

EQUINE ACADEMIC PROGRAM FACT SHEET

Students interested in pursuing careers in the horse industry or just improving their knowledge of horses can study equine science in the Department of Animal Sciences. Under the auspices of the Animal Industries-Equine Specialization major, students take all of the equine didactic courses available (see below), courses in marketing, basic sciences and animal science, and also sign up for “hands-on” credits through the Equine Practicum, Research in Animal Science course and/or Cooperative Education. A minor in Equine Science is also available to students majoring in other disciplines (http://catalogs.rutgers.edu/generated/nb-ug_0507/pg21098.html).

Our courses tend to emphasize the science of horses—not only “how,” as in many other equine curricula, but “why.” Thirty to sixty students are involved in equine studies each semester at the School of Environmental and Biological Sciences. Students interact closely with their advisors and are given guidance in career decisions.

We have a Memorandum of Understanding with Delaware Valley College wherein our students can take a semester of “how to” classes on topics such as Equine Breeding, Management, Horse Training and Conditioning, Horse Show Management, and Stable Management, to name but a few. These all tend to be very hands-on courses due to the active breeding and horse show programs at Delaware Valley College. Their students come to Rutgers for the “science” of the industry and to get research experience.

For further information visit <http://animalsciences.rutgers.edu>.

Equine Courses Offered at the School of Environmental and Biological Sciences

DIDACTIC, PREDOMINANTLY CLASSROOM COURSES

Horse Management 11:067:384 (3 credits)

Professor: Sarah Ralston, VMD, PhD, diplomate of the American College of Veterinary Nutrition, Associate Professor, Department of Animal Sciences at Rutgers' School of Environmental and Biological Sciences. Offered every fall semester, this 14-week undergraduate course provides an introduction to the anatomy, physiology, nutrition and behavior of the horse. Management techniques for all classes of horses and the practical aspects of horse care, including stabling, shoeing/h hoof care, common diseases and emergency care will be discussed. Dr. Ralston makes extensive use of audiovisual aids. High-speed access to the Internet is recommended, since the notes, slides, and videos for the course are available on-line. A "chat room" is also used for both classroom and distance learning students. Optional field trips may be offered in addition to classroom lectures and live demonstrations. Students are evaluated based on performance on quizzes, a midterm and final examination and a term paper. This course is also offered online for either Continuing Education or college credit. A high school diploma is required for CE students. Call the Office of Continuing Professional Education at 732-932-9271 for information.

Equine Nutrition 11:067:390 (3 credits)

Professor: Sarah Ralston, VMD, PhD, diplomate of the American College of Veterinary Nutrition, Associate Professor, Department of Animal Sciences at Rutgers' School of Environmental and Biological Sciences. Offered every other spring semester on odd years (last offered 2009), this course offers an in-depth look at the subject from gastrointestinal anatomy and physiology to all aspects of feeds, pasture management, feeding behavior and feeding horses at each stage of life. Dr. Ralston makes extensive use of audiovisual aids. High-speed access to the Internet is recommended, since the notes,

<http://www.sebs.rutgers.edu>

slides, and videos for the course are available on-line. A "chat room" is also used for both classroom and distance learning students. Students are evaluated based on performance on quizzes, a midterm and final examination. This course is also offered online for either Continuing Education or college credit. A high school diploma is required for CE students. Call the Office of Continuing Professional Education at 732-932-9271 for information.

Advanced Equine Health Care and Management 11:067:398 (3 credits)

Professor: Michael Fugaro, VMD, diplomate American College of Veterinary Surgery, Associate Professor of Equine Studies, Centenary College. Offered on the Cook Campus every other spring semester on even years (last offered 2008), this course presents in-depth information on the diseases and common emergency disorders of the horse. It will utilize basic concepts of anatomy and physiology, applies them to clinical situations that might arise in horses, and teaches students how to effectively manage many of these health-related situations. A limited number of seats in the program are made available to continuing education (non-matriculated) students. Students learn about "normal" thresholds, as well as problems associated with the major physical systems of the horse. Three exams and a group oral presentation are part of the required course work. The course is recommended for equine enthusiasts with a medical interest, managers/ owners of equine facilities, and students interested in medical science. Continuing Education students must have at least a high school diploma; it is recommended, but not required, that attendees have completed 11:067:384 Horse Management. Continuing education students receive 3.6 continuing education units.

Topics in Equine Science 11:067:401 (3 credits)

Professor: Kenneth McKeever, PhD, Associate Professor, Department of Animal Sciences at Rutgers' School of Environmental and Biological Sciences. Offered every other spring semester on even years (last offered 2008), this course provides students with an opportunity to participate in the exchange of new ideas and concepts related to equine sport and exercise science. Students read and discuss current concepts and research literature related to the topic of equine exercise physiology. The course is conducted with extensive participation from the students so as to assist students in the development of skills for critical evaluation and recognition of problems with the current concepts in the field of equine exercise physiology. Students are evaluated based on attendance and participation, discussions and a term paper

Equine Exercise Physiology 11:067:402 (3 credits)

Professor: Kenneth McKeever, PhD, Associate Professor, Department of Animal Sciences at Rutgers' School of Environmental and Biological Sciences. Offered every spring semester, the course consists primarily of lectures with limited participation by students. The horse is a natural athlete performing a variety of tasks including racing, driving, draft work, and pleasure riding. Research into the unique aspects of these athletic animals has led to the development of the field of equine exercise physiology. This is one of the fastest growing fields in the Animal Sciences, and there is a need to provide basic knowledge to students and future leaders of the equine industry. This course will involve a survey and critical evaluation of the current concepts regarding the physiological and environmental factors associated with exercise in the horse. Both acute and chronic effects will be studied with emphasis placed on physiological mechanisms and limitations. Students are evaluated based on performance 3 exams, a term paper and a final examination. It has the prerequisite of 01:146:356 Systems Physiology or equivalent.

Developing Future Leaders for the Equine Industry 11:067: (1 credit, Pass/no credit)

Professor: Karyn Malinowski, PhD, Professor and Director, Rutgers Equine Science Center. Offered during the Winter Session this course

PREDOMINANTLY “HANDS ON” COURSES:

Techniques in Equine Exercise Physiology 11:067:403 (3 Credits)

Professor: Kenneth McKeever, PhD, Associate Professor, Department of Animal Sciences at Rutgers' School of Environmental and Biological Sciences. Offered every other spring semester, the small-group learning format of this course allows for Socratic style exchange between students and the instructor with a special focus on using the studies conducted in the lab as a real-time method to teach about the physiological responses to exercise. The major goal of the class is to provide opportunities for students to learn about the application of the scientific method and hypothesis-driven research with real-time experiences. The class is offered for 3 credits based on a weekly classroom session and research hours by arrangement. Students who have enrolled in Research in Animal Science assist in research projects conducted in the equine treadmill laboratory. This course builds upon those hands-on experiences by supplementing participation in the laboratory with formal classroom sessions that cover the scientific method and the theory behind various techniques used in equine exercise physiology research. Students are evaluated based on attendance and participation in the lab, participation in a biweekly journal club style recitation, laboratory journal and notes taken during class, and a term paper.

Animal Handling, Showing and Fitting 11:067:175, Section HO (1 credit, Pass/no credit)

Professor: Sarah Ralston, VMD, PhD, diplomate of the American College of Veterinary Nutrition, Associate Professor, Department of Animal Sciences at Rutgers' School of Environmental and Biological Sciences. Offered every spring semester, students get “hands-on” experience grooming and training yearlings for in-hand exhibition on Rutgers Day Ag Field Day and the annual Young Horse Teaching and Research Program Yearling Auction.

Horse Practicum 11:067:200 (2 credits, Pass/no credit)

Professor: Sarah Ralston, VMD, PhD diplomate of the American College of Veterinary Nutrition, Associate Professor, Department of Animal Sciences at Rutgers' School of Environmental and Biological Sciences. Offered fall and spring semesters, under the supervision of the farm supervisor, students assist with the day-to-day care of the research horses at Rutgers. They meet with Dr. Ralston and the supervisor as a group once a week to discuss topics related to horse care and up coming events on the farm. It has the pre- or co-requisite of 11:067:384 Horse Management

Research in Animal Science 11:067:493, 494 (Credits by arrangement)

Offered fall and spring semesters every year, this is an independent study course in which students help the Animal Science faculty with equine research projects and learn scientific methods and techniques. Students spend 3 hours per credit helping with horse care, data collection and analysis and interpretation of results. Evaluation and expectations are specified by the individual professors.

Other courses that address equine topics: Animal Science; Animal Reproduction; Animal Nutrition; Livestock Production and Management; Farm Productivity Analysis and

Endocrinology.

Rutgers Equine Program – Questions and Answers

1. What makes our program unique?

The Equine Program has a strong background in basic science, undergraduate research experience, and exposure to the tremendous variety of horse events and management systems available in New Jersey. Student advising is a high priority. When first-year students declare the Animal Sciences major, the Curriculum Coordinator then assigns an advisor in the major based on option interest and academic strength. The Young Horse Research and Teaching program offers the opportunity to select and train weanling and yearling horses and to participate in the marketing and publicity surrounding the Annual Yearling Horse Auction. The website for the program (<http://younghorse.rutgers.edu>) is run by the students.

2. Does the Equine Academic Program provide scholarships?

Scholarships are available to women who are New Jersey residents pursuing Equine Science at the School of Environmental and Biological Sciences from the Doris C. Murphy Endowed Scholarship in Equine Science. They are awarded to full-time undergraduates based on academic merit, demonstrated interest in equine science, and financial need. Up to six \$1,000 scholarships will be awarded each year, at least one to an incoming student, and they may be renewed annually upon approval of the scholarship selection committee. For information, contact the Equine Science Center, 57 U.S. Highway 1, New Brunswick, NJ 08901-8554, (732) 932-9419. Applications are due May 1 of each calendar year.

3. What types of jobs in the horse industry do graduates hold?

Many go on to veterinary school or graduate school; others obtain jobs in the equine industry (feed or pharmaceutical companies, horse farms, media, etc.)

4. Does our program emphasize a particular area of academics?

The emphasis is primarily on science, with special focus on nutrition, behavior and exercise physiology.

5. Does our program emphasize a particular theory or philosophy?

In our classes and independent studies, students are exposed to as wide a variety of philosophies and theories as possible, from dressage to western disciplines, high level performance horses and racehorses to backyard pleasure horses. We do not have riding facilities and do not teach riding. We do have an intercollegiate equestrian team which trains both for English and western equitation at a local stable. Its website is <http://www.geocities.com/ruequestrian>. Our students also participate in other clubs including the Equine Science Club, Pre-Vet Club, Animal Science Club, and Rutgers Mounted Patrol.

6. Are there other opportunities for students pursuing equine science?

Rutgers School of Environmental and Biological Sciences hosts the region's only Equine Science Center, an interdisciplinary program of cutting-edge science based on practical application of knowledge, and delivered to the people of the state through various outreach programs. For further information, visit its website at www.esc.rutgers.edu.