

Dairy Foods Extension

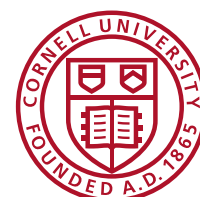


2024

COURSE CATALOG

Providing cutting-edge research, education, and support to the dairy industry in New York State and beyond.

Cornell CALS
College of Agriculture and Life Sciences



Department of Food Science

The Department of Food Science at Cornell University is one of the premier programs worldwide for collaborative research and extension programing. Our faculty, staff, and students support cutting-edge research in chemistry, microbiology, engineering, biotechnology, nutrition, and physiology, which has improved the nutritional value, safety, quality, affordability, and profitability of foods and beverages. These research initiatives are integrated with translational extension efforts that together help improve public health and stimulate business development.

The mission of food science extension programs at Cornell is to assist farms and food businesses in New York State and beyond with the implementation of new technologies and production strategies that will improve product quality, safety, nutrition, and marketability. Extension personnel located at the Cornell University Campus in Ithaca, NY and at Cornell AgriTech in Geneva, NY, facilitate these activities through technology transfers, process validations, project incubation, piloting, crisis management support, workshops, web-based training, and consultation.

Through our work in research and extension, food science extension programs have helped tens of thousands of food industry stakeholders. Measurable outcomes for these interactions have included bringing products to market, achieving regulatory compliance, reducing food safety risks, and adding value or extending product lines.

For More Information

CALS Department of Food Science
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Dairy Foods Extension

The Cornell Dairy Foods Extension Certificate program offers comprehensive training for dairy processors of all sizes within New York State and beyond. In NYS alone, dairy manufacturing accounts for 23% of all agricultural manufacturing sales and 12% of employment, and relies heavily on in-state milk production from the farming sector. Dairy Foods Extension provides training and certificates in five areas including: (1) the Science of Yogurt and Cultured Dairy Products; (2) Fluid Milk Processing for Quality and Safety; (3) Membrane, Evaporation and Drying Technology; (4) The Science of Cheese Making; and (5) Ice Cream and Frozen Desserts. Courses aim to provide comprehensive basic training to dairy processors in vital topics such as milk quality and safety, dairy microbiology, Good Manufacturing Practices, unit operations, cleaning and sanitizing, food safety plans, audits, and state and federal regulations.

Meet the Team



Martin Wiedmann, PhD

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Expertise: *Listeria monocytogenes*, pre-harvest food safety, molecular pathogenesis, microbial ecology and epidemiology



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Expertise: Dairy cultures & fermentation, antibiotic resistance in salmonella, GMPs, FSMA preventive controls for human food



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Expertise: General food security & risk assessment, dairy systems microbiology, product processing & regulations, FSMA preventive controls for human food



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Expertise: The transmission, control and detection of dairy associated spoilage microorganisms & pathogens



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Expertise: Dairy plant auditing, food safety systems, GFSI-Safe Quality Foods, GMPs, dairy manufacturing, FSMA preventive controls for human food

Meet the Team



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Expertise: Research/development, pilot plant equipment, membrane filtration, fresh cheese making, flavor chemistry



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Extension Support Specialist

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Expertise: Workshop/short course organization & planning, food safety systems, GMPs, social media/web development



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Expertise: Course coordination & data management



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Expertise: Dairy food systems, dairy product manufacturing, food safety systems



Rebecca Phillips

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Expertise: Research/development, dairy food systems, dairy food safety



Taylor Pelcher

Workforce Support Specialist

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Expertise: Workforce development



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Workforce Support Specialist

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Expertise: Workforce development



Maria Witlox

Program Aide

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Expertise: Course coordination & data management

Course Information

Registration and Confirmation

Please visit the Cornell Dairy Foods Extension website to register for courses: cals.cornell.edu/dairy-extension

Please contact Louise Felker (lmf226@cornell.edu) with any special payment circumstances prior to registering.

Cancellation Policy

Registration must be canceled by the close of business on the Friday two weeks prior to the start of the course in order to receive a full refund. Substitute registrations from the same company will be accepted at any time prior to the start of the course. No refunds will be given to individuals that fail to attend to their scheduled course.

Required Materials

All required course materials will be provided by Cornell University Dairy Foods Extension. Participants will be notified if the course requires use of a personal laptop computer during the hands-on sessions. Courses that include an online, self-paced portion require that the online materials be completed prior to the start of the hands-on workshop.

Certificate of Achievement

Attendees must sign in at the beginning of the workshop and attend all days of the workshop to qualify to receive a certificate of achievement. Attendees must also score a 70 or higher on the course post-test to pass the course and receive their certificate. One retake of the post-test is allowed per attendee.

Dairy Foods Certificate Program | Steps to Earning a Certificate

Core Courses

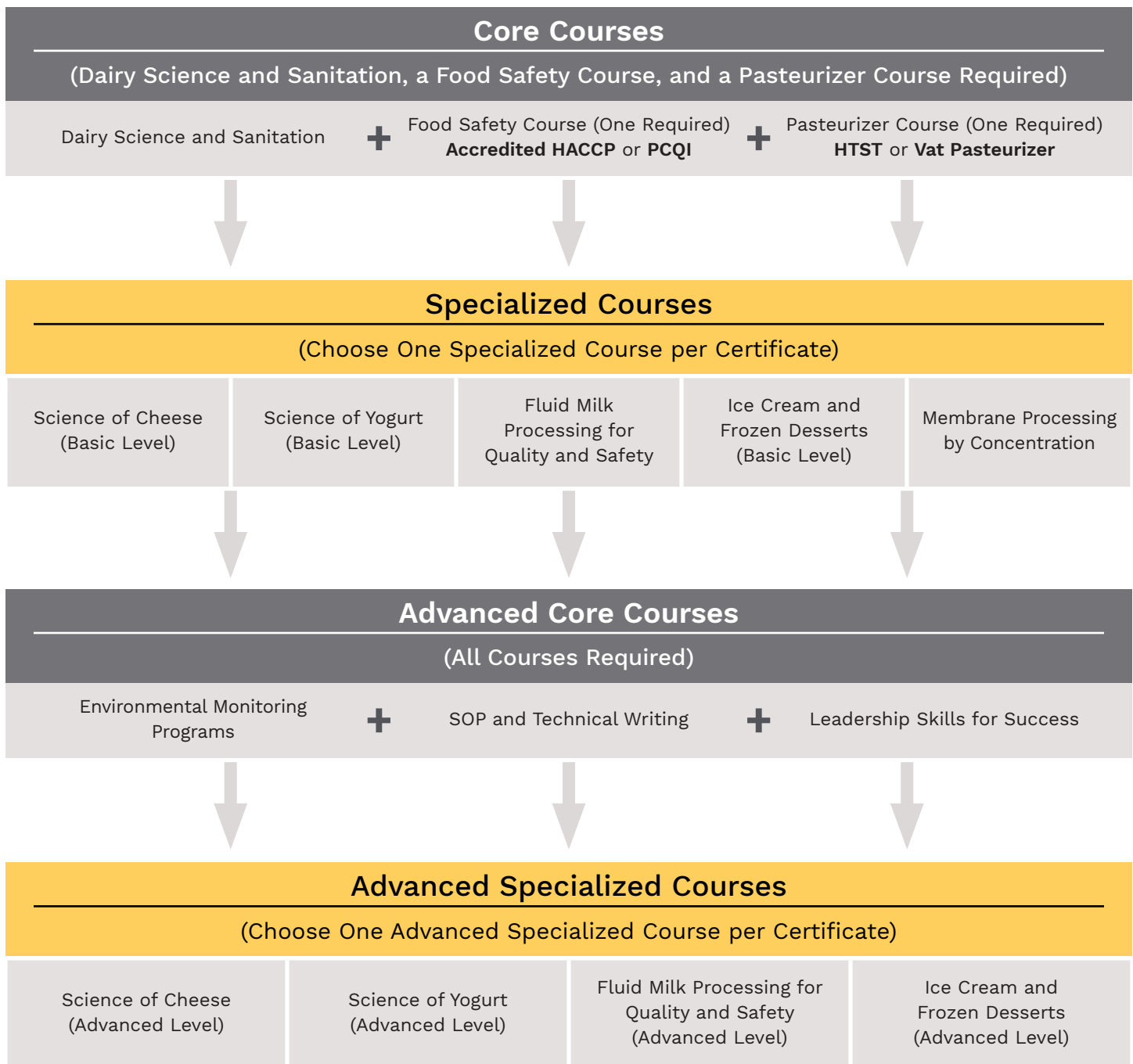
These courses are required to complete any chosen track for the specialized certificate programs. Dairy Science and Sanitation, a food safety course, and a pasteurizer course are required for Basic Certification. Pathogen Environmental Monitoring, SOP and Technical Writing, and Leadership Skills for Success are required for Advanced Certification.

Specialized Courses

Choose one specialized course per certificate:

- Science of Cheese (Basic & Advanced Levels Available)
- Science of Yogurt and Cultured Dairy Products (Basic & Advanced Levels Available)
- Fluid Milk Processing for Quality and Safety (Basic & Advanced Levels Available)
- Artisan Ice Cream and Frozen Desserts (Basic & Advanced Levels Available)
- Membrane Processing by Concentration

Certificate Program

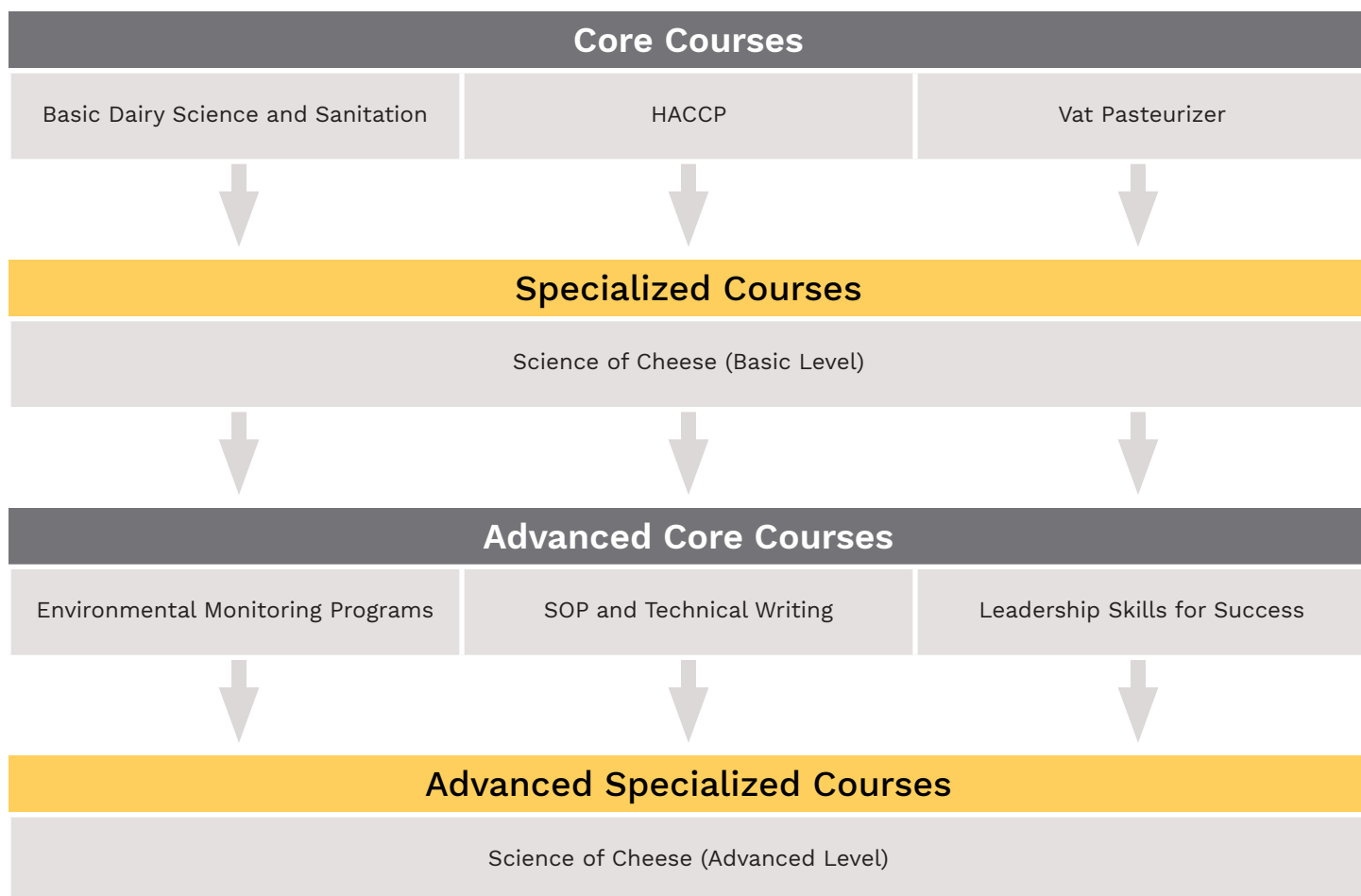


Successful completion of Core Courses and appropriate Specialized Course required for Basic Certification. Certificate valid for 3 years. 15 hours every 3 years of approved course work or meeting attendance required for renewal. See examples on the next page.

Successful completion of Basic Certificate Track, Advanced Core Courses, and appropriate Advanced Course required for Advanced Certification. Certificate valid for 3 years. 15 hours every 3 years of approved course work or meeting attendance required for renewal.

Certificate Program – Examples

Example 1: I want to earn an Advanced Science of Cheese Certificate. What courses should I take?*



Example 2: I need to renew my Basic and/or Advanced Certificate. How do I do that?†

Attend Association Meeting	Attend Dairy Foods Extension Workshop	Attend State and Federal Regulatory Webinar, Training or Meeting
NYS Association for Food Protection NYS Cheese Manufacturers Northeast Dairy Foods Association American Cheese Society IAFP IFT NADRO AFDO SQF Dairy Practices Council Other meetings (pending approval)	Any Dairy Foods workshop Any track Other Dairy Foods workshops outside of the Certificate program	Processing Plant Superintendent Dairy Lab Seminar CMI School CMI Update NCIMS

**Example progression. Our team will work with you to customize your progression.*

†Must complete 15 hours every 3 years for Basic Certification and/or Advanced Certification renewal.

Core Courses

Basic Dairy Science and Sanitation

Available in English and Spanish

Online (Self-Paced), 2 CEUs – The Dairy Science and Sanitation Workshop is tailored to dairy processing personnel and is designed to help participants understand the basic principles of dairy science and safety, as well as emphasize dairy processing establishment needs related to dairy sanitation to ensure that proper programs are conducted in their establishments.

The course consists of online lectures that cover basic dairy science, including composition of milk, dairy microbiology, dairy food safety, as well as an overview of dairy regulations. Participants will also learn the basics of cleaning and sanitizing principles as well as unit operations that include: raw milk production and receiving, dairy processing, plant equipment and design, general control of pathogenic and spoilage microorganisms, in-depth information on cleaning and sanitizing chemicals, their properties and applications, and a discussion on CIP and COP systems and common errors seen in the industry.

Learning Outcomes

- Basic dairy microbiology/food safety overview
- Good manufacturing practices/dairy sanitation
- Milk composition and unit processing operations
- Dairy regulations/Food Safety Modernization Act

High Temperature Short Time (HTST) Pasteurizer Operator

Multiple Delivery Styles (Live via Teleconference or On-Campus)

3 Day Course, 3 CEUs – This workshop is designed for pasteurizer operators, but is beneficial to all involved with milk pasteurization, including production, QA/QC and maintenance personnel. The course is instructed by industry experts and representatives from NYS Department of Agriculture & Markets and provides an overview of the design, operation, cleaning and maintenance of HTST systems. All required regulatory tests for HTST pasteurizers will be discussed and/or presented in a hands-on format to meet the training requirements for performing HTST system testing under the NY State Broken Seal Policy. Information on HTST/UHT systems will be covered. Background in dairy microbiology, product safety and quality will also be provided.

Learning Outcomes

- HTST and UHT operation components
- Regulatory requirements for HTST operation
- Cleaning and sanitizing HTST programs
- Requirement as part of NYS Broken Seal Program

Core Courses

Vat Pasteurizer

Online (Self-Paced), 1 CEU – This course is designed for individuals interested in vat pasteurization methods, rules, and regulations.

Learning Outcomes

- Basic dairy microbiology/food safety overview
- Good manufacturing practices/dairy sanitation
- Milk composition and unit processing operations
- Dairy regulations/Food Safety Modernization Act

Advanced Core Courses

Environmental Monitoring Programs

Hybrid Course, 2 CEUs – This course will prepare participants to develop and implement an effective Pathogen Environmental Monitoring program that will achieve greater product safety and quality. The course will focus on pathogens of concern and the importance of environmental sampling programs. Potential sources of contamination will be identified and control steps outlined. Participants will work in small groups to develop an Environmental Monitoring Plan and discuss mitigation steps and corrective actions to control microbial contamination in a food processing facility.

Learning Outcomes

- Identify the pathogens of concern in a food processing facility and describe which foodborne illnesses are associated with each
- List potential contamination sources within a food processing facility
- Create a plant zone map
- Develop a Sampling Plan
- Differentiate between different types of swabbing activities and explain the best practices for each
- Analyze trends in monitoring data
- Generate a Corrective Action Plan
- Identify opportunities for continuous program improvement

Core & Specialized Courses

SOP and Technical Writing

Hybrid Course, 2 CEUs – This course presents the process of writing and maintaining Standard Operating Procedures for both regulatory compliance and everyday employee usage.

Learning Outcomes

- Outline regulatory requirements
- Determine which processes to document
- Evaluate the relationship between process documents
- Identify the audience
- Explain systems, activities, and processes
- Tense and word choice
- Writing effective documents
- Review and revision process
- Document compliance

Leadership Skills for Success

Live via Teleconference

3 Half-Day Course, 2 CEUs – Master critical communication and leadership skills to effectively manage employees, establish priorities and delegate responsibilities while building awareness of team dynamics and engaging employees through group problem-solving and decision making. Gain the commitment of others and add value to your organization by being clear about the results you want to achieve, the environment you want to create, and how you will develop and deploy talent. Become an effective leader with the ability to build relationships and manage workplace communications to be heard and understood by others while enhancing employee engagement and ensuring alignment and collaboration among members.

Specialized Courses (Basic & Advanced)

The Science of Cheese (Basic Level)

Hybrid Course, 2 CEUs – This workshop is designed for cheese manufacturers or others interested in the basic concepts of cheese making and is a required part of the Dairy Extension Basic Science of Cheese Certificate.

The course may also be taken as a stand-alone training. The course begins with an online lecture component covering the key areas related to vat pasteurization and basic cheese making techniques, cheese culture basics, milk defects, and cheese defects. The course will also include cheese making activities.

Specialized Courses

Learning Outcomes

- Foodborne pathogens resulting from unpasteurized milk
- Components of vat pasteurization
- Thermometer requirements
- Chart recorders and chart requirements
- Milk quality which impacts cheese making
- Cheese culture and chemistry and microbiology
- Cheese-making unit operations and techniques and hands-on cheese making

The Science of Cheese (Advanced Level)

2 Day Course, 2 CEUs – This workshop is designed for advanced level cheese manufacturers or others interested in the advanced concepts of cheese and is a required part of the Dairy Extension Advanced Science of Cheese Certificate. The course may also be taken as a stand-alone training. The workshop will provide attendees with a review of information in key areas related to the complex chemistry of cheese, cheese styles and standards of identity, advanced microbiology, advanced cheese problems and defects, and food safety challenges in the cheese industry. It is expected that the attendee has a variety of applied experience as this course is designed to test overall knowledge and problem-solving as it relates to cheese. This course assumes the attendee understands applied concepts and science as it relates to cheese before arrival.

Learning Outcomes

- Milk components and advanced chemistry of cheese
- Cheese styles and standards of identity
- Cheese defects during process and affinage

The Science of Yogurt and Cultured Dairy Products (Basic Level)

Hybrid Course, 2 CEUs – This workshop is designed for yogurt and fermented dairy product manufacturers and is a required part of the Dairy Extension Basic Yogurt and Fermented Dairy Products Certificate. The course may also be taken as a stand-alone training. The workshop will provide attendees with information in key areas related to milk quality and its impact on finished dairy products, product evaluation and defects, ingredients in cultured dairy products, and product processing and formulation.

Learning Outcomes

- Milk quality and impact on cultured dairy products
- Culture microbiology and hands-on cultured dairy making
- Unit operations and sanitation in cultured dairy production
- Formulation utilizing different ingredients

Specialized Courses

The Science of Yogurt and Cultured Dairy Products (Advanced Level)

2 Day Course, 2 CEUs – This workshop is designed for advanced level yogurt and fermented dairy product manufacturers and is a required part of the Dairy Extension Advanced Yogurt and Fermented Dairy Products Certificate. The course may also be taken as a stand-alone training. The workshop will provide attendees with information in key areas related to advanced microbiology, chemistry in fermented milk and dairy product production, advanced sensory product evaluation, safety and quality assurance.

Learning Outcomes

- Milk components and advanced chemistry of cultured-dairy making
- Innovations in cultured dairy production
- Advanced sensory characteristics

Fluid Milk Processing/Testing for Quality and Safety

Hybrid Course, 2 CEUs – This workshop is designed for those involved and/or interested in fluid milk processing and testing with the intent of providing the tools to support and improve on quality assurance/control and food safety programs for bottled milks. While the course design assumes participants have some prior knowledge of dairy microbiology and processing (e.g., Dairy Science & Sanitation Course), critical concepts will be reviewed and expanded on for those who do not have prior knowledge.

Learning Outcomes

- Basic microbiology in relation to milk quality and safety
- Influence of raw milk quality on pasteurized milk quality and shelf life
- Fluid milk processing parameters
- Tools for assessing milk quality and shelf life

Introduction to Artisan Ice Cream and Frozen Desserts

Hybrid Course, 2 CEUs – This course is designed for the artisan ice cream manufacturer and will focus on select types of frozen desserts, including their composition and physical properties, ingredients, sensory, as well as equipment and the manufacturing process.

Learning Outcomes

- The composition of ice cream and origin of the ingredients within the food system
- The physical and chemical changes that occur during ice cream production
- The equipment involved in making ice cream and product development
- The sensory properties of ice cream

Food Safety Courses

Accredited HACCP Training

Available in English and Spanish

Online (Self-Paced), 2 CEUs – This course is designed for individuals who have responsibility for building, maintaining, and updating plant HACCP programs that will meet customer and third-party requirements. This course is accredited under the International HACCP Alliance and is designed to meet the requirements set for GFAI, NCIMS, FSIS, and the FDA.

Implementing SQF Systems

3 Day Course – This workshop is designed to give participants an understanding of the SQF Code, how to implement requirements in food production, manufacturing, storage, distribution, and packaging to achieve or maintain SQF Certification. Students must have completed a HACCP course of at least 16 hours prior to taking this course.

Artisan Dairy Food Safety Plan Coaching

Hybrid Course, 2 CEUs – This coaching workshop is intended for Artisan Dairy Food Producers who are preparing to create, or are already developing, a FSMA-compliant preventive control (PC)-based food safety plan for their facility. The goal of this workshop is to provide artisan cheese and dairy food producers access to food safety plan material and experts so that they can learn about, prepare, and review Food Safety Modernization Act (FSMA) compliant, preventive control (PC)-based, food safety plans for their facility. Food safety plan materials and expertise are provided in multiple modalities to allow for different levels of utilization and engagement: self-paced online content & materials, live-virtual, and in person. PCQI lead trainers will be present to review topics and answer questions. Templates (digital and paper) will be provided to facilitate plan development, attendees are encouraged to bring their current or in-progress plans.

Note: This course is NOT intended to provide PCQI certification, it is strongly recommended that attendees complete an FSPCA



Food Safety Courses

PCQI certification course or similar program before attending this workshop. Attendees are also encouraged to enroll and complete the Food Safety for Artisan/Farmstead Cheesemakers course prior to taking this workshop. The link to this online training will be provided upon registration.

Introduction to Food Safety Principles

Available in English and Spanish

Online (Self-Paced) – This introductory course is tailored to processing personnel and is designed to help participants understand the basic principles of food safety in a processing plant. The benefit of using this course is to quickly train your frontline employees in the importance of Food Safety.

The course consists of self-paced online modules with knowledge checks at the end of each module that will cover basic food safety including Good Manufacturing Practices, Basic Microbiology and Foodborne Illness, and Food Safety Programs. The course is ideally suited for production line personnel, sanitation personnel and maintenance personnel.

This course provides baseline knowledge and is not intended to be a comprehensive training. We are offering this course based on a subscription price. Companies are granted access to the course through Canvas for the designated time purchased. Companies have unlimited access to the content and can train unlimited employees through the subscription period. Contact Louise Felker (lmf226@cornell.edu) for subscription pricing information.

Applied Food Safety Plans – An Advanced Refresher Course

2 Day Course, 2 CEUs – This course is designed for anyone that has had HACCP and/or PCQI training and has worked in a role that has been part of a Food Safety team in a plant environment. Most third-party auditing schemes recommend that HACCP and/or PCQI training be updated every 5 years. This course will meet these criteria. The other benefit of this course is a more advanced understanding of Food Safety Plans. The goal of this workshop is to explain and clarify the differences between programs that your facility may have already had as prerequisite programs (i.e., Allergen programs, Sanitation programs, etc.), and the “new” expectations of Preventive Controls that are required by FSMA.

The workshop will include a hands-on group activity that includes a risk analysis and a group discussion on best practices. We will also address how to perform a thorough Root Cause Analysis and Food Safety Culture including strategies to implement it in your facility.

Successful completion of this workshop will provide attendees with a review of the tools necessary to build a new or update outdated HACCP/Food Safety Programs. This course will be taught by Lead Instructors trained by the FSPCA, SQF, and HACCP Alliance. The attendees will earn a certificate that will meet third-party requirements for training.

Regulatory Courses

FSMA Preventive Controls Qualified Individual Training*

Multiple Delivery Styles (Live via Teleconference or On-Campus)

3 Day Course, 2.5 CEUs – The *Current Good Manufacturing Practice, Hazard Analysis, and Risk-Based Preventive Controls for Human Food* regulation is intended to ensure safe manufacturing/processing, packing and holding of food products for human consumption in the United States. The regulation requires that certain activities must be completed by a preventive controls qualified individual who has successfully completed training in the development and application of risk-based preventive controls. This course developed by the FSPCA is the standardized curriculum recognized by FDA; successfully completing this course is one way to meet the requirements for a preventive controls qualified individual. These courses are taught by Lead Instructors trained by the FSPCA, who have been instructed in how to teach the FDA-recognized standardized curriculum.

**Course description provided by the Food Safety Preventive Controls Alliance*

Intentional Adulteration Vulnerability Assessments (IAVA)

1 Day Course – This course will provide participants with the knowledge to conduct vulnerability assessments under the Mitigation Strategies to Protect Food Against Intentional Adulteration (IA) regulation of the U.S. Food and Drug Administration (FDA). This regulation is one of several regulations that guide implementation of the provisions of the 2011 Food Safety Modernization Act (FSMA), which focuses on safe food practices.

The Mitigation Strategies to Protect Food Against Intentional Adulteration regulation (referred to as the IA rule) is aimed at preventing intentional adulteration from acts intended to cause wide-scale harm to public health, including acts of terrorism targeting the food supply. The regulation requires that certain activities must be completed by a “food defense qualified individual” who has successfully completed training in the conduct of a vulnerability assessment. This course developed by the FSPCA is the “standardized curriculum” recognized by FDA. Successful completion of this course is one way to meet this requirement. *These courses are taught by Lead Instructors trained by the FSPCA, who have been instructed on how to teach the FDA-recognized standardized curriculum.*

Dairy Lab Seminar

1 CEU – Provides dairy laboratory personnel with regulatory, procedural and scientific updates.

Certified Milk Inspectors Training School

2.5 CEUs – Provides detailed instruction of required dairy farm inspections and is a required course for Certified Milk Inspectors (CMI), those who inspect dairy farms. Offered once each summer.

Specialty Training Programs

In addition to our Regulatory and Certificate program Training Courses, we also offer a selection of specialty courses in both food safety topics and advanced level hands-on training programs.

Dairy Lab Analysts Training

3 Day Course, 3 CEUs – This program offers a combination of lectures and practical applications on basic bacteriological and chemical methods used in Grade A milk laboratories. These include cultural procedures, plating, detection of inhibitory substances, abnormal milk testing, phosphatase testing and other procedures important to quality control in laboratories. The techniques and methods taught are those required by the NCIMS/FDA Grade A Milk Program.

The program is open to people in regulatory, industry, and others allied with the dairy industry.

Sensory Immersive Experience in Dairy

2 Day Course, 2 CEUs – This training will provide training in the basic components of sensory evaluation including psychological consideration in sensory analysis, physiology of sensory perception, reviewing the components of flavor and exploring flavor and texture attributes during hands-on sensory sessions.

Membrane Processing by Concentration

2 Day Course, 2 CEUs – This workshop is designed for those involved and interested in the fractionation, separation, concentration, and drying of dairy products and ingredients. Quality, processing, food safety and cleaning are aspects of the courses. While the course design assumes participants have some prior knowledge of dairy processing, critical concepts will be reviewed and expanded on for those who do not. This course can be taken as a stand-alone program.



Specialty Training Programs

Cheese Grading

1 Day Course, 1 CEU – This course will focus specifically on cheddar and mozzarella grading in accordance with USDA standards. USDA experts will discuss the USDA standards for grade, cheese defects as well as hands-on exercises with defective cheeses. This is an opportunity to compare and calibrate your skills with actual federal graders. The course is designed for people who currently grade or would like to learn how to grade cheese.

Dairy Processing Plant Superintendent

Annual update provides dairy plant personnel with regulatory and extension updates. Offered at 4 locations each spring. Required update for all NY State Dairy Processing Plant Superintendents (PPS).


















Certified Milk Inspectors Annual Update

Provides regulatory and extension updates on farm inspection and milk quality. Offered at 4 locations each fall. Required update for licensed Certified Milk Inspectors (CMIs).

New York State Fair Dairy Judging and Awards Program

This program provides dairy plants the opportunity to receive awards and recognition for product quality at New York State Fair. Coordination and judging of dairy products for state fair competition occurs each summer at Cornell.

Course Calendar

Topic	Date Offered	Location	Category	Training Delivery
CORE COURSES				
Basic Dairy Science and Sanitation (English & Spanish)	Rolling Admission, On-Demand	Online	Certificate Program	
HTST Pasteurizer Operator	April 9 – 11, July 16 – 18	Cornell University (Ithaca, NY)	Certificate Program, Food Processing	
HTST Pasteurizer Operator	October 8 – 10	Live via Teleconference (Zoom)	Certificate Program, Food Processing	
Vat Pasteurizer	Rolling Admission, On-Demand	Online	Certificate Program, Food Processing	
ADVANCED CORE COURSES				
Environmental Monitoring Programs (Hybrid Format)	November 5	Online & Cornell University (Ithaca, NY)	Certificate Program, Food Safety	  
SOP and Technical Writing (Hybrid Format)	November 6	Online & Live via Teleconference (Zoom)	Certificate Program, Food Processing	  
Leadership Skills for Success	September 10 – 12	Live via Teleconference (Zoom)	Certificate Program	
FOOD SAFETY COURSES				
Accredited HACCP Training (English & Spanish)	Rolling Admission, On-Demand	Online	Certificate Program, Food Processing, Food Safety, Regulatory	
Implementing SQF Systems	August 27 & 28	Cornell University (Ithaca, NY)	Certificate Program, Food Safety	
Artisan Dairy Food Safety Plan Coaching (Hybrid Format)	Rolling Admission, On-Demand	Online & Cornell University (Ithaca, NY)	Food Processing, Food Safety	  
Introduction to Food Safety Principles (English & Spanish)	Rolling Admission, On-Demand	Online	Food Safety	



ON-CAMPUS



ONLINE



















ZOOM



HYBRID


Course Calendar

Topic	Date Offered	Location	Category	Training Delivery
SPECIALIZED COURSES				
SCIENCE OF CHEESE				
The Science of Cheese (Basic Level) (Hybrid Format)	October 15	Online & Cornell University (Ithaca, NY)	Certificate Program, Food Processing	  
SCIENCE OF YOGURT				
The Science of Yogurt and Cultured Dairy Products (Basic Level) (Hybrid format)	May 14	Online & Cornell University (Ithaca, NY)	Certificate Program, Food Processing	  
The Science of Yogurt (Advanced Level)	May 15 & 16	Cornell University (Ithaca, NY)	Certificate Program, Food Processing	
FLUID MILK PROCESSING				
Fluid Milk Processing for Quality and Safety (Hybrid Format)	March 7	Online & Cornell University (Ithaca, NY)	Certificate Program, Food Processing	  
ICE CREAM AND FROZEN DESSERTS				
Intro to Ice Cream and Frozen Desserts (Hybrid Format)	April 16 & 17	Online & Cornell University (Ithaca, NY)	Certificate Program, Food Processing	  
SPECIALTY TRAINING PROGRAMS				
Dairy Lab Analysts Training	January 9 – 11	Cornell University (Ithaca, NY)	Food Safety	
Sensory Immersive Experience in Dairy	March 13 & 14	Cornell University (Ithaca, NY)	Food Processing	
Membrane Processing by Concentration	August 20 – 22	Cornell AgriTech (Geneva, NY)	Certificate Program, Food Processing	



Course Calendar

Topic	Date Offered	Location	Category	Training Delivery
REGULATORY COURSES				
FSMA Preventive Controls Qualified Individual Training	February 20 – 24, November 12 – 14	Live via Teleconference (Zoom)	Certificate Program, Food Safety, Regulatory	
FSMA Preventive Controls Qualified Individual Training	May 21 – 23, August 6 – 8	Cornell University (Ithaca, NY)	Certificate Program, Food Safety, Regulatory	
Intentional Adulteration Vulnerability Assessments (IAVA)	June 18	Cornell University (Ithaca, NY)	Certificate Program, Food Safety, Regulatory	
Dairy Lab Seminar	April 24	Live via Teleconference (Zoom)	Certificate Program, Food Safety, Regulatory	
Certified Milk Inspectors Training School (Hybrid Format)	July 23 – 25	Online & Live via Teleconference (Zoom)	Certificate Program, Food Safety, Regulatory	  

 **On-Campus Trainings** take place at the Cornell University Stocking Hall Conference Center, unless otherwise noted. All courses listed are open to the public.*

 **Online (Self-Paced) Trainings** are completed online using eCornell or the Canvas Learning Management System.

 **Zoom Courses** are hosted via live teleconference (Zoom).

 **Hybrid Courses** include online as well as hands-on sessions.*

*Course delivery subject to change due to public health guidance from Cornell University.

Extension Services

Industry Workshops (On-Site or Virtual)

Contact Louise Felker (lmf226@cornell.edu) for price quote and scheduling.

- Dairy Science & Sanitation (2.5 days)
- Preventive Controls Qualified Individual (2–2.5 days)
- HACCP Training (2 days)
- GMPs Training (2 days)
- Internal Audit Training (1 day)
- Sensory Training (1 day)
- Food Defense Training (2 days)
- Foreign Supplier Verification Programs Training (1.5 days)

Consulting Services

Contact Louise Felker (lmf226@cornell.edu) for price quote and scheduling.

Dairy Process Authority

Dairy Process review and validation available for dairy products. Fees charged for initial review, research, and on-site review. Submission options include the following:

- Product and Process Review/ Scheduled Process
- Reduced Oxygen Packaging (ROP)/ Vacuum Packing
- Lab Analysis
- Deviation Evaluation

Cornell's Process Authority works with food manufacturers to validate products for safety and stability. The Scheduled Process is a document that can be submitted to regulatory agencies, such as state or federal inspectors, to support safe food processing practices and ensure minimal risk of microbial pathogenic growth.

Pre-Audit Consulting

Preparing for a third-party audit and want to make sure that you're ready? Our team can visit your facility and conduct pre-audit consulting.

Document Review

Food safety plan and document review available, on-site and remotely.

Validation Sampling

Validation sampling of environmental monitoring programs available.

Food Processing and Development Laboratory

The Cornell University Food Processing and Development Laboratory (FPDL) is a highly flexible pilot plant that allows industry access to equipment and expertise to facilitate the development of new dairy products and/or to produce prototype products on a small-scale. The 'plug and play' design means that the FPDL can emulate your plant processing parameters for accurate product development projects while the company can get product trials completed without stopping actual production. Because the facility is a licensed dairy plant permitted by New York State, our products can be used for sensory or consumer acceptance studies.

The 6,000 sq. ft. main processing area is directly adjacent to Cornell's fully licensed dairy plant. The pilot plant houses a small-scale HTST system capable of continuous pasteurization of batches as small as 100 gallons with up to a 12-minute extended hold. The facility has multiple cheese vats from 50–500 gallon capacities (with associated equipment such as cheddar milling equipment, cheese presses, a variety of moulds, etc.). For yogurt and cultured products production, the facility has a Greek yogurt separator, fermentation vats from 50–500 gallons, several filling capabilities as well as fermentation rooms to 110°F. The FPDL has continuous and batch ice cream freezing capability as well as a walk-in hardening freezer (–40°F). The pilot plant also has access to very high-quality milk from Cornell's Vet School farm located less than a mile away. This combination allows for scaling up of production in order to provide a variety of products for consumer demonstrations, food shows and exhibitions.

The facility has full-time experienced professionals who are able to assist in all aspects of food product development and processing. Companies/individuals can visit the facilities and work collaboratively or the staff of the FPDL can process products to your specifications and ship it to you overnight. Customized small product development runs can be conducted with our established access to suppliers of ingredients, cultures and raw materials or, if a company prefers, with their supplied ingredients.

For more information visit the [FPDL website](#) or contact Robert Ralyea (rdr10@cornell.edu) with questions.



For More Information



Dairy Foods Extension
cals.cornell.edu/dairy-extension

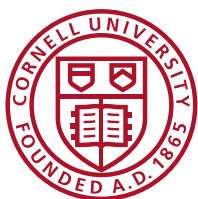
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