Veterinary Medical Center C3-125  
607-253-3870

Field of Physiology  
Professor Susan S. Suarez  
Schurman Hall S3-117  
607-253-3589

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

# 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 issuance of identification cards to new students and the collection of information for the student directory and 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 set forth by University Health Services. Registration is complete when both the university and 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 DVM program and for properly

enrolling in and completing the appropriate courses each term. Requirements for each year are outlined in this catalog in the section *The DVM Curriculum*.

## Enrollment in Foundation Courses

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

## Enrollment in Distribution Courses

Veterinary students may not enroll in distribution courses, either for credit or audit, concurrent with clinical rotations. The sole exception is distribution course 631, Clinical Diagnostic Parasitology, which has been designed specifically to run concurrently with foundation clinical rotations.

### **Fall Semester Distribution Courses.**

The college does not participate in pre-enrollment for fall courses. Students wishing to enroll in fall semester distribution courses must complete the course enrollment form (add/drop form) provided by the college at the start of the term and submit it to the college's office of student records, schedules, and financial planning *by the deadline stated on the form*.

### **Spring Semester Distribution Courses.**

The college participates in on-line pre-enrollment for spring semester courses. Upon receiving the list of courses offered, each student must log into CoursEnroll, Cornell's on-line course enrollment program, and enter course choices according to the instructions provided by the university. After the pre-enrollment period ends, students wishing to change spring semester distribution course enrollment may do so *up until the end of the second week of spring term* by completing the course enrollment form (add/drop form)

provided by the college and submitting it to the office of student records, schedules, and financial planning.

## Changes to Course Enrollment

The college allows *two weeks* at the start of each term for changes to distribution course enrollment. 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 university policy that may not be waived by the college.

At the end of the two-week add/drop period, each student *is required* to log into the university student information database, Just the Facts, print his or her schedule, verify that choices of courses *and* grade options (if offered) are correctly listed. It is critical that this verification be done, as no credit or grade will be given for a course which a student attended without having been properly enrolled, and, conversely, a grade of F will be assigned to courses in which a student enrolled but failed to attend or drop. Each student must submit the verified, signed, and dated printout to the college's office of student records, schedules, and financial planning. Any errors must be reported within the third week of the term. A late fee of \$30 per course will be charged for correction of errors reported between the start of the fourth week and end of the sixth week; no correction will be made after the sixth week of the term.

### **Clinical Rotation Assignments.**

Clinic rotation schedules will be assigned to students in the spring of their second year. Changes to those assigned schedules — whether they affect required, required distribution, or totally elective repeat rotations — will be allowed only in emergency situations.

## Auditing Courses

The university does not allow veterinary students to audit courses.

## Academic Leave and Withdrawal

**Academic Leave.** A student who, for academic reasons, has been denied permission to advance to the subsequent term is considered to be on academic leave of absence. Students are placed on academic leave by the assistant dean for learning and instruction. A student on academic leave will be permitted to repeat the failed term only *once*.

**Withdrawal.** A student may withdraw at his or her discretion. Withdrawals are permanent and must be made in writing to the assistant dean for learning and instruction and/or the director of student support services. Readmission after withdrawal is by regular admissions processes.

## Personal and Medical Leaves of Absence

The college faculty expects students to complete their course of study in four years. In certain instances, a student in good standing may apply to take a leave of absence for medical or personal reasons prior to the completion of the degree. Such leaves should ordinarily commence upon the completion of the course in which the student is enrolled; in extraordinary circumstances, permission may be given for a leave to begin sooner.

Students considering a leave must consult with and submit a written request to the director of student support services. If students are recipients of financial aid, they must meet with the director of financial aid before taking any leave. The leave is granted for a specific period of time, after which the student is expected to resume course work. Written authorization for a leave will specify a date by which the student on leave must notify the college of intent to resume studies and a date by which studies must resume. A student who

fails to return at the end of a period of authorized leave or who fails to provide written notice of intent to return at the end of a period of authorized leave will forfeit the privilege of reentering the professional curriculum. At the dean's discretion, return from leave may be postponed if space is unavailable in a class. Students returning from leave must certify that they have not received any felony or misdemeanor charges or convictions while on leave. Students on leave will not be allowed to attend foundation courses of the professional curriculum; students on personal leave who wish to participate in any other courses in the professional curriculum must be enrolled in the course or registered as extramural students.

**Personal Leave.** In rare instances, a student who, for personal reasons, is unable to advance to the subsequent foundation course may be granted a personal leave. Personal leaves are arranged by the director of student support services after requests have been submitted in writing. The dean of the college has final approval of all personal leaves and will review status of all students returning from leaves.

**Medical Leave.** A student who, for medical or psychological reasons, is unable to advance to the next foundation course is considered to be on a *voluntary* medical leave. A student may be placed on an *involuntary* medical leave if the student engages in or is likely to engage in behavior that poses a danger to self or others, causes significant property damage, or significantly disrupts the learning environment of others.

Since the purpose of medical leave is to allow time away from the college to receive medical and/or mental health treatment, medical leaves are usually for six months or more and are arranged case by case with the dean and director of student support services. A student on medical leave will not be allowed to participate in any courses in the professional curriculum.

Medical leaves are processed in conjunction with University Health Service, but authority for granting leave and for permitting a student to return from leave rests with the dean of the college.

Specific procedures must be followed to return from a medical leave, including providing a statement to University Health Service from attending medical professional(s) detailing the student's progress and stating that the student is ready and able to resume a full, rigorous workload. The statement will be reviewed by a designated university health official who will consult the college and the student's physician regarding the essential facts and obligations of the individual's program.

## 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 director of 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.

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

DVM 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 to 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

A+	=	4.3
A	=	4.0
A-	=	3.7
B+	=	3.3
B	=	3.0
B-	=	2.7
C+	=	2.3
C	=	2.0
C-	=	1.7
D+	=	1.3
D	=	1.0
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 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 student 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.

**Foundation Course VI (clinical rotation).** A student receiving a grade of F or two grades of D on required clinical rotations shall be placed on academic warning. A student receiving a grade of F on a required clinical rotation shall be required to repeat that rotation. A student receiving two D grades on required clinical rotations shall be placed on academic warning but not be required to repeat those rotations.

A student *cumulatively* receiving more than one grade of F or more than two grades of D or lower on required clinical rotations throughout Foundation Course VI shall be denied permission to continue in the course (or graduate). Upon receiving a first grade of F, or a second grade of D, the student will be notified as soon as possible by the associate dean for clinical programs and professional service that he or she is on academic probation for the balance of the course, and the clinical rotations class teachers committee shall be convened to make recommendations to the college faculty at the next earliest faculty meeting.

A weighted average of all required clinical rotations shall be calculated to determine a final grade for Foundation Course VI. This grade will be used to

determine advancement (graduation) of students who are starting Foundation Course VI on academic warning.

**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, Cornell University, 222 Day Hall, Ithaca, New York 14853. 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 are available in the college's 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; secure a copy of the institutional policy, including the location of all education records; 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 Student Honor Code of the College of Veterinary Medicine.

The code was established in recognition of the importance of ethics, honor, and integrity in an individual's training for the profession. It places 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.

For a copy of the code, contact the office of student support services at 607-253-3700.

# Financial Planning

## Tuition and Fees

Tuition and fees for doctor of veterinary medicine degree candidates are \$14,500 for New York State residents and \$19,600 for nonresidents for the 1998–99 academic year.

Most students in the college do not live in university housing. The cost of room and board in Ithaca for 1998–99 is estimated at \$6,680. Required books, instruments, and supplies cost approximately \$890 a year. An additional allowance of \$3,910 should cover student health insurance (estimated at about \$700), clothing, laundry, local transportation (including approximately \$250 for 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 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 university's office of the bursar. Information about this plan is mailed to continuing students in April of each year and to incoming students in May.

*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 1998–99 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 \$3,000 to \$15,000 per year. The average award in 1997–98 was \$11,600. The college's policy of support is based on the assumption that parents and spouses are willing to help finance education of family members to the extent possible.

## Scholarships

Scholarships are financial aid funds for DVM students, established primarily by gifts from college alumni and friends. Awards are made by the college's 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 fundraising priorities.

Following is a list of scholarship funds established as of July 1, 1998:

Stanley & Dorothy Aldrich Scholarship  
 All-Celia Scholarship  
 Elizabeth Millbank Anderson 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  
 John J. Brennan, Sr. Scholarship  
 James D. Brenneman '77 Memorial Scholarship  
 Dorsey W. and Beatrice C. Bruner Scholarship  
 Michele and Agnese Cestone Foundation Scholarship  
 Charlie and Chico Memorial Scholarship  
 Dorothy R. Clay Scholarship  
 The Cornell Veterinarian Endowed Scholarship  
 Ben B. & Elizabeth J. Cox Scholarship  
 John F. Cummings '62 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  
 Harry M. Glass '35 Memorial Scholarship  
 Grambow Family Scholarship  
 Sheila D. Grummick Scholarship  
 Kenneth I. and Catherine A. Gumaer Scholarship  
 Arthur G. Hall Scholarship  
 Richard M. Hartenstein Memorial Scholarship  
 Billy Houghton Memorial Scholarship  
 Stephen B. Hitchner DVM Student Scholarship  
 Hobbes Scholarship  
 Hudson Valley Veterinary Medical Society Scholarship  
 Jaqua Foundation Scholarship  
 David Kennedy Johnston Endowment  
 Muriel H. Kentnor Scholarship  
 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  
 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  
 Mr. & Mrs. James Murray Kay III Scholarship  
 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  
 Mryl Lynn Sammons '73 Memorial Scholarship  
 The Dorothy Schiff Scholarship  
 Le Schin-Weiler Empire Cat Club Scholarship  
 Isidor Sprecker Wildlife Medicine Award  
 Meg St. John Scholarship  
 P. Daniel Stevens Memorial Scholarship  
 Susque-Nango Kennel Club Scholarship  
 Richard M. Swezey Memorial Scholarship  
 Thomas F. Tanneberger Memorial Scholarship  
 Jim Dale Thomas Memorial Scholarship  
 Tinsel Scholarship  
 Union County Kennel Club Scholarship  
 Thurman C. Vaughn Jr. Memorial Scholarship  
 Dominick Frank Vietro Scholarship  
 Donald B. Wade Memorial Scholarship  
 Sam A. Wall Scholarship  
 Hilda G. and Walter D. Way Scholarship  
 Colonel and Mrs. Louis G. Weisman Scholarship  
 Westminster Kennel Foundation Scholarship  
 Hulda Anna White Scholarship  
 George Winter 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  
 Pearl Zimmerman Emergency Loan Fund

## Scholarships Established by Veterinary Alumni Classes

Class of 1929 Scholarship  
 Class of 1939 Scholarship  
 Class of 1941 Scholarship  
 Class of 1942 Scholarship  
 Class of 1943 Scholarship  
 Class of 1944 Scholarship  
 Class of 1945 Scholarship  
 Class of 1946 Scholarship  
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 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  
 Class of 1967 Scholarship  
 Class of 1968 Scholarship  
 Class of 1969 Scholarship  
 Class of 1970 Scholarship  
 Class of 1972 Scholarship  
 Class of 1974 Scholarship  
 Class of 1975 Scholarship  
 Class of 1976 Scholarship  
 Class of 1977 Scholarship  
 Class of 1979 Scholarship  
 Class of 1980 Scholarship  
 Class of 1981 Scholarship  
 Class of 1984 Scholarship  
 Class of 1985 Scholarship  
 Class of 1986 Scholarship  
 Class of 1988 Scholarship

# Honors and Awards

Each May, during the week before graduation, an Honor Day ceremony is held at the college. Prizes and awards distributed annually 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 DVM students and recognize scholarly achievement in a particular discipline or outstanding aptitude for working with a particular species.

Prizes and awards presently available include:

**American Association of Feline Practitioners Award.** A recognition plaque and two years' 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.

**American College of Veterinary Radiology Prize.** A certificate and one-year subscription to *Veterinary Radiology & Ultrasound* is awarded to the fourth-year student excelling in radiology.

**American College of Veterinary Surgeons Award.** This award is given to the fourth-year student who has shown outstanding motivation in the art and science of veterinary surgery.

**Prize of the Auxiliary of the American Veterinary Medical Association.** This prize goes to the fourth-year student deemed to have best advanced the standing of the college by special extracurricular contributions.

**James Gordon Bennett Prize.** This prize is for the student who shows the greatest humane-ness in handling animals, with special reference to the use of anesthesia.

**Anne Besse Prize.** Given for the best work by a student in large-animal medicine.

**Frank Bloom Pathology Award.** This prize, established in 1978 with an endowment by Dr. Frank Bloom, a 1930 Cornell graduate and Charter Diplomate of the American College of Veterinary Pathologists, is for a fourth-year student excelling in pathology.

**Gary Bolton Memorial Cardiology Award.** This award, named for Dr. Gary R. Bolton, a member

of the faculty who taught cardiology for a decade, is for a fourth-year student who has demonstrated understanding and expertise in cardiology and empathy for patients.

**Charles Gross Bondy Prize.** 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.

**Comparative Anatomy Award.** In 1994, on the occasion of his 50th class reunion, Dr. Howard Evans, DVM '44, and his wife, Erica, endowed this scholarship to recognize and encourage student participation in anatomical endeavors that pertain to the gross structure or function of any animal (particularly fish, reptile or bird).

**John F. Cummings Memorial Award.** The Cornell DVM Classes of 1997, 1998, 1999, and 2000 established a fund to provide this award to a member of the third-year class in honor of John Cummings, DVM '62, MS '63, PhD '66, former James Law Professor of Anatomy, who had a long, distinguished career at Cornell as teacher, comparative neuropathology researcher, and mentor.

**A. Gordon Danks Large Animal Surgery Award.** This award, initiated in 1978 to recognize the outstanding contributions of Professor Emeritus A. Gordon Danks, is presented to a fourth-year student who demonstrates outstanding knowledge and talent in the diagnosis and treatment of surgical problems of large animals.

**Donald D. Delahanty Memorial Prize.** This prize, established as a memorial to Dr. Donald Delahanty, a member of the former department of large-animal medicine, obstetrics and surgery, is given to a fourth-year student showing an interest in equine practice and a high level of proficiency in the field.

**Hugh Dukes Prize in Experimental Physiology.** This prize, established to honor Dr. H. Hugh Dukes, who served the university and college for 28 years as professor and chairman of the former department of physiology, is awarded to a veterinary student who has done excellent work in physiology laboratory courses and shows potential for teaching and contributing new knowledge to physiology.

**Ettinger Incentive Award.** Stephen Ettinger, DVM '64, 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, in honor of Professor Emeritus Myron G. Fincher '20, is presented to a fourth-year student demonstrating the best work in courses on large-animal obstetrics and reproductive diseases.

**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 later established a permanent endowment fund for this award. The recipient of the award is a fourth-year student who exemplifies enthusiasm, motivation, and dedication to the delivery of excellent veterinary patient care.

**Hill's "Buddy" Award.** Hill's Pet Nutrition, Inc., established this award to honor a fourth-year student who has demonstrated excellent problem-solving ability, knowledge, and application of principles of nutrition throughout the stages of life, as well as in clinical disease in small-animal medicine and surgery.

**Grant Sherman Hopkins Prize.** This prize, endowed by Ms. Ann Ottaway Hopkins in 1955 in memory of her husband who served the university and college for 45 years as professor of veterinary anatomy, is awarded a veterinary student for interest, ability, perseverance, and performance in the work in anatomy.

**Iams and VECCS Award.** Iams and the Veterinary Emergency and Critical Care Society sponsor this award, given to a fourth-year student who is a member of the student chapter of VECCS and has demonstrated excellence, interest, and proficiency in the field of small-animal emergency and critical-care medicine.

**P. Philip Levine Prize in Avian Medicine.** This prize, established in memory of Dr. P. Philip Levine's contributions to avian medicine, 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.** This prize, endowed by Dr. Frank H. Miller, a trustee of Cornell University

for 20 consecutive years, as a memorial to his wife, is awarded to a member of the second-year class who has done the best work in physiology.

**Malcolm E. Miller Award.** Established in 1965 by Mary Wells Miller Ewing in memory of her husband, Dr. Malcolm E. Miller '34, former professor of anatomy and head of that department from 1947 to 1960, this award goes to a fourth-year student who has demonstrated perseverance, scholastic diligence, and personal characteristics that bring credit and distinction to the veterinary profession.

**Mary Louise Moore Prize.** Dr. Veranus A. Moore, chairman of the former pathology and bacteriology department and dean of the college from 1908 to 1930, established this endowed prize, as a memorial to his wife, for the best work in bacteriology.

**Neuroanatomy-Clinical Neurology Prize.** In memory of Dr. William B. Forsythe, this prize is awarded to the fourth-year student who demonstrates outstanding expertise and interest in neuroanatomy and clinical neurology.

**New York State Veterinary Medical Society Prize.** This prize, which consists of an engraved plaque and a cash award, is provided annually for the best senior seminar.

**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.** This award, from the Alpha Chapter of Phi Zeta, the honor society of veterinary medicine, is for the second-year student with the best academic record after the first three semesters of study. The recipient receives Ettinger's *Textbook of Veterinary Internal Medicine*, volumes I and II.

**Pfizer Animal Health Veterinary Award.** This award, established by the Pfizer Animal Health to foster veterinary medical education, recognizes the third-year student who, through 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 Dr. Sager's 90th birthday in 1984 by a Cornellian who trained under Sager, recognizes a fourth-year student who displays outstanding aptitude in equine obstetrics and pediatrics.

**E. L. Stubbs Award.** This prize, from the Mid-Atlantic States Association of Avian

Veterinarians, is awarded to the fourth-year student who demonstrates outstanding competence and motivation in avian medicine.

**Anna Olafson Sussex Pathology Award.** This award, endowed in 1974 by Dr. and Mrs. Peter Olafson in memory of Dr. Olafson's sister, is given to a third-year student who has done outstanding work in pathology.

**Jacob Traum Award.** Through an endowment established by friends of Jacob Traum, '05, professor emeritus of bacteriology at the University of California and former chief scientist at the federal Plum Island Animal Disease Laboratory, this prize is awarded to a fourth-year student for superior accomplishment in bacteriology, epizootiology, pathology, and virology, including interest in research.

**Upjohn Clinical Awards.** The Upjohn Pharmaceutical Company offers a prize to the student considered to be most proficient in the practice of large-animal medicine and another to the student considered to be the most proficient in the practice of small-animal medicine.

**Horace K. White Prize.** An endowment for this prize was originally given by Mr. Horace K. White for the student with the highest academic record during veterinary training. Originally called the President's Prize, the award dates to 1873 and is probably the longest-standing prize at Cornell; the original donor was a brother to Andrew Dickson White, Cornell's first president.

**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.

## Faculty Awards

**Norden Distinguished Teacher Award.** This award is given annually 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 DVM program at the college.

**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.

**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.

## Student Services

The college's office of student services addresses the needs of students in the college by providing a variety of services. These include admission-related activities for prospective DVM students; academic and personal counseling; facilitating contact with resource groups elsewhere on campus (e.g., psychological services); maintaining placement information files for externships, opportunity blocks, and jobs following graduation; information regarding DVM licensure; information regarding scholarships and other special opportunities; 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 director of student support services and assistant dean for learning and instruction provide assistance in resolving academic problems and personal difficulties that affect student 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 24 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 am to 5 pm and Saturday from 10 am to 4 pm during the regular academic terms.

The center's medical staff, under 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 confidential.

To make a medical appointment, call 607-255-5155 or go to the center. For an appointment with Psychological Services, call 607-255-5208 or go to the center. A doctor is on-call 24 hours a day for urgent problems (607-255-5155) but the center is closed after 5 pm.

For up-to-date information, contact the Gannett Health Center webpage at <http://www.sas.cornell.edu/gannett/gannett.html>

### **Emergency Health Service.**

Students requiring after-hours or urgent care should call the health center at 607-255-5155 to receive instructions on the proper course of action to follow.

**Health Insurance.** For information about health insurance for students and student spouses, call 607-255-6363 or visit Gannett Health Center, where a representative of the insurance company has an office.

## Placement

The placement service, a part of the college's office of student support services, located in 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 in a central file and can be selected by type of practice (small, large, or mixed) and desired geographic location.

## Services for Persons with Disabilities

Cornell University is committed to assisting those persons with disabilities who have special needs. Contact the Office of Equal Opportunity, Cornell University, 234 Day Hall, Ithaca, New York 14853-2801.

# Student Life

## Housing and Dining

**Student Housing.** All requests for information about and applications for on-campus, off-campus, and student family housing should be directed to the Campus Life Housing Office, 210 Robert Purcell Community Center, Cornell University, Ithaca, New York 14853-6001, by telephone at 607-255-5368 or on the World Wide Web at <http://www.campuslife.cornell.edu/main/housing/>

**Dining Services.** Information on dining plans may be obtained from Cornell Dining, Cornell University, 233 Day Hall, Ithaca, New York 14853, by telephone at 607-255-8582 or on the World Wide Web at <http://www.campuslife.cornell.edu/main/dining/>

## Activities and Organizations

**SCAVMA.** The Student Chapter of the American Veterinary Medical Association, SCAVMA is the official organization representing veterinary students at Cornell. SCAVMA is the only recognized voice of veterinary

students to universities, the AVMA and state veterinary organizations, state and federal governments. SCAVMA sponsors many social and educational activities and is becoming increasingly active in national and legislative roles. SCAVMA is managed 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 veterinary students at Cornell are members.

**Other Organizations.** Student chapters of the following organizations are affiliated with a national organization of the same name:

**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, may or may not be related to a national organization, and may or may not be active, depending on student interest:

**AAHA**, American Animal Hospital Association

**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

**SCVECCS**, Student Chapter of Veterinary Emergency and Critical Care Society

**Ultrasound**, a *capella* singing group

**Veterinary Players**, a theater group

**VIDA**, Veterinarians Interested in Developing Areas

**VSOC**, Veterinary Students of Color

**VSPCA**, Veterinary Students for the Prevention of Cruelty to Animals

**ZAWS**, Zoo and Wildlife Society

Students also are members of the following college committees: Common Environment Committee, Faculty-Student Liaison Committee, Honor Board, and International Advisory Committee.

## Honor Societies

Students of the college 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.

**Phi Zeta.** Founded in 1925 by the veterinary students at Cornell University, Phi Zeta strives for advancement of the veterinary profession, higher educational requirements, and superior scholarship.

**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 whose research achievement deserves recognition.

## Fraternities

**Omega Tau Sigma** and **Alpha Psi** have houses in Ithaca. These veterinary fraternities are coeducational and encourage all students to join, whether or not they live at the houses.



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## Academic Facilities and Resources

Cornell's College of Veterinary Medicine is known for its progressive academic program and world-class resources.

The central campus of the college, occupies about 15 acres and includes the three-story Schurman Hall; a 9-story Veterinary Research Tower, added in 1974; the Diagnostic Laboratory, added in 1978; the Veterinary Education Center, opened in 1993; and the Veterinary Medical Center, opened in 1996. The college has a total of 1.2 million square feet of space.

Nearby the college's central campus is its James A. Baker Institute for Animal Health, a renowned center for canine and equine research. Also nearby is the Equine Annex, with an equine quarantine facility, a stable, and a laboratory for equine embryo biology. The Equine Research Park, on 165 acres, features boarding and other facilities for 150 horses, a half-mile track, stallion barn, and separate brood-mare barn with a laboratory for reproductive studies.

### Veterinary Education Center

The college's Veterinary Education Center provides state-of-the-art teaching laboratories, lecture halls, and library facilities.

**Irving W. Wiswall Learning Laboratory.** A high-tech dry lab, the facility provides faculty and students a variety of integrated media — interactive computer courseware, glass and film slides, analog and digital video, and audio. The laboratory accommodates 92 students; pairs of students share dual-headed microscopes and networked computers at each workstation.

**Jerry and Darlene Bilinski Learning Laboratory.** The 5,000-square-foot facility is a wet lab that accommodates approximately 90 students, with dual-headed microscopes and access to water and sinks, biological safety hoods, centrifuges, and other equipment necessary for microbiological and molecular biological teaching.

**Roswell P. Flower-Isidor I. and Sylvia M. Sprecher Library and Learning Resources Center.** Second only to the Library of Congress in the size and comprehensiveness of its veterinary collection, the facility holds nearly 90,000 volumes and maintains 800 current journal subscriptions in the biomedical sciences. The library 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 the Veterinary Information Network.

**Modular Resource Center.** The College's 3,500-square-foot modular resource center is a visual library of self-contained learning stations, called modules. Interactive learning resources include bone preparations, plastinated or wet specimens, radiographs, models, illustrations, microscope slides, computer-generated images, and other materials.

**Tutorial Rooms.** Fourteen tutorial rooms provide opportunities for students to meet in small-group sessions with faculty tutors. Students also use tutorial rooms during evening and weekend periods for independent and informal small-group study.

## **Veterinary Medical Teaching Hospital**

Opened in 1996, the Veterinary Medical Center houses a state-of-the-art Veterinary Medical Teaching Hospital on the ground level, and research laboratories and academic offices on its upper floors. The hospital, which provides clinical training for students in the DVM curriculum, comprises a Companion Animal Hospital, and Equine and Farm Animal Hospitals. Principal patient-care areas include medicine, surgery, ophthalmology, dermatology, cardiology, neurology, theriogenology, dentistry, nutrition, and behavior. Learn more at <http://www.vet.cornell.edu/hospital>

## **Educational Development**

The college's office of educational development plays a pivotal role in the development and implementation of the progressive academic program. It provides faculty development activities, offers administrative support for foundation courses, and serves as a central source of course-related materials for students. Educational development staff have helped faculty develop an extensive and expanding library of case-based exercises and computer courseware. Course materials are created to foster student autonomy and self-directed learning. Cases, intended to be as interactive as possible, 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. Courseware involves simulations, animations, prediction tables, audio, and video.

## **Center for Research Animal Resources**

Cornell's Center for Research Animal Resources 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. CRAR also is responsible for providing Cornell's 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 animal welfare legislation and compliance with regulations.

CRAR offers instructional sessions to faculty, students, research technicians, and animal care technicians; CRAR staff is also available to counsel and advise. The center maintains information on the suitability of various animal models for research purposes and available alternatives to the use of living animals.

# Research

The College of Veterinary Medicine at Cornell is one of the most successful veterinary colleges in the country in competing for resources that support biomedical and veterinary research. Major funding for both research and training is provided by the National Institutes of Health, National Science Foundation, State of New York, and US Department of Agriculture. Foundations, corporations, professional groups, and individual benefactors also provide substantial support.

The college has traditionally excelled in the fields of infectious diseases and the basic mechanisms underlying health and disease that are common to animals and people. Recently, major emphasis has been given to clarifying these mechanisms at cellular and molecular levels. Research in immunology remains central to the college's mission, but breakthrough research on many frontiers of human and animal health — in the fields of reproduction, connective tissue disorders, ophthalmology, and toxicology — has earned the college international acclaim. Interdisciplinary research is assuming greater prominence, beginning with initiatives in cancer biology, medical genetics, and bacterial diseases.

The college has identified or developed effective animal models for the study of many conditions affecting humans — Lyme disease, hepatitis B, muscular dystrophy, sudden infant death syndrome, hemophilia A and B, and von Willebrand's disease.

The diagnostic laboratory services at the college are used by researchers at Cornell as well as other universities and private industry. Research services include test development, automated testing, data handling, dissemination of information, pathogenesis, epidemiology, and preventive health programs.

The college has longstanding cooperative and contract research

relationships with the biotechnology, human medicine, and veterinary pharmaceutical industries for veterinary and biomedical research. More information is available at <http://www.vet.cornell.edu/rand>.

Today, more than 90 laboratories at the college conduct studies across a broad spectrum — from recombinant DNA research on viruses, to growth-factor gene therapy, to analysis of the chemical-signaling cascades involved in cancer, to initiation of parturition, to environmental toxicology.

## Species-Oriented Research

**Aquatic Animals.** The unit of aquatic animal medicine in the college's department of microbiology and immunology conducts studies to provide assistance to aquaculturalists and others experiencing problems with fish health. Isolation units in the Veterinary Medical Center are designed to house fish for research studies in pathology, microbial diseases, immunology, pharmacokinetics, and toxicology.

**Birds.** Cornell is recognized as one of the top avian research institutions in the world. The unit of avian medicine in the college's department of microbiology and immunology, which conducts diagnostic, disease surveillance, and research programs to prevent and control diseases that threaten chickens, turkeys, and ducks, also is involved in programs that use the chicken as a model for basic research on cancer, immunosuppression, and respiratory diseases. For example, the research team developed monoclonal antibodies for serotype-specific diagnosis of infectious bronchitis virus. Major emphasis has traditionally been on the fields of virology and immunology, but bacteriology and parasitic diseases are also investigated. Studies have resulted

in vaccines for chickens, programs to control and eradicate poultry diseases, and techniques now used for preservation of human chickenpox vaccines.

**Cats.** The Feline Health Center has received worldwide recognition for its work on feline leukemia, feline infectious peritonitis, respiratory diseases, identification of a form of feline immunodeficiency virus in exotic cats, and the development of the ELISA test for detection of coronaviral antibodies in feline serum.

**Cattle.** The Bovine Research Center focuses on programs to improve the health, productivity, and well-being of dairy and beef cattle. The center encourages research in health, metabolism, reproduction, breeding, and management.

**Dogs.** The James A. Baker Institute for Animal Health — with its Cornell Research Laboratory for Diseases of Dogs, its Center for Canine Genetics and Reproduction, and its Laboratory of Immunology — is known for groundbreaking work on canine infectious diseases (distemper, hepatitis, brucellosis, and parvoviral infections), arthritis, immunogenetics, reproduction, and inherited eye diseases. Institute research makes use of recombinant DNA techniques, cell hybridization, embryo manipulation, gene mapping, and contemporary methods of molecular and cell biology to develop means to diagnose, prevent, and treat animal diseases.

**Horses.** Equine research at the college — in the 165-acre Equine Research Park, and the James A. Baker Institute for Animal Health (including its Cornell Equine Genetics Center, and McConville Barn) — includes reproduction, embryo biology, nutrition, behavior, metabolism, infectious diseases, arthritis, orthopedic problems, and the special problems of the equine athlete. Additionally, the equine performance testing clinic, located in the Veterinary Medical Teaching Hospital, permits college veterinarians to conduct

sophisticated research on important diseases affecting the performance of the equine athlete. Through a contract with the New York State Racing and Wagering Board, the diagnostic laboratory's equine drug testing and research program provides drug testing and research for the state's horseracing industry.

**Wildlife.** Cornell's wildlife health program studies individual species of native wildlife, gaining knowledge which often proves helpful to other wildlife preservation programs. In working with the state Department of Environmental Conservation and the nonprofit New York River Otter Project, Inc., for example, the wildlife health program provides physical examinations, treatment, and microchip identification for otters selected for a project to restore their population in the waterways of central New York state. In a joint venture with the state Department of Environmental Conservation and The Nature Conservancy, the wildlife health program provides a captive rearing program for hatchling Blanding's turtles, a threatened species in New York, helping them grow to half their adult size in safety before returning them to their natural, wild habitat.

# Public Services and Outreach

Central to its mission, Cornell's College of Veterinary Medicine provides a broad range of veterinary medical and public health services to the people of the state of New York.

## In the Teaching Hospital

**Patient Care.** Each year, we treat approximately 13,000 dogs, cats, birds, and other small animals in our Companion Animal Hospital, plus more than 2,500 horses, cows, sheep, goats, pigs, poultry, and other animals in our Equine and Farm Animal Hospitals. The hospitals serve as referral centers for veterinarians practicing within a radius of approximately 150 miles of the college. A significant portion of the case-load consists of complicated medical or surgical problems referred for evaluation by faculty specialists.

**State-of-the-Art Services.** The professional excellence of the veterinary medical staff of the hospital assures the best health care for the animal patients. Clinical faculty in both the Companion Animal Hospital and Equine and Farm Animal Hospitals are supported by the newest technologies and procedures in emergency and intensive care, diagnostics, and advanced techniques in small-animal and large-animal medicine and surgeries. Ancillary specialty service areas include anesthesiology and radiology, the latter providing diagnostic ultrasound, nuclear medicine, and computerized tomography (CT).

**Basic Care for Companion Animals.** General physical examinations, preventive vaccines, advice on raising puppies and kittens, and spaying/neutering are provided by the hospital's Community Practice Service.

**Equine Medicine.** The college's Equine and Farm Animal Hospitals provide among the most advanced

medical and surgical care for horses in the country. The equine performance testing clinic, with its high-speed treadmill, offers clinical evaluation for respiratory function, lameness and gait analysis, and fitness and performance.

**On the Farm.** Ambulatory Services provides care for nearly 43,000 farm animals each year by traveling to the countryside to serve more than 400 farms in a 30-mile radius of the college.

**Wildlife and Exotic Animal Medicine.** The wildlife and exotic animal clinic in the Companion Animal Hospital is the clinical arm of the college's wildlife health program. It provides medical and surgical care each year for nearly 350 donated wildlife species — nondomestic birds, small mammals, and reptiles — as well as nearly 200 exotic species. The clinic also provides care for injured or ill native wildlife presented by the public, wildlife rehabilitators, and state and federal agency wildlife biologists. Additionally, veterinarians from the wildlife health program travel several times weekly to Burnet Park Zoo in Syracuse, New York, to provide medical care for the zoo animals there.

## Tests for Public Health

The college offers diagnostic services and collaborates with other agencies on preventive programs to assure the health and well-being of animals and humans in New York State and beyond.

**Diagnostic Laboratory Services.** The college's 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. The lab services patients of the Veterinary Medical Teaching Hospital as

well as those of veterinary practitioners in New York State and nationally. The diagnostic laboratory is the state diagnostic center for animal disease control, and official laboratory for the State of New York. Each year, the laboratory conducts more than 700,000 diagnostic tests for animals of all species, including humans.

**Quality Milk Promotion Services.**

As a New York State mastitis control program, the college's diagnostic laboratory offers diagnostic services to the dairy and whole-milk industries of New York to assure the health of dairy cattle and the safety of the milk supply.

**Poultry Tests.** The college's diagnostic laboratory operates two poultry labs in the state, offering diagnostic services to commercial producers of chickens, ducks, and turkeys.

**Fish Tests.** The diagnostic laboratory and the college's aquatic animal medicine program, a part of the department of microbiology and immunology, offer fish diagnostic services and assistance on problems relating to fish health in commercial and laboratory settings.

**Equine Drug Testing and Research.** Through a contract with the New York State Racing and Wagering Board, the laboratory provides chemical analysis, drug testing, and research to guarantee the integrity of horseracing statewide.

**Other Equine Tests.** The diagnostic laboratory conducts an equine viral arteritis control program for the New York state Thoroughbred breeding industry, a surveillance program for Potomac horse fever, and a contagious equine metritis quarantine station.

**Rabies Control.** The laboratory coordinates large-scale rabies control programs for wildlife within the New England states and northeastern Canadian provinces, in an attempt to impede the northward progression of the virus into unaffected areas.

**Poultry and Egg Health.** The avian disease control program, a part of the

unit of avian medicine in the College's department of microbiology and immunology, works with poultry producers in the state to minimize the risk of *Salmonella enteritidis* in eggs.

**Tests for Farm and Ranch Herds.**

Through a cooperative effort with the state Department of Agriculture and Markets, the diagnostic laboratory offers 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 also are available to aid in the eradication of ovine progressive pneumonia in sheep and caprine arthritis encephalitis in goats.

## Outreach Programs

The college provides educational and service outreach to veterinary professionals and the general public through a variety of continuing education programs, on-line and call-in diagnostic support resources, exhibits and presentations, publications, and other resources.

**Continuing Education.** Throughout the year, the college's office of continuing education coordinates conferences, seminars, workshops, and classes for veterinary professionals on a wide range of clinical, research, and academic topics. An annual conference for veterinarians is featured at the college each spring. Course offerings can be found via the college's website.

**Cornell Companions.** Volunteers in the college's Cornell Companions program bring well-trained dogs to facilities for developmentally disabled children, for hands-on, hugs-all-around visits. Cornell Companions help with classroom activities as informal as "pet-the-pet" sessions and as individualized

as pet-assisted speech therapy and physical therapy. The program, organized by veterinary students and a faculty coordinator, receives support from the college and from the college's Alumni Grants Fund.

**Diagnostic Support Services.** An on-line diagnostic support database on the college's website, called Consultant, can be used to suggest possible causes for clinical signs and symptoms and to find a list of recent literature references. Consultant can be accessed at <http://www.vet.cornell.edu/consultant/consult.asp>.

The Feline Health Center's 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 and provide resource information about cats; call 1-800-KITTY-DR on Mondays, Wednesdays, and Fridays from 9am to noon and 2 to 4pm, ET. The center's web site at <http://www.vet.cornell.edu/Public/FHC/FelineHealth.html> also has information about some of the more common ailments afflicting cats.

The college's Diagnostic Laboratory fields answers to technical queries from veterinary and biomedical professionals placed by phone and via its webpage, accessible from the college's website.

**Healthy Pet Clinics.** The Veterinary Medical Teaching Hospital's Community Practice Service offers monthly Healthy Pet clinics at a local community center. At the clinics, fourth-year veterinary students provide basic health care for dogs and cats owned by clients without the financial resources to pay for such services.

**Pet Loss Support Hotline.** Veterinary students in the college coordinate a Pet Loss Support Hotline, at (607) 253-3932, to offer grief counseling for animal owners. Information about the program is available on the college's web site at <http://www.vet.cornell.edu/public/petloss/> The Cornell hotline is

supported in part by the pet food maker, the IAMS Co.; additional support comes from alumni of the college. The hotline is staffed three evenings a week, Tuesday through Thursday, from 6 to 9 pm. ET. Callers at other times may leave a message and receive a return call from a volunteer counselor.

**Publications.** Two subscription newsletters published by the college, *DogWatch* and *CatWatch*, provide information about the health and well-being of companion animals. The college's quarterly newsletter, *Cornell Veterinary Medicine*, presents current information about the college's education, research, and service activities; brochures are available about the college in general, admissions, and the academic program. The James A. Baker Institute for Animal Health publishes an annual report about its research activities; the Feline Health Center publishes an annual report about its activities and an *Information Bulletin* that provides scientific data on a major feline health concern; the Diagnostic Laboratory publishes a quarterly technical *Bulletin* for veterinarians. Numerous information pamphlets on specific topics are available from the James A. Baker Institute for Animal Health, the Feline Health Center, and the Diagnostic Laboratory.

**World Wide Web.** The college website at <http://www.vet.cornell.edu/> provides general information about Cornell's College of Veterinary Medicine and links to webpages of specific departments and programs of the college, which offer a broad range of veterinary medical informational resources and services.

# Faculty and Administration

## University Administration

Hunter R. Rawlings III, *president*  
Don M. Randel, *provost*  
Dr. Antonio M. Gotto, Jr., *provost for medical affairs and Stephen and Suzanne Weiss Dean of the Weill Medical College*  
Frederick A. Rogers, Jr., *senior vice president and chief financial officer*  
Carolyn N. Ainslie, *vice president for budget and planning*  
Walter I. Cohen, *vice provost and dean of the Graduate School*  
J. Robert Cooke, *dean of university faculty*  
Harold D. Craft, Jr., *vice president for facilities and campus services*  
Henrik N. Dullea, *vice president for university relations*  
Cutberto Garza, *vice provost*  
James J. Mingle, *university counsel and secretary of the corporation*  
Susan H. Murphy, *vice president for student and academic services*  
Mary G. Opperman, *vice president for human resources*  
Inge T. Reichenbach, *vice president for alumni affairs and development*  
Yoke San L. Reynolds, *vice president for financial affairs and university controller*  
Robert C. Richardson, *vice provost for research*  
Mary J. Sansalone, *vice provost*  
Winnie F. Taylor, *associate provost*

## College Administration

Donald F. Smith, *dean*  
Katherine M. Edmondson, *assistant dean for learning and instruction*  
Robert O. Gilbert, *associate dean for clinical programs and professional service*  
Douglas D. McGregor, *associate dean for research and graduate education*  
Larry J. Thompson, *assistant dean, director of biosafety*  
Bonita S. Voiland, *assistant dean for hospital operations and public affairs*  
Gene Wheeler, *assistant dean for finance and administration*

## Chairs of Academic Departments

Roger J. Avery, *chair, department of microbiology and immunology*  
Barry J. Cooper, *chair, section of pathology, department of biomedical sciences*  
Edward Dubovi, *associate chair for laboratory operation, department of population medicine and diagnostic sciences*  
Cornelia E. Farnum, *chair, section of anatomy, department of biomedical sciences*  
Yrjo Grohn, *associate chair for academic programs, department of population medicine and diagnostic sciences*  
Donald H. Lein, *chair, department of population medicine and diagnostic sciences*  
Gregory Weiland, *acting chair, department of molecular medicine*  
Robert O. Gilbert, *acting chair, department of clinical sciences*  
John Wootton, *chair, section of physiology, department of biomedical sciences*

## Directors of Facilities and Programs

Douglas F. Antczak, *director, James A. Baker Institute for Animal Health*  
Susan Barnes, *acting librarian, Flower-Sprecher Veterinary Library*  
Linda L. Carr, *director of financial operations, department of clinical programs and professional service*  
Carol Collyer, *director, Equine Research Park*  
Gloria R. Crissey, *registrar, director of student records, schedules, and financial planning*  
Robert O. Gilbert, *director, Cornell Bovine Research Center*  
Margaret A. Hendricks, *director of development*  
Katherine A. Houpt, *director, Animal Behavior Clinic*  
Mary Beth Jordan, *director of human resources*  
Donald H. Lein, *director, Diagnostic Laboratory*  
John M. Lewkowicz, *director of computing services*  
George A. Maylin, *director, Equine Drug Testing*  
Carol S. Peterson, *director of financial aid/ registrar*  
Joseph M. Piekunka, *director of admissions*  
Thomas J. Reimers, *director of research and development services*

Fred W. Quimby, *director, Center for Research Animal Resources*

John E. Saidla, *director of continuing education*

James R. Richards, *director, Feline Health Center*

Larry J. Thompson, *director of biosafety vacancy, director of educational development vacancy, director of student support services*

## College Advisory Council

Elizabeth Armstrong, PhD

Douglas G. Aspros, DVM

Catherine L. Cruz, DVM

Kenneth R. Gantt, DVM

Paul Gould

Richard C. Grambow

Ann C. Harris, DVM

Douglas B. Koch, DVM

Pepi Leids, DVM

Elizabeth (Von Keyserling) Lynch, DVM

Thomas D. MacLeod, MBA

Robert R. Marshak, DVM

Roger L. Saltman, DVM

David Shepherd

Mary Sloane

Gus W. Thornton, DVM

Malte von Matthiessen

Patricia Wehle

Walther Wenninger

William Wilmot, DVM

Harold M. Zweighaft, DVM

## Faculty

### Department of Biomedical Sciences

#### Section of Anatomy

##### Professors

de Lahunta, Alexander, DVM, PhD, Dipl ACVIM, James Law Professor of Veterinary Anatomy

Farnum, Cornelia E., DVM, PhD, chair

Noden, Drew M., PhD, anatomy

##### Associate Professors

Hermanson, John W., MS, PhD, anatomy

Suarez, Susan S., MS, PhD, anatomy

##### Senior Lecturer

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

##### Lecturer

Hackett, M. Susan, DVM, anatomy

## Instructors

Bezuidenhout, Braam, BVSc, DVSc, DTE

Haussler, Kevin K., DVM, DC, PhD

Lee, Justine, DVM

## Emeritus Faculty

Evans, Howard E., PhD, veterinary and comparative anatomy

Habel, Robert E., DVM, MSc, MVD, anatomy

Sack, Wolfgang O., DVM, PhD, DrMedVet, anatomy

## Section of Pathology

### Professors

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

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

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

Minor, Ronald R., VMD, PhD, pathology

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

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

### Assistant Professors

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

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

McDonough, Sean, DVM, PhD, Dipl ACVP

### Research Associates

Tokman, Michael, PhD

Wootton, Joyce, PhD

## Emeritus Faculty

Krook, Lennart P., DVM, PhD, pathology

McEntee, Kenneth, DVM, Dipl ACVP, pathology

## Adjunct Faculty

Field, William, MD, comparative pathology

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

Miller, William, VMD, Dipl ACVD, dermatopathology

Nosanchuk, Jerome S., MD, clinical pathology

Percy, Jean, DVM

Scott, Danny, DVM, Dipl ACVD,  
dermatopathology  
Shalloway, David, MS, PhD, biochemistry,  
molecular, and cell biology

## **Section of Physiology**

### **Professors**

Beyenbach, Klaus W., PhD, physiology,  
College of Agriculture and Life Sciences  
Fortune, Joanne E., MS, PhD, physiology  
Haupt, Katherine A., VMD, PhD, physiology  
Haupt, 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  
Wootton, John F., MS, PhD, biochemistry,  
chair

### **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

### **Postdoctoral Associate**

Wang, Lijuan, MS, PhD

### **Senior Research Associates**

Concannon, Patrick W., MS, PhD, physiology  
McDonald, Thomas, MS, PhD, physiology

### **Research Associates**

Berghorn, Kathie, PhD  
Ding, Xiu-Ying, MD  
Li, Cun, MD  
Tabb, Joel, PhD  
Wu, Wen Xuan, MD, PhD

### **Emeritus Faculty**

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  
Tapper, Daniel N., VMD, PhD, physiology  
Wasserman, Robert H., MS, PhD,  
James Law Professor

## **Department of Clinical Sciences**

### **Professors**

Center, Sharon A., DVM, Dipl ACVIM,  
medicine  
Divers, Thomas J., DVM, Dipl ACVIM,  
medicine  
Ducharme, Normand G., DMV, MSc, Dipl  
ACVS, surgery  
Fubini, Susan L., DVM, Dipl ACVS, surgery  
Hackett, Richard P., DVM, MS, Dipl ACVS,  
surgery  
Hornbuckle, William E., DVM, Dipl ACVIM,  
medicine  
Kallfelz, Francis A., DVM, PhD, Dipl ACVN,  
James Law Professor of Medicine  
Kollias, George V., DVM, PhD, Dipl ACZM,  
Jay Hyman Professor of Wildlife Medicine  
Miller, William H., Jr., VMD, Dipl ACVD,  
dermatology  
Moise, N. Sydney, DVM, MS, Dipl ACVIM,  
cardiology  
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,  
dean of the college  
Tennant, Bud C., DVM, Dipl ACVIM, James  
Law Professor of Comparative Medicine

### **Associate Professors**

Ainsworth, Dorothy M., DVM, MS, PhD, Dipl  
ACVIM, medicine  
Barr, Stephen C., BVSc, MVS, PhD, Dipl  
ACVIM, MACVSc, medicine  
Daels, Peter F., DVM, PhD, theriogenology  
Flanders, James A., DVM, Dipl ACVS, surgery  
Gilbert, Robert O., BVSc, MMedVet, Dipl ACT,  
theriogenology; associate dean for clinical  
programs and professional service; acting  
chair  
Gleed, Robin D., BVSc, MRCVS, Dipl ACVA,  
anesthesiology  
Harvey, H. Jay, DVM, Dipl ACVS, surgery  
Kern, Thomas J., DVM, Dipl ACVO,  
ophthalmology  
Ludders, John W., DVM, Dipl ACVA,  
anesthesiology  
Nixon, Alan J., BVSc, MS, Dipl ACVS, surgery  
Randolph, John F., DVM, Dipl ACVIM,  
medicine

Riis, Ronald C., DVM, MS, Dipl ACVO, ophthalmology  
Trotter, Eric J., DVM, MS, Dipl ACVS, surgery

#### **Assistant Professors**

Moon, Paula F., DVM, Dipl ACVA, anesthesiology  
Reynolds, Arleigh J., DVM, PhD, nutrition  
Simpson, Kenneth W., BVM&S, PhD, MRCVS, Dipl ACVIM, Dipl ECVIM, medicine  
Todhunter, Rory J., BVSc, MS, PhD, Dipl ACVS, surgery

#### **Lecturers**

Cooley, Anjilla J., DVM, MS, surgery  
Dykes, Nathan L., DVM, Dipl ACVR, radiology  
Irby, Nita, DVM, Dipl ACVO, ophthalmology  
Schweizer, Christine M., DVM, Dipl ACT, theriogenology  
Scrivani, Peter V., DVM, radiology  
Toll, Jeffrey, VMD, medicine

#### **Instructors**

Ball, Michael, DVM, medicine  
Goodrich, Laurie R., DVM, MS, surgery  
McNamara, Paul, DVM, surgery

#### **Emeritus Faculty**

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 Associates**

Abou-Madi, Noha, DVM, MSc, wildlife medicine  
Cable, Christina S., DVM, surgery  
Foerster, Sonia Hernandez, DVM, wildlife medicine

### **James A. Baker Institute for Animal Health**

*(Academic department affiliation 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, and director, Baker Institute *(microbiology and immunology)*  
Bell, Robin G., PhD, immunology *(microbiology and immunology)*  
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 *(biomedical sciences)*  
Parrish, Colin R., PhD, virology *(microbiology and immunology)*

#### **Assistant Professors**

MacLeod, James N., VMD, PhD, molecular genetics *(biomedical sciences)*  
Ray, Jharna, MS, PhD, biochemistry *(biomedical sciences)*

#### **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**

Appel, Max J., DVM, PhD, virology  
Carmichael, Leland E., DVM, PhD, Dipl ACVM, John M. Olin Professor of Virology  
Sheffy, Ben E., MS, PhD, nutrition, Alfred H. Caspary Professor of Nutrition

### **Department of Microbiology and Immunology**

#### **Professors**

Avery, Roger J., PhD, virology, chair  
Bloom, Stephen E., MS, PhD, toxicology and immunology  
Bowser, Paul R., MS, PhD, aquatic animal medicine  
Dietert, Rodney R., PhD, immunology and genetics  
Marsh, James A., MS, PhD, immunology  
McGregor, Douglas D., MD, D Phil, immunology, and associate dean for research and graduate education  
Naqi, Syed A., BVSc, MS, PhD, Dipl ACVM, avian medicine  
Schat, Karel A., DVM, PhD, avian medicine

## **Associate Professors**

Bowman, Dwight D., MS, PhD, parasitology  
Casey, James W., PhD, virology  
Pearce, Edward J., PhD, parasitology and immunology

## **Assistant Professors**

Baines, Joel D., VMD, PhD, virology  
Clark, Theodore G., PhD, parasitology and immunology  
Denkers, Eric, PhD, immunology  
Tullson, Elaine D., PhD, microbiology  
Whittaker, Gary R., PhD, virology

## **Senior Extension Associate**

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

## **Senior Lecturers**

Davies, Christopher, PhD, immunology  
Winter, Lola E., MS, microbiology

## **Senior Research Associates**

Muscarella, Donna, PhD, molecular and cell biology  
Sandhu, Tirath S., BVSc, MS, PhD, avian medicine  
Shawky, Samia, DVM, PhD, avian medicine

## **Emeritus Faculty**

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  
Noronha, Fernando M., DVM, virology  
Poppensiek, George C., VMD, MS, Dipl ACVM, Dipl ACVPM, James Law Professor of Comparative Medicine, former dean  
Scott, Fredric W., DVM, PhD, Dipl ACVM, virology  
Winter, Alexander J., DVM, MS, PhD, Dipl ACVM, James Law Professor of Veterinary Microbiology

## **Adjunct and Courtesy Faculty**

Blissard, Gary W., MS, PhD, virology  
Rumsey, Gary L., MS, PhD, avian and aquatic medicine  
Schachte, John, MS, PhD, aquatic animal medicine

## **Department of Molecular Medicine**

### **Professors**

Cerione, Richard A., PhD, pharmacology  
Oswald, Robert E., PhD, pharmacology  
Pauli, Bendicht U., DVM, PhD, cancer cell biology  
Schwark, Wayne S., DVM, MSc, PhD, pharmacology  
Sharp, Geoffrey W.G., PhD, DSc, pharmacology, chair

### **Associate Professors**

Fewtrell, Clare M. S., D Phil, pharmacology  
Guan, Jun-Lin, PhD, molecular cell biology  
Levine, Roy, MA, PhD, cancer cell biology  
Nowak, Linda M., PhD, pharmacology  
Weiland, Gregory A., PhD, pharmacology

### **Assistant Professors**

Brown, H. Alex, PhD, pharmacology  
Winand, Nena J., MS, DVM, PhD, meiosis, recombination

### **Research Associates**

Abdel-Ghany, Mossaad, MSc, PhD  
Bagrodia, Shubha O., PhD  
Elble, Randolph C., PhD  
Erickson, Jon W., PhD  
Li, Qiubo, PhD  
Mahmoud, Sahar, PhD  
Nassar, Nicolas, PhD  
Sen Singh, Ugra, PhD  
Straub, Susanne G., PhD  
Yang, Wannian  
Wu, Wen Jin, MD

### **Postdoctoral Associates**

Francis, Michael, PhD  
Gizachew, Dawit, PhD  
Han, Dong Cho, PhD  
Hong-Geller, Elizabeth, PhD  
Osman, Mahasin, PhD  
Ramachandran, Sekar, PhD  
Wo, Galen, PhD  
Zhao, JiHi, PhD  
Zhou, Hong Ming, PhD

### **Postdoctoral Fellows**

Christopher, Renee, PhD  
Daniel, Samira, PhD  
Zhang, Shiyang, PhD

### **Visiting Professors**

Loh, Adrienne, PhD

### **Instructor**

Jane Shaw, DVM

## **Department of Population Medicine and Diagnostic Sciences**

### **Professors**

Erb, Hollis N., DVM, MS, PhD, epidemiology  
Grohn, Yrjo T., BVSc, DVM, MPVM, MS, PhD, epidemiology; associate chair of academic programs  
Henion, John D., MS, PhD, analytical toxicology  
Reimers, Thomas J., MS, PhD, endocrinology  
White, Maurice E., DVM, ambulatory medicine

### **Associate Professors**

Chang, Yung-Fu, DVM, MS, PhD, Dipl ACVM, microbiology  
Dubovi, Edward J., MS, PhD, microbiology; associate chair of laboratory operations  
Guard, Charles, PhD, DVM, ambulatory medicine  
Jacobson, Richard H., MS, PhD, immunoparasitology  
Lein, Donald H., DVM, PhD, Dipl ACVP, theriogenology chair, and director, Diagnostic Laboratory  
Maylin, George A., DVM, MS, PhD, toxicology and environmental health  
Mohammed, Hussni O., BVSc, DPVM, MPVM, PhD, epidemiology  
Scarlett, Janet M., DVM, MPH, PhD, epidemiology  
Shin, Sang J., DVM, Dipl ACVM, microbiology  
Smith, Mary C., DVM, Dipl ACT, ambulatory medicine

### **Assistant Professors**

McDonough, Patrick L., MS, PhD, microbiology  
Thompson, Larry J., DVM, PhD, Diagnostic Laboratory, director of biosafety  
Warnick, Lorin D., DVM, PhD, Dipl ACVPM, ambulatory medicine

### **Senior Research Associates**

Catalfamo, James, MS, PhD, comparative coagulation  
Dewey, Elizabeth A., DVM, equine drug testing and research  
Gonzalez, Ruben N., DVM, MPVM, PhD, microbiology, QMPS  
Hallman, Eric M., BS, MS, ME, extension  
Wade, Susan E., MA, PhD, parasitology

### **Research Associates**

Bigler, Laura L., MS, PhD, extension  
Kim, Sung G., MS, PhD, Diagnostic Laboratory

Schanbacher, Barbara, DVM, endocrinology  
Wachs, Timothy, MS, PhD, analytical toxicology

### **Research Support Specialists**

Harpending, Peter R., MS, bacteriology  
Krumina, Irena, DVM, immunoparasitology  
Ziegler, Peter E., BA, parasitology  
Zylich, Nancy, BS, Diagnostic Laboratory  
Senior Extension Associates  
Bennett, Gary J., DVM, Diagnostic Laboratory, QMPS, Potsdam  
Brooks, Marjory, DVM, comparative coagulation  
Brunner, Michael A., PhD, DVM, Diagnostic Laboratory  
Richards, James R., DVM, Cornell Feline Health Center  
Rossiter, Christine, MS, VMD, Diagnostic Laboratory  
Schulte, Hal F., III, MS, DVM, QMPS, Geneseo  
Stehman, Susan M., MS, VMD, Diagnostic Laboratory  
Wilson, David J., DVM, MS, Diagnostic Laboratory, QMPS, Ithaca

### **Field Veterinarian**

Julius, Frederic S., DVM, QMPS, Cobleskill

### **Senior Lecturer**

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

### **Instructors**

Battison, Andrea, DVM, MVSc, clinical pathology  
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  
Tarrant, Jacqui, BVSc, MVS, clinical pathology

### **Joint Appointments**

Blue, Julia T., DVM, PhD, clinical pathology  
French, Tracy W., DVM, DACVP, clinical pathology  
Stokol, Tracy, BVSc, PhD, DACVP, clinical pathology

### **Adjunct Faculty**

House, James A., DVM, MS, PhD  
Torres, Alfonso, DVM, MS, PhD

# Academic Calendar for 1998–1999

Fall Semester	Class of 2002	Class of 2001	Class of 2000	Class of 1999
Orientation/ registration	August 17–19, 1998	August 25–26, 1998	August 25–26, 1998	Clinical Rotations: September 8, 1998 to January 3, 1999
Instruction begins	August 20	August 17	August 17	
Fall recess	October 12–13	September 24–25	October 12–13	
Thanksgiving recess	November 26–27	November 26–27	November 26–27	
Last day of classes	December 18	December 18	December 18	
Examination periods	during term	December 15–17	during term	
Spring Semester	Class of 2002	Class of 2001	Class of 2000	Class of 1999
Registration	January 15, 1999	January 15, 1999	January 15, 1999	Distribution Courses: January 18 to May 14, 1999
Instruction begins	January 4	January 18	January 18	Clinical Rotations: January 18 to May 23
Spring recess	March 15–19	March 15–19	variable	
Last day of classes	May 14	May 21	May 21	
Examination periods	May 17–21	during term	during term	
Commencement				May 30

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.

**Office of Admissions  
College of Veterinary Medicine  
Cornell University  
Ithaca, New York 14853-6401**