

Pre-Veterinary Medicine Guide 2020-2021

Veterinarians play a major role in the health care of pets and livestock, as well as zoo, sporting, and laboratory animals. Some veterinarians use their skills to protect humans against diseases carried by animals and conduct clinical research on human and animal health problems. Others work in basic research, broadening the scope of fundamental theoretical knowledge and in applied research.

Since veterinary medicine specializes in comparative medicine (the inter-relationship of human and animal medicine), the profession is expected to develop in diverse ways as population, society, and environment evolve both locally and globally. Prospective veterinarians must earn a Doctor of Veterinary Medicine (D.V.M. or V.M.D.) degree from a four-year program at an accredited college of veterinary medicine and must obtain a license to practice. There are 32 veterinary medical colleges in the United States, five Canadian colleges of veterinary medicine, 8 U.S. departments of veterinary science, seven U.S. departments of comparative medicine, 16 international veterinary schools, and four affiliate international veterinary schools. Most students admitted to professional veterinary programs and schools have completed a bachelor's degree.

As pre-veterinary advisors, we strive to guide you to the best of our abilities, but it is important to know that veterinary programs are not standardized. From the beginning, you are encouraged to research possible programs of interest to identify discrepancies in pre-requisite and other requirements among schools of veterinary medicine. It is important for you to be proactive in cross-referencing required prerequisite coursework. Your advisor is happy to discuss specific program requirements as they relate to University of Iowa coursework.

Sample Pre-Veterinary Medicine Four-Year Academic Plans

Plan A: Starting with General Chemistry

Year 1:

CHEM:1070 General Chemistry I
MATH based on UI placement

CHEM:1110 Principles of Chemistry I
MATH related to major*

Year 2:

CHEM:1120 Principles of Chemistry II
BIOL:1411 Foundations of Biology

CHEM:2210 Organic Chemistry I
BIOL:1412 Diversity of Form & Function

Year 3:

CHEM:2220 Organic Chemistry II**
CHEM:2410 Organic Chemistry Lab
PHYS:1511 College Physics I

BIOC:3110 Biochemistry
BIOL:2512 Fundamental Genetics
PHYS:1512 College Physics II**

Year 4:

Courses to complete major

BIOL:3343 Animal Physiology or other approved
mammalian anatomy/physiology course***
Courses to complete major

Plan B: Starting with Principles of Chemistry I

Year 1:

CHEM:1110 Principles of Chemistry I
MATH related to major*

CHEM:1120 Principles of Chemistry II
BIOL:1411 Foundations of Biology

Year 2:

CHEM:2210 Organic Chemistry I
BIOL:1412 Diversity of Form & Function

CHEM:2220 Organic Chemistry II**
BIOL:2512 Fundamental Genetics

Year 3:

CHEM:2410 Organic Chemistry Lab
PHYS:1511 College Physics I

BIOC:3110 Biochemistry
PHYS:1512 College Physics II**

Year 4:

Courses to complete major

BIOL:3343 Animal Physiology or other approved
mammalian anatomy/physiology course***
Courses to complete major

* Calculus is not required for all veterinary medicine programs but is required for most science majors. The major will determine which math class is taken.

**Organic Chemistry II and Physics II are not required by all veterinary medicine programs (e.g., Iowa State University) but are required as part of most science majors. Note CHEM:2220 is prerequisite to CHEM:2410 and therefore is required.

***Students may choose BIOL:3343 Animal Physiology, HHP:1100 Human Anatomy, HHP:1300 Fundamentals of Human Physiology, or HHP:3500 Human Physiology to satisfy this requirement at ISU.

Academic Guidelines

The number of seats in veterinary schools has increased over the past ten years. At ISU, the admission rate is around 50% for in-state students and 30% for out-of-state students. While competitive, ISU Admissions encourages students to apply and want to help students see it is possible. Each Veterinary school provides admission information on their Association of American Veterinary Medical Colleges descriptor page (http://aavmc.org/College-Specific-Requirements/College-Specific-Requirements_College-Specifications.aspx). Students are encouraged to research programs.

Non-Academic Guidelines

Most veterinary medical colleges consider a candidate's veterinary and animal experience. Formal experience, such as work with veterinarians or scientists in clinics, agribusiness, research, or some area of health science, is particularly advantageous. Less formal experience such as working with animals on a farm, ranch, stable or animal shelter is also helpful. Students must demonstrate ambition and an eagerness to work with animals and possess strong interpersonal communication skills. Experiences such as shadowing/volunteering/working at a veterinary clinic or with an ambulatory veterinarian, volunteering at an animal shelter, participating in 4-H or FFA, working on a farm with production animals or horses, assisting with research either within or outside of the medical field. Students should note that Iowa State does not include pet ownership as relevant animal experience.

Diversity in Veterinary Medicine

Factors that contribute to diversity and that are considered in admissions committee evaluations include, but are not limited to, life experiences, work experiences, professional goals, geographical background (rural, urban, or suburban), cultural background and disadvantaged status. Weight will be given to qualified applicants who possess characteristics that are underrepresented in the profession and who would contribute to the overall diversity of the class.

The Application Process

All applicants must apply through the Veterinary Medical College Application Service (www.vmcas.org). The site also has a FAQ and detailed instructions on filling out the online application. Students can learn about the application process by reading carefully through the section “**Applying to Veterinary School (VMCAS)**” found at www.aavmc.org. Another helpful website to assist applicants can be found here: www.applytovetschool.org. Most of the participating VMCAS colleges also require a supplemental application. Each school has its own policy on the handling of supplemental materials; applicants should carefully read through the individual school’s web page for specific information, linked through www.aavmc.org.

The 2020 VMCAS opened in January in 2020 for general information and May 12 for college/program information. Applications are due this year on September 15. Each year decisions are made in mid-February. Students are advised to apply early in the application cycle (spring or summer of the year you apply.) The acceptance deadline for initial admits is April 15. For ISU, students should fill out the VMCAS application as well as the ISU supplemental application. Students should pay close attention to the dates and deadlines. Please review the ISU website: <https://vetmed.iastate.edu/future-dvm-students/apply>. A link to a recording of ISU’s application webinar is located at this link with information on ISU’s application process.

Entrance Examination Requirement

Most schools require the Graduate Record Examination (GRE), although some will accept the Medical College Admissions Test (MCAT) in lieu of the GRE. Some schools have added a situational judgement test called CASPer <https://takecasper.com/>. ISU is currently considering using CASPer in the future. Students should check the college descriptor pages (http://aaavmc.org/College-Specific-Requirements/College-Specific-Requirements_College-Specifications.aspx) to determine what each school requires. **GRE not required at ISU.**

Letters of Evaluation/Recommendation

VMCAS strongly encourages applicants to use the Electronic Letters of Recommendation system, or eLOR. Letter writers should know candidates well enough to speak to personal characteristics and attributes. It is virtually required by many schools, including ISU, that at least one letter writer be a veterinarian. Candidates should seek out potential letter writers as early as possible and ask them to address the candidate’s commitment, maturity, work ethic, leadership, and communication skills as specifically as possible.

Interviews

Most schools require on-campus interviews. Candidates can prepare for these through support programs available through the UI Career Center in C310 Pomerantz Center. ISU no longer requires a personal interview as part of their admissions process. Instead, applicants may attend a Preview Day at ISU.

Criminal Background Checks

Applicants should be prepared to disclose and explain any felony or misdemeanor convictions. They may be required to provide signed consent for conducting an External Criminal Background Investigation. Applicants should also be aware that some clinical education sites will require drug screening for students performing clinical rotations.

Citizenship/International Students

Students who are not citizens of the U.S. can apply to most veterinary schools, but schools are highly residential. International students need to be competitive with the strongest applicants and be able to document the ability to fund four years of veterinary medical education (nearly \$255,000).

Iowa State University College of Veterinary Medicine Admission Profile, Entering Fall 2019:

Class size: 157 (New Admits) 47% Iowa residents (61 Students) 82.2% (129 Female);
17.8% (28 Male) Mean Age: 24.2 years; Age Range: 20-46 years

Science GPA:

Entire Class Mean: 3.54
23

IA Resident Mean: 3.56
129

NE Resident Mean: 3.62
NRNC Mean: 3.50

Last 45 GPA:

Entire Class Mean: 3.69

IA Resident Mean: 3.72

NE Resident Mean: 3.71
NRNC Mean: 3.66

Degrees:

No Degree:

Bachelor's:

Master's: 5
PhD: 0

Websites

Association of American Veterinary Medical Colleges: www.aavmc.org

American Veterinary Medical Association: www.avma.org

Veterinary Medical College Application Service: www.vmcas.org

General Information for Vet Schools Nationwide: www.vetschoolbound.org

Information on Scholarships: www.avmf.org

Support for Applications: www.applytovetschool.org

Pre-Veterinary Medicine Coursework Checklist*

___ CHEM:1110 Principles of Chemistry I

___ BIOL:1411 Foundations of Biology

___ CHEM:1120 Principles of Chemistry II

___ BIOL:1412 Diversity of Form/Function

___ CHEM:2210 Organic Chemistry I

___ BIOL:2512 Fundamental Genetics

___ CHEM:2220 Organic Chemistry II**

___ BIOL:3343 Animal Physiology or

___ CHEM:2410 Org Chemistry Lab

other mammalian anatomy course***

___ BIOC:3110 Biochemistry

One year of physics****

___ PHYS:1511 College Phys I

___ PHYS:1611 Intro Phys I

___ PHYS:1701 Phys I

___ PHYS:1512 College Phys II

___ PHYS:1612 Intro Phys II

___ PHYS:1702 Phys II

* Students should consult specific veterinary medicine programs directly for various admission requirements.

** Organic Chemistry II is not required by all veterinary medicine programs (e.g., Iowa State University) but will be required by most science majors. Note CHEM:2220 is prerequisite to CHEM:2410 and therefore is required for the Organic Chemistry Lab course at UI.

***See note above for acceptable anatomy and physiology courses.

**** Physics II is not required by all veterinary medicine programs (for example, Iowa State University) but is required as part of most science majors. Most students enroll in the PHYS:1511-1512 sequence. The calculus-based sequences PHYS:1611-1612 or PHYS:1701-1702 (physics majors only) are also possible. See your advisor for help in choosing the appropriate sequence for your major.