



DEPARTMENT OF  
**DAIRY SCIENCE**  
 University of Wisconsin-Madison

# VISITING INTERNATIONAL STUDENT PROGRAM

List of Courses Offered by the UW-Madison Dairy Science VISP

		Spring (about September 1 to December 15)					Fall (about January 15 to May 15)				
		Mon	Tue	Wed	Thu	Fri	Mon	Tue	Wed	Thu	Fri
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9:00	8:55										
9:05	9:00	361		361		361					
9:10	9:05	362 (4)		362		362	305 (3)	434 (3)	305 (3)	434	
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Course numbers match list of courses below. Number inside parentheses denote course credits. Bolded and underlined course numbers indicate laboratory times.

- ❖ **Dairy Science (DY SCI) 101 – Livestock Production (4 credits, Fall)**  
*Course Description:* Anatomy and physiology, nutrition, genetics, reproduction, marketing, meats and management of dairy and beef cattle, swine, sheep, poultry, and horses; lectures, laboratories, and discussion. Includes some field trips. Also listed as Animal Science 101.  
*Requirements:* Open to Freshmen
- ❖ **DY SCI 205 – Dairy Cattle Selection (2 credits, Spring)**  
*Course Description:* Dairy cattle evaluation and selection, including: linear type appraisal, dairy cattle judging, mating programs, breed comparisons, cattle marketing plans, and national genetic improvement programs.  
*Requirements:* AN SCI/DY SCI 101. Open to Freshmen
- ❖ **DY SCI 233 – Dairy Herd Management I (3 credits, Fall)**  
*Course Description:* Overview of practical dairy herd management with components of reproduction, nutrition, milk quality, raising dairy replacements, facilities and records. Laboratories emphasize practical applications, analyses of alternatives and decision making. Includes farm visits and analysis.  
*Requirements:* AN SCI/DY SCI 101 or consent of instructor, Sophomore or Junior standing.
- ❖ **DY SCI 234 – Dairy Herd Management II (3 credits, Spring)**  
*Course Description:* Second of a two course sequence designed as an overview of practical dairy herd management with components of animal welfare and handling, health, nutrient management, facilities and production economics. Laboratories emphasize practical applications, investigation of alternatives and decision making. Includes farm visits and a hands-on transition cow project for analysis.  
*Requirements:* AN SCI/DY SCI 101 or cons instructor, successful completion of DY SCI 233.
- ❖ **DY SCI 272 – Pre-Capstone Sophomore Seminar (1 credit, Spring)**  
*Course Description:* Sophomores learn about, and prepare for, active and independent learning from seniors who have successfully completed independent learning projects including internships, senior seminars, and other "capstone" experiences.  
*Requirements:* Open to all students
- ❖ **DY SCI 305 – Lactation Physiology (3 credits, Fall)**  
*Course Description:* The course focuses on lactation physiology across mammalian species. Structure and function of mammary glands, hormonal control of mammary development and lactation, cellular mechanisms of milk synthesis, the chemistry of milk synthesis, mastitis and other abnormalities of mammary functions. This course has a laboratory component.  
*Requirements:* Zoology 101 or Biology 151&152; and Biomolecular Chemistry 314 or Biochemistry 501 or concurrent enrollment
- ❖ **DY SCI 311 – Comparative Animal Nutrition (3 credits, Spring)**  
*Course Description:* Nutrients and their source, assimilation, function, and requirement. Also listed as Animal Science 311 and Nutritional Science 311.  
*Requirements:* Biomolecular Chemistry 314 or Chemistry 341 or Chemistry 343 or consent of instructor
- ❖ **DY SCI 313 – Animal Feeds & Diet Formulation (1 credit, Spring)**  
*Course Description:* Designed as a companion course for Dairy Science 311 (Comparative Animal Nutrition) with emphasis on quantitative and practical aspects of animal feeds and diet formulation. Also listed as Animal Science 313.  
*Requirements:* Math 112, AN SCI/DY SCI 101, or consent of instructor; concurrent registration in AN SCI/DY SCI/ NUTR SCI 311 recommended
- ❖ **DY SCI 361 – Introduction to Animal & Veterinary Genetics (2 credits, Spring)**  
*Course Description:* The molecular basis for inheritance of monogenic and polygenic traits related to animal disease and production. An introduction to the principles of improving animal health and performance by selection and mating systems in companion animals, horses, livestock, and poultry. Also listed as Animal Science 361.  
*Requirements:* Genetics 160 or 466 or concurrent registration, and a course in statistics

❖ **DY SCI 362 – Veterinary Genetics (2 credits, Spring)**

*Course Description:* The genetic basis for predisposition to disease or resistance to disease in livestock and companion animal species. Genetic defects, their discovery, diagnosis, and treatment. Also listed as Animal Science 362.

*Requirements:* Dairy Sci/Animal Sci 361; or Genetics 160 or 466 & Zoology/Botany 152

❖ **DY SCI 363 – Principles of Animal Breeding (2 credits, Spring)**

*Course Description:* Application of the principles of quantitative genetics to the improvement of livestock and poultry; breeding value estimation and selection techniques; effects of inbreeding and hybrid vigor; crossbreeding systems. Also listed as Animal Science 363.

*Requirements:* AN SCI/DY SCI 361

❖ **DY SCI 370 – Livestock Production & Health in Agricultural Development (3 credits, Fall)**

*Course Description:* Physical, biological and social nature of animal agriculture systems and their improvement in developing countries; analysis of the state of livestock research and development in the developing countries and the world role of U.S. animal agriculture. Also listed as Animal Science 370.

*Requirements:* AN SCI/DY SCI 101 or consent of instructor

❖ **DY SCI 371 – Managed Grazing Field Study (1-2 credits, Fall)**

*Course Description:* This is a course for students who are interested in developing a comprehensive understanding of the principles, practices, and conservation potential of managed grazing systems, and how these farming systems may contribute to the sustainability and diverse tapestry of Wisconsin's working landscape. Students will visit managed grazing systems of successful grazing-based farmers (graziers) across southern/central counties in Wisconsin, and/or research sites at UW's Arlington and/or Lancaster Research Stations and/or the Discovery Farms Program. Students will have the opportunity to discuss at length with farm managers and researchers the practices in place at each farm and research site. Readings will be assigned and discussed. Students will be introduced to CALS/UWEX pasture forage/nutrient management planning and budgeting software. A course fee (expected to be approx. \$75-\$100/student) will be assessed to cover transportation between field sites and farmer-grazier cooperator honoraria.

*Requirements:* AN SCI/DY SCI 101 or consent of instructor

❖ **DY SCI 373 – Animal Physiology (3 credits, Spring)**

*Course Description:* Students will develop an understanding of physiological processes that regulate the body, learn the anatomy and function of different physiological systems, describe interactions between organ systems, study regulation of an organ system from the molecular to whole animal level, and identify differences between species in the same systems.

*Requirements:* Biology/Zoology 101 or Biology/Zoology/Botany 151 and Biology/Zoology/Botany 152

❖ **DY SCI 375 – Purina Dairy Nutrition Experience (1 credit, Winter intersession; January)**

*Course Description:* Participation in team based dairy farm diagnostics, Leading Producer Conference attendance and applied dairy nutrition workshops hosted at the Purina Animal Nutrition Center.

*Requirements:* DY SCI 233 and consent of instructor

❖ **DY SCI 375 – Intercollegiate Dairy Cattle Judging Competitions (1 credit, Fall)**

*Requirements:* Sophomore, Junior or Senior standing

❖ **DY SCI 375 – Food Systems Sustainability and Climate Change (2 credit, Spring)**

*Course Description:* This trans-disciplinary course delves into aspects of biological, social, and agricultural sciences underpinning the assessment of food production systems as related to mitigation and adaptation to climate change. After engaging students in an example multidisciplinary case-study of milk carbon foot-print, instructors will guide students through the development of their own food production and climate change case-study research projects culminating with students creating multi-media web-pages, giving audio-visual presentations, and (for grad students) writing a peer-review style article. Students will engage in collaborative projects with people from disparate disciplinary paradigms.

*Requirements:* Junior or Senior standing

❖ **DY SCI 375 – Intercollegiate Dairy Challenge Competitions (1 credit, Spring)**

*Course Description:* Provides students in the Dairy Science major with mentored, hands-on experiences that have real-world application. Students will analyze dairy farm management systems and apply benchmarks to make recommendations.

*Requirements:* DY SCI 233 & 234, Junior or Senior standing

❖ **DY SCI 399 – Internship (1 – 2 credits)**

*Course Description:* Experiences can include agribusinesses, government agencies, food companies, research opportunities, farms and other field experiences. Students are able to apply internship credits toward the completion of their major requirements.

*Requirements:* Sophomore, Junior, or Senior standing & consent of supervising instructor, advisor, and internship coordinator.

❖ **DY SCI 414 – Ruminant Nutrition (2 credits, Fall)**

*Course Description:* Integrates basic nutrition concepts and ration balancing skills by teaching students to balance and trouble shoot rations for various domesticated ruminants. Also listed as Animal Science 414.

*Requirements:* AN SCI/DY SCI 311 & 313

❖ **DY SCI 434 – Reproductive Physiology (3 credits, Fall)**

*Course Description:* Principles of reproductive physiology, improvement of fertility, and artificial insemination. Also listed as Animal Science 434.

*Requirements:* Junior standing, AN SCI/DY SCI 101, or Zoology 101 & 102; Zoology 151 & 152 recommended

❖ **DY SCI 472 – Animal Agriculture and Global Sustainable Development (1 credit, Spring):**

*Course Description:* Interactive lectures and class activities focusing on the role of Livestock (dairy cattle) on global agricultural and rural development issues (environment, trade, immigration, poverty, gender, human health, etc.).

*Requirements:* Consent of instructor.

❖ **DY SCI 473 – Study Abroad Field Program in Mexico (2 credit, Summer (May))**

*Course Description:* Two-week program in central Mexico focusing on topics covered in DY SCI 472 Animal Agriculture and Global Sustainable Development.

*Requirements:* DY SCI 472 and consent of instructor

❖ **DY SCI 534 – Reproductive Management of Dairy Cattle (3 credits, Spring)**

*Course Description:* This course is designed to provide students with the technical knowledge and practical skills to design and execute an effective reproductive management program for dairy cattle. Each week students will participate in lectures and discussions of the key reproductive physiology and practical research results that underlie reproductive management programs. Students will also participate in hands-on laboratories twice per week in which they will learn, practice, and demonstrate practical reproductive management techniques including: Semen handling, artificial insemination, and ultrasound of ovaries and uterus.

*Requirements:* AN SCI/DY SCI 434

❖ **DY SCI 535 – Dairy Farm Management Practicum (3 credits, Spring)**

*Course Description:* Principles of nutrition, breeding, reproduction, and management at the farm level are integrated. Students will develop skills in decision making, information gathering, problem solving, and interpersonal communication through field trips to working commercial dairy operations.

*Requirements:* DY SCI 233, 234, 361