



Directions for Undergraduate Program Director Reports:

1. Talk to students in your major, ask around if there are any current academic issues.
(ex: class conflicts within the major, issues with professors, etc)
2. Look at Degree Navigator, write down the course requirements
3. Formulate a list of things you would like to know about the program (corporate connections with the university, current research projects, opportunities for students to get involved, etc)
4. Email Undergraduate Program Director and Arrange Appointment
5. Fill out Undergraduate Report Sheet
6. email to vicepresident@sgc.rutgers.edu and complete by December 4th



Name: Emily Griffin

Major: Animal Science

Date: November 29, 2017

Semester: Fall 2017

Undergraduate Program Director: Aparna Zama

UPD Contact Information:

Phone: 848-932-8495 Email: zama@rutgers.edu Bartlett Hall 209A

I. Major Options - What options are offered within the major? How do they differ?

-Production animal science- emphasizes the scientific application of genetics, reproductive physiology, nutrition, herd health, waste management and business economics in the production of beef cattle, horses, dairy cattle and swine.

-Pre-veterinary medicine- focus on biological, molecular, and animal sciences in preparation for further education in medical or graduate studies. This option fulfills the academic course requirements of most U.S. veterinary colleges.

-Companion animal science- focuses on the understanding and appreciation for the bond between humans and animals and for the responsibilities of animal care and ownership in current society

-Equine science- focuses on providing students with an in-depth scientific knowledge of the varied functions of the horse and how to relate those scientific principles to the industry

-Laboratory animal science- emphasizes the use and care of laboratory animals for research. Many graduates choose careers in animal care programs as well as research laboratories of major pharmaceutical and toxicology-related industries

II. Total number of students within the major

There are about 450 students within the major

III. Goals within the major - What are expectations of students post-graduation?

As stated on the Rutgers Department of animal sciences website, graduates of the program will have met the following program learning goals:

-Students will achieve broad, survey level knowledge of the animal science discipline in order to understand the future of the field and to appreciate its diversity

-Students will be able to integrate basic biology and mathematical principles to assess higher concepts in animal physiology, nutrition, genetics and reproduction

- Students will be able to design and conduct experiments, critically analyze scientific data, and present the information in an understandable manner
- Students will be able to communicate professional and/or technical information effectively (orally, in writing, and through electronic media)
- Students will be able to handle, care for, and respect domestic animals

IV. Major Courses - What is the goal of each course? What should students be learning?

All student who declares an animal sciences major must complete the following core coursework in addition to the requirements for SEBS:

- General Biology- the main goal of taking general biology is to be able to understand and apply principles and concepts in the physical or biological sciences, and to understand the relationships in scientific analysis.
- General Chemistry- similar to general biology, the purpose of general chemistry is to understand basic chemical principles and their applications and to make connections about them. All of these basic principles should be applied in furthering students' education in classes like physiology and reproduction
- Animal Science- presents fundamental principles and functions important in animal science. There is a beginner's focus on nutrition, reproduction, animal domestication and behavior, animal welfare and rights, genetics, and growth. This class is required to get a basic understanding of the science of animals and to create a base knowledge before continuing the animal science education.
- Integrative Physiology- covers all the bodily systems and is important in tying together basic principles in nutrition, reproduction and genetics.
- Animal Reproduction- teaches the anatomy and physiology of reproductive organs and describes different reproductive processes
- Animal Nutrition- introduces students to nutrients, metabolism and physiological functions. It is important in understanding the regulation of nutrients, and the responses in the changing physiological states of animals.
- Genetics- the logic and reasoning skills that will be applied to solving genetics problems and designing practical animal breeding situations.

V. Concerns/Student issues with classes? How to resolve, suggestions?

- Careers in Animal Science- the course is only offered in the spring and should be open in the fall semester to ensure that everyone gets to take it, as it is an important elective.
- There are many concerns over the replacement for Dr. Advis and the loss of the classes he teaches- find a replacement quickly so students can finish classes
- There is some confusion about animal assisted therapy and animals and the law- animals and the law should not be a behavior based class as it does not focus as much on behavior

VI. Things going on within the major (Research, Visitors, Talks, Seminars within the major)

There are regular seminars on Fridays at 9:15 in the fall and spring semesters

The seminar series is a required course for graduate students

VII. Research Opportunities

The Animal Science Department at Rutgers University focuses on the areas of Endocrine Physiology, Equine Science, and Sustainable Animal Agriculture. Endocrinology bridges many of the multidisciplinary research programs of the animal science department faculty. There is a broad range of endocrine-related research. Specifically, the research is focused on the hypothalamic/pituitary control of reproduction, reproductive tissue growth and remodeling, circadian rhythms, the neuroendocrine axis of stress, hormonal control of reproductive and feeding behaviors, and developmental regulation of growth. Equine science research in the department focuses on improving the quality of life and well-being of horses, and the equine industry, statewide and nationally. Several of the research programs are focused on sustainable animal agriculture with positive economic and environmental impacts for the state of New Jersey. These applied research programs include: food waste utilization and recycling, and nutrient and manure management. The animal science department website has more information on contacting professors that conduct such research: <http://animalsciences.rutgers.edu/research.html>

VIII. Job Outlook, suggestions for students in this major (ex: organizations to join, news

to pay attention to)

Dr. Zama recommends that students attend the society of animal science and pre-veterinary club meetings. These groups are very specific in interests but people should still go to socialize and gather information from their peers. She especially recommends this for transfer students. These clubs are being funded and they have a lot of interesting speakers and introduce many opportunities that open new doors.

Career wise, she thinks that all students should be aware that even though they are coming into animal science, they can go into any health profession, and she pushes that they are not limited in their career opportunities. The curriculum is the same as pre-medicine, pre-dental or PA programs in that they have the same requirements. She suggests that you explore all options before making a decision. She is part of the National Association of advisors for health professions and has a lot of information to share, but students must seek it from her.

IX. Changes within the major in the upcoming year?

Dr. Advis is retiring, so some of the courses he taught are being discontinued until a replacement professor is found- these courses include Honors Seminar in Animal Science, Techniques in Equine Exercise Physiology, neuroendocrinology, and pathophysiology. Small Ruminant and Swine Practicums will be offered regularly in the summer as well as the addition of Poultry Practicum.

X. Other Suggestions