Guidelines and Resources for TU Pre-Veterinary Students

8-3-2021

These guidelines are intended to be a very general overview of the preparation necessary for veterinary school. Each vet school has slightly different admission requirements and to summarize this information and keep it current would be a monumental task. Fortunately for us, this is done on the American Association of Veterinary Medical Colleges (AAVMC) website: http://www.aavmc.org/ This web site also provides an overview of the profession, advice for pre-vet students, admission requirements for veterinary school, a link to the Veterinary Medical College Application Service (VMCAS), and many additional resources.

GENERAL INFORMATION

Veterinary medicine is a profession with many possible careers. We typically think of a veterinarian in a clinical setting taking care of companion animals. This is one possible career for a veterinarian. However, veterinarians work in industry, public health, biomedical research, the military, and a number of other places. Here is a nice video summarizing the profession: http://www.youtube.com/watch?v=YkmyphUeEAQ

REQUIREMENTS AND RECOMMENDATIONS

In addition to the prerequisite coursework required for vet school, you will need experience working with animals. This may be obtained by shadowing a veterinarian in a clinical setting, volunteering at a zoo or an animal shelter, or working in an animal facility for research animals. You will want to document your experience, including the number of hours invested, what you learned how to do, and how the experience changed your perspective. **You will need 800-1600 hours of experience before you apply to vet school.** The more experience you have, the stronger your application, so start now. Prof. Partain does not maintain a list of places to go to get experience. YOU will need to contact clinics, zoos, shelters, etc. and ask if they are accepting volunteers.

Many veterinary schools require applicants to take the **Graduate Record Examinations (GRE) General Test.** A few schools will accept the **Medical College Admission Test**® (**MCAT**®) but the GRE is recommended. If you are not admitted by the time you graduate from college, you may need to attend graduate school to broaden your education prior to vet school. As the GRE is required by many graduate programs, you will have this out of the way. More information on the GRE can be found at: https://www.ets.org/gre/revised_general/about.

A sample “plan of study” for pre-vet students appears below. Pay particular attention to the courses listed in this plan. This list of courses meets the science requirements for most vet schools and the Functional Biology of Animals concentration in the Biology major. You want to take a set of courses that meet the prerequisites for a large number of vet schools as this will allow you to apply to those schools. A broad and useful set of courses appears in the plan below.

TU’S PRE-VETERINARY MEDICINE PROGRAM

Any student can consider themselves to be “pre-vet.” However, to be a recognized member of TU’s Pre-Vet Program, a student must maintain a GPA of ≥ 3.0.

Two considerations apply to members of TU’s Pre-Vet Program:

- They will be assigned to an advisor who specializes in advising pre-vet students
- They will be allowed to take BIOL 207-General Zoology and not BIOL 205-General Botany to fulfill the Breadth requirement for the Biology degree

If a student is a member of the Pre-Vet Program and their GPA falls below 3.0 at the end of a given semester, they will have one probationary semester to bring their GPA back up to ≥ 3.0. If they fail to do so, they can still consider themselves “pre-vet”, but they will no longer be a member of the Pre-Vet Program. Conversely, students who are not in the program who achieve a GPA ≥ 3.0 two semesters in a row can ask the Pre-Vet Advisor to be added to the program.

Students who are not in the program, including those who have fallen out of the program, are welcome to continue in the Pre-Vet Club and participate in any information sessions and other pre-vet related activities at TU. However, such students may be assigned to a different faculty member for advising. They will also be required to take BIOL 208 - Biodiversity or BIOL 205 - General Botany in addition to taking BIOL 207 - General Zoology prior to graduation (although students can also take only BIOL 208, if desired).

COURSE RECOMMENDATIONS FOR PRE-VET STUDENTS

Pre-vet students should choose the *Functional Biology of Animals* concentration and do the following:

- Take BIOL 325 (instead of BIOL 221+222)
- Take BIOL 318 as one elective course
- Take BIOL 408 rather than BIOL 405 or BIOL 409

The following courses are not necessarily required for the Biology degree but are required by most veterinary schools:

- MATH 237 or PSYC 212: Statistics
- MATH 211 or MATH 273: Calculus
- CHEM 351: Biochemistry (this can be your "free elective course" for your concentration requirements)

For Core 9, an ENGL course is strongly recommended. Options include:

- ENGL 310: Writing Argument
- ENGL 313: The Academic Essay
- ENGL 316: Writing About Literature
- ENGL 317: Writing for Biz/Industry
- ENGL 318: Adv Informational Writing

SAMPLE PRE-VET PLAN OF STUDY

Note that what follows is one of many possible plans. It is designed for students who start at TU as freshmen and who enter vet school in the fall after graduation. Everybody's situation is different, however. Pre-veterinary students should work with the Pre-Vet Advisor, Prof. Partain, to develop a plan that fits their situation.

YEAR 1

Complete the following during the fall and spring semesters:

BIOL 200/200L (or BIOL 201) - Biology I: Cellular Biology & Genetics (4)

BIOL 206/206L (or BIOL 202) - Biology II: Introduction to Ecology and Evolution (4)

*MATH 115 – Basic Math for the Sciences OR MATH 119 – Pre-Calculus *if either of these are needed*

MATH 211 - Calculus for Applications (3) OR MATH 273 – Calculus I

MATH 237 - Elementary Biostatistics (3)

* Some students may be able to start with a calculus course. Other students will want to take MATH 115 then MATH 211, or MATH 115 then MATH 117 then MATH 273, or MATH 119 then MATH 273.

Also: Starting in the fall, students should start looking for opportunities to gain experience working with animals. By minimester or spring, start to accumulate contact hours in an animal setting and continue to gain experience with animals from this point forward. It's also important to build a relationship with a veterinarian who can write a letter of support for your application.

SUMMER BETWEEN YEARS 1 AND 2

Consider taking the online course, BIOL 204 - Educational and Career Planning for the Biologist (1). This can also be taken in the fall of Year 2.

YEAR 2

Fall		Spring	
CHEM 131/131L	General Chemistry I (4)	CHEM 132/132L	General Chemistry II (4)
PHYS 211	General Physics I (4)	PHYS 212	General Physics II (4)
BIOL 207	General Zoology (4)	BIOL 309	Principles of Genetics (4)
BIOL 204 [if needed; can also take during upcoming minimester]	Educational and Career Planning for the Biologist (1)		

SUMMER BETWEEN YEARS 2 AND 3

Possibly take a course in *Animal Nutrition on-line. See note below.

YEAR 3

Fall		Spring	
CHEM 331	Organic Chemistry I (5)	CHEM 332	Organic Chemistry II (5)
BIOL 318	General Microbiology (4)	BIOL 325	Animal Physiology (4)
BIOL 408	Cell Biology (4)		

Also: Spend a good part of the year preparing for the GRE exam. Review deadlines for vet school applications and identify the date that you will take the GRE (usually early summer to mid-summer).

SUMMER BETWEEN YEARS 3 AND 4

Finish studying for and take the GRE. Start application process with Veterinary Medical College Application Service (VMCAS). Applications and supplementary materials are due by the end of August for most schools.

YEAR 4

Fall		Spring
BIOL 470	Advanced Physiology (4)	Elective courses, especially courses such as: Virology and Developmental Biology
CHEM 351	Biochemistry I (3)	
Elective courses, especially courses such as: Parasitology, Microbiology of Infectious Diseases, or Animal Behavior		

***Animal Nutrition Course**

A course in animal nutrition is required by Auburn University, North Carolina State University, Oklahoma State University, and Texas A & M. Since Towson University does not offer an animal nutrition class, we have provided some options for taking this course on the next page. Prof. Partain can serve as a proctor for the Animal Nutrition course at Purdue University.

Online Animal Nutrition Courses:

Purdue University
ANSC 221Y Principles of Animal Nutrition
Offered: Fall, Spring, & Summer
http://www.ansc.purdue.edu/courses/Welcome-ansc221p.htm

Rutgers
Animal Nutrition - Online
11:067:330:Section 90
Offered: Fall & Spring, Summer if there is sufficient enrollment
http://animalsciences.rutgers.edu/undergraduate/courses/11067330w.html

In order to transfer credits back to Towson, you must submit a Petition to Transfer Form to the Academic Standards Committee, Records & Registration (https://powerforms.docusign.net/1dbe7563-f73a-459a-a365-0f62c0ccd9ad?env=na3-eu1) prior to registering for the course. You will need to get approval from the Biology Department at Towson before submitting your petition to the Registrar. You will be notified of the decision made on the petition within a reasonable amount of time. If you already have 90 credits you will have to appeal the rule of taking your last 30 credits at TU. You must write a letter of appeal to accompany the petition form. Sample appeal letters can be found at: https://www.towson.edu/registrar/grades/standards.html

ADMISSION TO VETERINARY SCHOOL IS VERY COMPETITIVE

There are only 30 veterinary schools in the United States and many of these limit the number of out-of-state students to 20-50% of those admitted. To be admitted, you will need to meet the prerequisites and maintain a GPA of 3.5 or higher to be competitive. In addition, if the GRE is required, you want a score in the top 25% and to exceed the minimum required animal contact hours for vet school. This is challenging but not impossible. We have students admitted to vet school every year. If you are up to the challenge, Prof. Partain will help you. However, if you don't want to maintain this level of rigor for the 8-12 years of pre-vet and veterinary training, you may want to consider other options for working with animals. Information on being a veterinary technician is below.

WHAT IF YOU DON'T GET INTO VET SCHOOL ON THE FIRST TRY?

If you are not admitted to vet school on your first attempt, and you want to re-apply the next year, you will want to strengthen your application. You should continue to gain experience working with animals. You should consider re-taking the GRE *after* you have studied intensively for them.

You can also continue your education. One option is to attend **graduate school** in Biology or Animal Science. This will expand your background knowledge and will demonstrate that you can be successful with graduate-level coursework. The deadline for application to many graduate schools, including the University of Maryland Animal Sciences Program, is December 1st.

A PERMANENT OR TEMPORARY ALTERNATIVE: VETERINARY TECHNICIAN

Typically, you can complete a vet tech program in two years and start your career. This is a viable option even if you plan to go to vet school in the future. You will be gaining additional experience working with animals and working closely with veterinarians. The deadline for applying to the vet tech program at Community College of Baltimore County is April 15th. For more information, see: http://www.ccbcmd.edu/Programs-and-Courses-Finder/program/veterinary-technology

Here is the link to a good video outlining the profession: http://www.youtube.com/watch?v=st9j7en1KgA