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Major: Animal Science

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Undergraduate Program Director: Dr. Aparna Zama

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1. **Major Options**—What options are offered within the major? How do they differ?
* Pre-Veterinary Medicine and Research
* Companion Animal Science
* Equine Science
* Laboratory Animal Science
* Production Animal Science
	+ **NOTE** For more specific details regarding the option differences it is recommended that you review the course progression checklists at <https://animalsciences.rutgers.edu/undergraduate/ug-major.html>
1. **Total Number of Students within the Major**

~450 upper-class students enrolled with 90 first-years and 35 transfer students that join annually

1. **Goals within the Major**—What are the expectations of students post-graduation?
* Learning Goals of the Animal Science Major
1. Gain broad knowledge of the animal science discipline to understand the future of the field and its diversity
2. Apply biological and chemical principles and quantitative reasoning to concepts presented in core subject areas in animal science such as physiology, nutrition, genetics, and reproduction
3. Acquire skills for handling and caring for laboratory animals and livestock species
4. Develop critical thinking skills to identify scientific questions and devise solutions including, designing experiments, analyzing and interpreting research data, and summarizing findings
5. Develop oral and written communication skills to effectively deliver scientific and technical information to scientists as well as the public
6. Develop an understanding of the principles of animal welfare and ethical treatment of animals
7. **Major Courses**—What is the goal of each course? What should students be learning?
* Major Courses Across All Options
	+ General Biology and Lab (01:119:115-116, 117)
	+ General Chemistry and Lab (01:160:161-162, 171)
	+ Animal Science (11:067:142)
	+ Physiology (11:067:300 OR 01:146:356)
	+ Animal Reproduction (11:067:327)
	+ Animal Nutrition and Lab (11:067:330, 331)
	+ Genetics (11:067:328 OR 01:447:380)
* Experienced Base Education Requirement (EBE) for All Options
	+ There are multiple ways to fulfill this requirement, but coursework will enable students to gain hands-on applicable skillsets that will prepare them for careers in the animal sciences after graduation. Many students who foresee going off to graduate or professional schools will often exceed the requirement to make themselves more competitive applicants.
		- Practicums on Cook Farm: Work with the livestock on the campus farm while learning about their husbandry and physiology
			* Cattle Practicum (11:067:201:01-04)
			* Small Ruminant Practicum (11:067:202:01-08)
			* Laboratory Animal Practicum (11:067:205:01-04)
			* Horse Practicum (11:067:207:01-04)
		- Teaching in Animal Science (11:067:414) Serve as a teaching assistant for a previously taken class while gaining valuable leadership skillsets necessary for the workplace
		- Research Opportunities: Please see the noted *Appendix VII. “Research Opportunities”* for more specific details about getting involved in a research lab on campus
			* Studies in Animal Science (11:067:411)
			* Research in Animal Science (11:067:494)
				+ \*\*\***NOTE** While both course options provide students with the opportunity to learn basic research skillsets, the course “Research in Animal Science” is a more challenging alternative that allows students to conduct their own hypothesis driven research
		- Study Abroad Opportunities: Obtain a broad array of experiences abroad in another country while immersing yourself in a culture different from your own
			* ***Rutgers SEBS Science Abroad Blogs***: SEBS Office of International Programs provides a blog page written by SEBS students while on their journeys abroad. Meaningful experiences and places they visited are captured through photography and other detailed accounts. If this is something that interests you, check out the blog entries written at (<https://sebstravel.rutgers.edu>)
				+ **CELA-Belize**: Popular study abroad program amongst pre-veterinary students which provides hands-on field experiences with either the livestock or wildlife in Belize. Courses are each 2-weeks long and many times combined together to maximize experiences. Additional information about the upcoming summer session can be found at: (<https://global.rutgers.edu/program-search/details/summer-cela-belize>.)
* NOTE: Curriculum progression checklists specific to each major option that review additional course offerings and electives can be found at (<https://animalsciences.rutgers.edu/undergraduate/ug-major.html>). For more specific detailed summaries regarding each of the courses and times they are being offered, please see (<https://animalsciences.rutgers.edu/undergraduate/ug-course-descriptions.html>)
1. **Concerns/Student Issues with Classes**—How to resolve, suggestions?
* Due to the number of students enrolled in the pre-veterinary medicine and research option, the demand for courses related to the other options is lower. This has left some students feeling that the classes offered poorly represent their interests. Faculty are currently working to provide new courses over the next few years to address this student-wide concern felt within the Animal Science Department.
* Because the Animal Science Department is such a small community within the university, there is often a more personal approach taken to advising which makes it easier to connect students to the resources SEBS has to offer. To this end, many of the animal science advisors have their offices within the same building (Bartlett Hall). Outside of reaching out to your assigned advisor, it is recommended that you plan ahead and take advantage of information sessions (*Please See Appendix VI “Things Going on Within the Major”*) offered every semester in order to avoid scheduling conflicts. Doing so will allow you to plan your courses accordingly so that you can get full opportunity at the classes as well as opportunities desired before graduation.
	+ \*\*\*You can find your Advisor for additional questions through the MyMajor SEBS Portal
		- Dr. Aparna M. Zama (zama@rutgers.edu)
		- Dr. Barry W. Jesse (barry.jesse@rutgers.edu)
		- Dr. Anna Hausmann (anna.hausmann@rutgers.edu)
		- Dr. Sara Malone (s.malone@rutgers.edu)
1. **Things Going on Within the Major**—(Research, Visitors, Talks, Seminars within the Major)
* Animal Science Information Sessions and General Campus Tours: Resource offered every semester to both incoming students and those already enrolled in need of planning their graduation requirements. To RSVP for a time please visit (<https://animalsciences.rutgers.edu/undergraduate/ug-visit.html>)
1. **Research Opportunities**
* All faculty members have a Ph.D. degree in their area of specialization and several also have a veterinary degree. The major areas of research within the Animal Science Department include endocrine physiology, equine science, and sustainable agriculture. If you are interested in participating in a research lab, it is suggested that you reach out to the respective faculty member through email a semester in advance to allow time for communications and planning. Explore the research being conducted by each faculty member at (<https://animalsciences.rutgers.edu/research.html>).
	+ **{*George H. Cook Scholars Program*}**
		- Invited juniors in top 15% of their class have the opportunity to conduct a two semester, independent research project under advisement of faculty member. After submitting an honors thesis and presenting on their findings, they will receive the academic honor as a George H. Cook Scholar at commencement.
1. **Job Outlook**—Suggestions for students in this major (i.e. organizations to join, news to pay attention to)
* Path to Vet School
	+ Since 2000, acceptance to accredited veterinary schools from the animal science program has been over 70% for qualified candidates (GPA greater than 3.2 with strong GRE scores and letter of recommendation). Compare this to the nationwide average of less than 50% for qualified students from states without a school of veterinary medicine.
* Student Involvement on Campus: Please see attached links for more specific details regarding each of the animal-science oriented clubs.
	+ ***Society of Animal Science***
		- <https://rutgers.campuslabs.com/engage/organization/societyofanimalscience>
	+ ***Veterinary Science Club***
		- <https://rutgers.campuslabs.com/engage/organization/ruvsc>
	+ ***Seeing Eye Puppy Raising Club***
		- <https://rutgers.campuslabs.com/engage/organization/ruseprc>
	+ ***Companion Animal Club***
		- <https://rutgers.campuslabs.com/engage/organization/companionanimalclub>
	+ ***RU Mounted Patrol***
		- <https://rutgers.campuslabs.com/engage/organization/mountedpatrol>
1. **Changes within the Major in the Upcoming Year**
* In response to student concerns, faculty are working to provide more courses related to each of the five options. More information about these courses is forthcoming and any questions and/or concerns can be directed to our Undergraduate Program Director Dr. Aparna Zama
1. **Other Suggestions**
* **NOTE:**  Clearance to work with animals is required by the university before you are able to work on the campus farm and/or in labs. Additional lab safety training for chemical and biohazards may be needed for participation in research and this amount may vary between labs. Please review this document if you would like to explore such opportunities further: (<https://animalsciences.rutgers.edu/undergraduate/WorkingWithAnimals.pdf>)
* **NOTE:** While enrollment within SEBS is required to declare as an animal science major, students in other schools interested in sampling course offerings for credit towards graduation are welcome to explore the animal science minor. Required courses include (Intro to Animal Science), (Animal Reproduction), and (Animal Nutrition) in addition to 4 choice animal science electives in consultation with the Undergraduate Program Director. More information for the minor option can be found at (<https://animalsciences.rutgers.edu/undergraduate/ug-minor.html>)

***~ Full Disclosure ~***

*This document is intended to be used as a general overview of the major and opportunities it offers for both incoming and current students interested. Much of what is presented is taken verbatim directly from the Animal Science Departmental website for which I hold no right as my own work or claim copyright ownership. It is highly suggested that you check this site for any recent updates you may have (*[*https://animalsciences.rutgers.edu/undergraduate/*](https://animalsciences.rutgers.edu/undergraduate/)*). Any questions secondary to this site may be directed to our program director Dr. Aparna Zama who you can reach out to at the given contact information at the top of this document.*