

DAIRY ANIMAL SCIENCE (DANS)

DANS 100. Dairy Nutrition. (3 Credits)

Functions and properties of nutrients, comparative digestive anatomy of non-ruminants and ruminants, the effects of proper nutrition on health and reproduction. Labs will deal with the composition and nutritive value of feeds and ration balancing for different classes of livestock. Emphasis on dairy cattle. 3 credits (2 lecture hours, 2 laboratory hours), fall semester

DANS 110. Breeding Dairy Cattle. (3 Credits)

Animal breeding including animal reproduction and basic genetics. Male and female reproductive anatomy and physiology, hormonal control of the reproductive system, the estrous cycle, fertilization, reproductive failures, diseases and management practices associated with reproduction and artificial insemination. Mendelian genetics utilizing simple dominance, sex influenced inheritance and systems of mating. 3 credits (2 lecture hours, 2 laboratory hours), spring semester This course satisfies the Liberal Arts and Sciences requirement and the SUNY General Education Requirement for Natural Science.

DANS 115. Dairy Cattle Artificial Insem. (1 Credit)

Provides students with skills associated with the modern concept of artificial insemination. Topics include history, economic importance, equipment, techniques, estrous cycle of the cow, timing of insemination, and record keeping. 1 credit (1 lecture hour), spring semester

DANS 120. Anatomy & Physiology-Dairy Cow. (3 Credits)

A systematic introduction to the anatomy and physiology of the dairy animal, emphasizing structure and function. The practical aspects that relate to type, production, health, management and general knowledge are stressed. The laboratory follows the lecture course with a more in-depth application of lecture material in regards to functional anatomy. Lab includes dissection of fresh tissues. 3 credits (2 lecture hours, 2 laboratory hours), spring semester This course satisfies the Liberal Arts and Sciences requirement and the SUNY General Education Requirement for Natural Science.

DANS 140. Dairy Cattle Judging. (1 Credit)

Judging, selecting and evaluating dairy cattle according to breed type qualifications to develop a well-balanced breeding program for milk production and type. 1 credit (2 laboratory hours), spring semester

DANS 150. Dairy Farm Practicum I. (2 Credits)

This course will introduce students to the daily tasks required to run a dairy operation. Students will learn the proper techniques required of each of the tasks, and will be integrated into the schedule throughout the semester. Students will be expected to complete a weekly milking shift, and will either be assigned to assist with calf feeding and care, OR to help with maternity and fresh cow monitoring. Throughout the semester students will learn how to: properly milk dairy cows, identify sick animals, administer injections, feed calves, safely operate equipment, and clean and bed animals. 2 credits (1 hour lecture, plus weekly barn duty chores), fall semester

DANS 151. Dairy Farm Practicum II. (2 Credits)

This course is a continuation of Dairy Practicum I, and will provide additional opportunities for students to perfect their dairy management skills. In addition to reiterating proper techniques required of their daily tasks, students will be integrated into the milking and feeding schedule throughout the semester. Students will be expected to complete a weekly milking shift, and will either be assigned to assist with calf feeding and care, OR to help with maternity and fresh cow monitoring, depending on which task they were assigned to the previous semester. Additionally, students will be trained how to safely operate farm machinery to clean pens and push up feed throughout the dairy operation. Students are expected to complete the following throughout the semester: properly milk dairy cows, identify sick animals, administer medications, feed calves, safely operate equipment, and clean and bed animals. Prerequisite: DANS 150 with a C or better, or permission of the instructor 2 credits (1 hour lecture, plus weekly barn duty chores), spring semester

DANS 160. Introduction to Dairy Science. (3 Credits)

An introductory course to the dairy industry with a focus on its evolution and the scope of New York's, United States' and the world's industry. It will include discussion of farm types, production techniques, breeds of cattle, cattle behavior and selection, economics and trends. Dairy products will be studied, as well as consumer trends, milk quality and processing, a section on farm organization, cooperative careers, farm management structure and the future of the industry will be included. The lab will supplement the lecture and will include animal behavior, marketing, performing milk quality tests, and field trips. 3 credits, (2 lecture hours, 2 laboratory hours), fall semester

DANS 200. Nutrition Mngmnt-Dairy Cattle. (2 Credits)

Complete nutritional program assessment emphasizing analysis of crop production, forage analysis, ration balancing, pasture management, feeding strategies and feeding systems for optimum production and profit on a dairy farm. Computer applications, on-farm visits, and introduction to advanced technology will be included. Prerequisite: DANS 100 2 credits (1 lecture hour, 3 laboratory hours), spring semester

DANS 210. Dairy Health. (3 Credits)

Physiology, anatomy and health of the dairy cow. Emphasis on hygiene, disease prevention, herd health programs, and routine disease and injury treatment. Prerequisite or Co-requisite: DANS 150 or 151 3 credits (3 lecture hours), fall semester

DANS 220. Dairy Herd Management. (3 Credits)

The focus is on the dairy industry as a business enterprise, its history, future, productivity trends, milk production and management strategies to be competitive and profitable. Discussion on the application of scientific principles associated with progressive dairy cattle management including breeding systems, feeding systems, herd health practices, dairy herd replacements and heifer programs. Lab will include computer applications on the farm, de-horning, hoof trimming, herd health monitoring, dairy records interpretation and analysis, and assessing housing and cow comfort. Prerequisite or Co-requisite: DANS 150 or 151 3 credits (2 lecture hours, 2 laboratory hours), fall semester

DANS 225. Dairy Production & Management. (3 Credits)

This course is designed to study bovine mammary system, anatomy and physiology, milk secretion and ejection, milking machines, mastitis and prevention to attain high efficiency milk production. Herd record evaluation and use of Dairy management software will be used for production analysis. Students will work in teams and become assistant herd managers. The course will also include topics on housing systems and cost effective housing. Guest speakers, professional conferences and field trips will be part of the course. Prerequisite or Co-requisite: DANS 150, DANS 151 3 credits (2 lecture hours, 2 laboratory hours), spring semester

DANS 235. Dairy Production Seminar. (1 Credit)

A course in seminar format where students, with the help of faculty and guest speakers, complete a study of dairy production literature and applications on topics in the dairy industry. The course is intended for students to gain technical and production knowledge of contemporary topics in the dairy industry by reinforcing course work with real-life applications. Prerequisites: DANS 100, DANS 115, DANS 210, DANS 220 1 credit (1 lecture hour), spring semester

DANS 240. Dairy Farm Data Management. (1 Credit)

Data management on a dairy farm is critical for the success of the operation. This course will familiarize students with the dairy management software Dairy Comp 305, the software used on the majority of dairy operations in the U.S. Students will learn how to enter data, generate lists and reports, and monitor performance measure on dairy operations using this software. Students will also be able to extract files from Dairy Comp 305 into Microsoft Excel and generate spreadsheets, charts, and graphs with the data. In addition, students will examine farm performance factors and compare them to benchmarks within the dairy industry. 1 credit (1 lecture hour), spring semester

DANS 245. Advanced Dairy Cattle Judging. (2 Credits)

This course is designed for students with a dairy judging background who are interested in judging dairy cattle in a competitive setting. Students will participate in bi-weekly practice sessions where they will use sound judgement to place classes of cattle based on dairy strength, udder conformation, correctness, and frame. Students will be trained to back up their placings by presenting oral reasons, in preparation to present their reasons at national dairy judging competitions. Prerequisite: C or better in DANS 140, or permission of the instructor. 2 credits (4 hours per week, lab), fall semester

DANS 250. Dairy Management Perspectives. (1 Credit)

Principles and procedures involved in the management of a dairy business. Topics include setting personal and business goals; business planning and development; business analysis and capital investment; cash flow planning; economics and management dealings with facility planning; feeding efficiencies; environmental and community concerns; and leadership roles in tomorrow's dairy industry. 1 credit (1 lecture hour), spring semester

DANS 255. Dairy Management Fellowship. (2 Credits)

The program is for students with a serious interest in farm management. Objectives are to gain a better understanding of the integration and application of dairy farm management with respect to principles and programs with respect to progressive dairying and related industries. Topics include the trends, challenges, and positioning of dairy managers in businesses for competitiveness and profitability. Topics will integrate technical and management aspects of a farm business including establishing personal and business goals, business and planning development, business capital investment analysis, cash flow planning, and feeding efficiencies. Prerequisites: At least two of the following: DANS 100, DANS 115, DANS 210, DANS 220, AGBS 240 2 credit hours (2 lecture hours), spring semester

DANS 260. SHARP Manager. (2 Credits)

The program is designated for students who have a sincere interest in dairy replacement management and applied research and demonstration. Objectives are to gain further understanding of the integration and application of technical principles in a management setting involving the dairy replacement program at SUNY Morrisville. Prerequisites: DANS 100, DANS 115, DANS 210; DANS 220, and AGBS 240 2 credits (limited to seniors), spring or fall semester

DANS 300. Internship In Dairy Husbandry. (4 Credits)

This internship involves students working in an approved job in the dairy industry. A journal, written report, employer and faculty evaluation are required upon completion of the internship. May be taken 2 times for credit if each is a different learning experience. Instructor permission required for each internship. Prerequisites: DANS 150 or 151 4 credits (12 weeks, 480 hours minimum), fall and/or spring semester

DANS 301. Dairy Management Experience. (16 Credits)

The Cornell Dairy Management Experience (CDME) consists of courses and the modules that are required for the Bachelor of Technology in Dairy Management. Students, in the spring semester of their junior year, will spend one semester in residency at Cornell University taking courses through the Department of Animal Science. The syllabus consists of courses and modules that place emphasis on practical technical and management applications in dairy herd management, herd health, dairy nutrition, and farm finance. Prerequisites: DANS 100, DANS 110, DANS 120, DANS 140, DANS 151, DANS 160, DANS 210, DANS 220, DANS 225, DANS 250, AGBS 100, AGBS 200, AGBS 240 16 credits (limited to juniors in the BT Dairy Management), spring semester

DANS 305. Dairy Calf & Heifer Management. (3 Credits)

This course is designed for students who have a sincere interest in dairy replacement management and the production practices associated with economical rearing of heifer replacements. Those considering career positions as calf and heifer managers should strongly consider taking this course. The objectives are to gain further understanding of the integration and application of management and technical principles associated with the heifer enterprise from the time the calf is born to the first calving. This includes the economics, feeding, health, facilities and management of the heifer enterprise in today's industry. Prerequisites: DANS 100, DANS 115, DANS 220, AGBS 240 3 credits (2 lecture hours, 2 laboratory hours), spring semester

DANS 340. Advanced Dairy Reproduction. (3 Credits)

This course is designed to study the dairy cattle reproductive system and provide students with expertise in managing herd reproductive programs effectively. Students will study in depth the anatomy and physiology of the male and female reproductive tracts, understand hormonal controls of the estrous cycle and be able to manipulate the estrous cycle with approved hormone therapies. Students will be responsible for herd heat detection and some artificial inseminations. Students will work with reproductive records, herd managers and artificial insemination technicians to manage the dairy herd's reproductive program. Prerequisites: DANS 110, DANS 115, or permission of instructor 3 credits (2 lecture hours, 3 laboratory hours), alternate years, odd years

DANS 450. Advanced Dairy Herd Mgt. (4 Credits)

Students will gain experience in managing a dairy herd with major emphasis placed in the areas of milking management, dairy nutrition, herd health and labor relations. Students will form a direct working relationship with dairy/ farm managers, farm staff and industry professionals to effectively manage the dairy facilities at Morrisville State College. Students will be actively involved in gathering, organizing and analyzing data and records on the college farm. Students will use this information to generate weekly reports and will make effective weekly reports and recommendations for improvements in different areas on the dairy operation. Students will have additional opportunities to attend professional meetings in preparation for a career in the dairy industry. Prerequisite: A "C" or better in DANS 100, DANS 110, DANS 115, DANS 120, DANS 150, DANS 151, DANS 220, DANS 225 Or permission of Instructor 4 credits (1 lecture hour, 9 laboratory hours), fall semester

DANS 451. Adv Dairy Herd Mgt II. (4 Credits)

This course is a continuation of DANS 450, Advanced Dairy Herd Management Students will gain a practical, hands-on experience in managing a dairy herd with a more detailed major emphasis in the areas of milking management, dairy nutrition, herd health and labor relations. Students will work directly with the dairy herd manager at Morrisville State College to gather, organize and analyze data and records on the college farm. Students will also be actively involved in working independently with industry personnel and representatives to gain additional hands-on experience and knowledge of relevant topics in the dairy industry. Students will have opportunities to attend professional meetings in the dairy industry that prepare them for a professional career in the dairy industry. Prerequisites: DANS 450 or permission of instructor 4 credits (1 lecture hour, 9 laboratory hours), spring semester