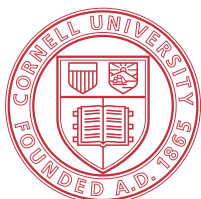


# Dairy Foods Extension

## 2017 Course Catalogue

*Providing cutting edge research and support to  
New York State's dairy industry.*



Cornell University





**The Cornell Dairy Foods Extension Certificate program** offers comprehensive training for dairy processors of all sizes within New York State and beyond. In New York State alone, dairy processing represents 18% of manufacturing jobs within 350 regulated plants. Together with dairy farmers that represents nearly 20,000 employees—and employees need to be trained.

Our Dairy Extension program provides training and certificates in four areas including:

- The Science of Yogurt and Fermented Dairy Products (Basic and Advanced)
- Fluid Milk Processing for Quality and Safety
- Membrane, Evaporation and Drying Technology (Basic and Advanced)
- The Science of Cheese Making (Basic and Advanced)

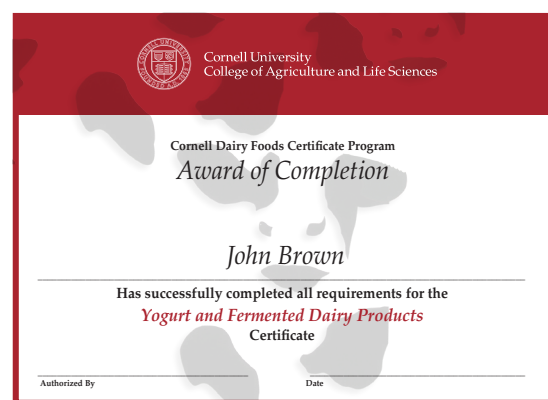
Courses aim to provide comprehensive basic training to dairy processors in vital topics such as milk quality and safety, basic dairy microbiology, Good Manufacturing Practices, unit operations, cleaning and sanitizing, food safety plans, audits, and state and federal regulations.

Processing courses such as The Science of Cheese, The Science of Yogurt, and Fluid Milk Processing combine science with hands-on in-plant experiences utilizing equipment found in actual plant environments. Each participant receives a reference manual on the subject matter for later use.

To increase the amount of time dedicate to these hands-on experiences, several of the courses taught by the Cornell Dairy Foods Extension Program are taught in a hybridized style: readings and lectures are on-line and self-paced prior to an on-campus hands-on session. This innovative system allows employees to do courses work at a time that is convenient to their schedule and reduces the number of hours away from the plant.

Both our Basic Dairy Science and Sanitation and Food Safety Plans/HACCP are also available as site-specific in-plant trainings and our team will occasionally offer or host stand-alone classes or courses at Cornell that are not part of our certificate program and that cannot be used towards the certificates we offer.

While our mission is to provide information and training programs to the dairy production and processing sectors, consumer questions and concerns are addressed as well. The Dairy Foods Extension team is available to assist Cornell Cooperative Extension (CCE) in their training and outreach needs at the county level.



## Registration and Confirmation

Please visit the Cornell Dairy Foods Extension website to register for courses: ([dairyextension.foodscience.cornell.edu](http://dairyextension.foodscience.cornell.edu)).

Upon receipt of registration, you will receive an automatic e-mail confirming that your registration form has been received. This email will include a link for credit card payment. Once you receive the payment link, fill out all required information and click "submit." You should receive a receipt of payment by e-mail within minutes. Once payment is received, confirmation of attendance will be sent by Cornell Staff via e-mail. Attendance will not be confirmed until payment is received; unpaid spots will be released to others.

Please contact Louise Felker at: [lmf226@cornell.edu](mailto: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 show up 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.

The certificate of achievement and the graded post-test will be mailed to each attendee after completion of the course.

## Travel and Accommodations

For information on Ithaca hotels please visit: [visitithaca.com/lodging](http://visitithaca.com/lodging)



## Meet the Team

The Cornell University Dairy Foods Extension team, with the Department of Food Science in the College of Agriculture and Life Sciences, is a diverse group of faculty and staff with extensive knowledge that spans nearly all aspects of dairy science and technology. While our mission is to provide information and training programs to the dairy production and processing sectors, consumer questions and concerns are addressed as well. The Dairy Foods Extension team is available to assist Cornell Cooperative Extension (CCE) in their training and outreach needs at the county level.



### Sam Alcaine

*Assistant Professor of  
Dairy Fermentations*

**E-mail:** sda23@cornell.edu

**Areas of Expertise:** Dairy cultures and fermentation, Antibiotic Resistance in Salmonella;

Good Manufacturing Practices, FSMA Preventive Controls for Human Food.



### Carmela Beliciu

*Extension Aide*

**Phone:** (607) 255-2912

**E-mail:** clb352@cornell.edu

**Areas of Expertise:** Working with business owners to facilitate their use of FPD facilities,

small-scale dairy production, specialty cheese instruction and manufacture, Good Manufacturing Practices.



### Kimberly Bukowski

*Extension Professional*

**Phone:** (607) 254-3313

**E-mail:** krb14@cornell.edu

**Appointment:** Extension

**Areas of Expertise:** Dairy plant auditing; food safety systems;

GFSI-Safe Quality Foods; Good Manufacturing Practices; dairy manufacturing; ice cream; FSMA Preventive Controls for Human Food.



### Louise M. Felker

*Extension Support Specialist*

**Phone:** (607) 255-7098

**E-mail:** lmf226@cornell.edu

**Areas of Expertise:** Workshop/short course organization and planning, food safety systems,

Good Manufacturing Practices, social media/web development.



### Carl Moody

*Regional Dairy Processing  
Specialist,*

*Cornell Cooperative Extension  
(CCE), Harvest, NY*

**Phone:** (716) 515-8175

**E-mail:** carl.moody@cornell.edu

**Areas of Expertise:** Dairy product quality, food safety, organic manufacturing, and employee training; FSMA Preventive Controls for Human Food.



### Robert D. Ralyea

*Sr. Extension Associate*

**Phone:** (607) 255-7643

**E-mail:** rdr10@cornell.edu

**Areas of Expertise:** Dairy systems environmental microbiology, product processing and

regulations; small-scale dairy production, general food security & risk assessment; FSMA Preventive Controls for Human Food.



### Martin Wiedmann

*Gellert Family Professor in  
Food Safety*

**Phone:** (607) 254-2838

**E-mail:** mw16@cornell.edu

**Areas of Expertise:** *Listeria monocytogenes*, pre-harvest food

safety, molecular pathogenesis, microbial ecology and epidemiology.



### Anika Zuber

*Regional Dairy Processing and  
Marketing Specialist,*

*Cornell Cooperative Extension  
(CCE), Harvest, NY*

**Phone:** (585) 813-3539

**E-mail:** adz8@cornell.edu

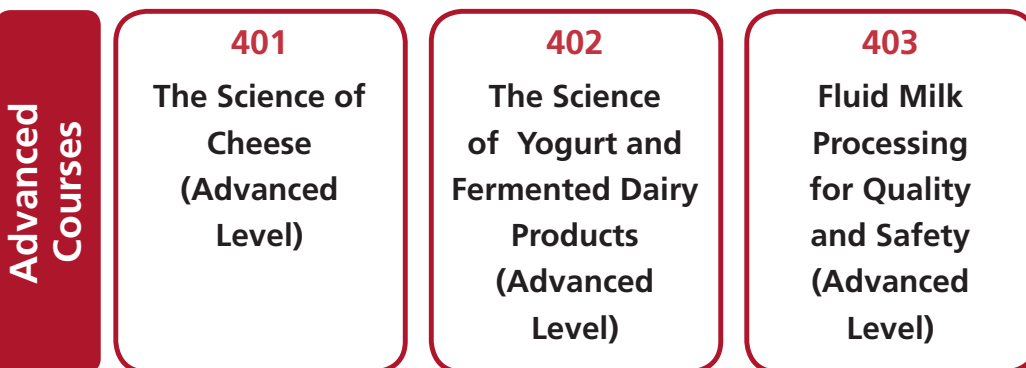
**Areas of Expertise:** Working with regulatory agencies, workforce development agencies and suppliers to help members of the dairy foods manufacturing community reach their goals.



# Steps to Earning a Certificate



Successful completion of Core Courses and appropriate Specialized Course required for Certification. Certificate valid for 3 years, requires 8 CEUs for renewal.








Certification as an Advanced Cheese Maker and/or Advanced Yogurt Maker requires related specialized certification, completion of the Course, completion of an oral exam, and more than 3 years experience in respective field (supported by 2 references). Certificate is valid for 3 years, requires 16 CEUs for renewal.



# Course Information

## Training Delivery Types

-  **On-Campus Training** takes place at the Cornell University Stocking Hall Conference Center, unless otherwise noted. All courses listed are open to the public.
-  **On-Site Plant Training** these workshops can be offered off campus and at industry sites; courses at company sites can be limited to attendees from the hosting company. On-site courses are charged a flat fee (see page 15 for details).
-  **Online, Self-Paced Training** includes background material to review prior to the start of the workshops and self-assessment quizzes.
-  **Partnership Courses** are conducted in partnership with other organizations, including the New York State Department of Agriculture and Markets, Oregon State, Harvest NY, and Jasper Hill.
-  **Multi-modal Courses** are online and hands-on.

## Core Courses

These courses are required to complete any chosen track for the specialized Certificate Programs.

### Dairy Science and Sanitation

*(On-line Lectures/1.5 Days Hands-On, 2 CEUs)*

The Basic 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 on-line lecture sessions that will cover basic dairy science, including composition of milk, dairy microbiology, and dairy food safety, as well as an overview of dairy regulations. Participants will also learn in on-hands on sessions the basics of cleaning and sanitizing principles, unit operations—both raw milk production and receiving, and 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. The course also provides hands-on sessions where both CIP and COP principles will be applied.

The Basic Dairy Science & Sanitation Workshop is the integral/central component of the Dairy Foods Certificate Program being offered at Cornell University. Individuals may register for the workshop and enroll in the Dairy Foods Certificate Program, or register for the course as a stand-alone program. This course is also available as on-site training.

### Learning Outcomes

- Basic Dairy Microbiology/Food Safety Overview
- Good Manufacturing Practices/ Dairy Sanitation
- Milk Composition & Unit Processing Operations
- Dairy Regulations/Food Safety Modernization Act



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## HACCP/Food Safety Plans

*(On-line Lectures/1.5 Days Hands-On, 2 CEUs)*

This workshop is designed to provide comprehensive instruction on the development of HACCP based food safety programs for dairy operations that should apply to juice and other foods as well. It will provide practical information, forms and exercises designed to enhance HACCP and other food safety systems.

The course begins with an on-line lecture component, followed by 1.5 days of hands-on sessions on-campus.

Throughout the course, the relationship of traditional HACCP concepts with the proposed Preventive Controls rule under FDA's Food Safety Modernization Act (FSMA) will be discussed as interpretation of the proposed rule implies that companies will be required to have food safety programs in place that are in-line with traditional HACCP concepts (please note – the rule is not yet final).

For Grade "A" Dairy processors, this course will meet the core training requirements of the NCIMS Voluntary HACCP Program for dairy plants. FDA Juice HACCP compliance requirements applicable to dairy operations that process juice will also be covered. Successful completion of this workshop should provide attendees with the tools necessary to build new or update outdated HACCP/Food Safety Programs that will meet NCIMS and FDA Juice HACCP requirements. It should also serve as a foundation for the Global Food Safety Initiative's 3rd party certification schemes such as SQF, BRC & FSSC 22000. SQF examples will be provided.

### Learning Outcomes

- Hazards associated with dairy foods processing
- Prerequisite Programs and Good Manufacturing Practices
- HACCP plan development
- HACCP-based regulations

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## High Temperature Short Time (HTST) Pasteurizer Operator Workshop

*(2.5 Day Course, 2 CEUs)*

This workshop is designed for pasteurizer operators, but should be beneficial to all involved with milk pasteurization, including production, QA/QC & maintenance personnel. The course is instructed by industry experts and representatives from NYS 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 HHST/UP systems will be covered, as warranted. Background in dairy microbiology, product safety & quality will also be provided.

### Learning Outcomes

- HTST Operation Components
- Regulatory requirements for HTST Operation
- Cleaning & Sanitizing HTST Programs
- Requirement as part of NYS Broken Seal Program



## Specialized Courses

### The Science of Cheese (Basic Level) and Vat Pasteurization

*(On-line Lectures/1.5 Days Hands-On, 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 Cheese Making Certificate Program. The course may also be taken as a stand-alone Basic Cheese Making training.

The course begins with an on-line lecture component covering the key areas related to vat pasteurization and basic cheese making techniques, cheese culture basics, milk defects, cheese defects and cheese marketing. The course will also include 1.5 days of hands-on pasteurization and cheese making activities.

#### 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
- Cheese marketing for small scale producers & key performance indicators for large scale producers

### 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 Cheese Certificate Program. The course may also be taken as a stand-alone Advanced Cheese 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 Fermented Dairy Products (Basic Level)

*(On-line lectures/1.5 Days Hands-On, 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 Program. The course may also be taken as a stand-alone Science of Yogurt and Fermented Dairy products training.

The course begins with an on-line lecture component and is followed by hands-on sessions on-campus. 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

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## **The Science of Yogurt and Fermented 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 Program. The course may also be taken as a stand-alone Advanced Science of Yogurt and Fermented Dairy products training.

The workshop will provide attendees with information in key areas related to advanced microbiology, chemistry in fermented milk and dairy product production, along with 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

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## **Fluid Milk Processing/Testing for Quality and Safety Workshop**

*(2.5 Day Course, 2 CEUs)*

This workshop is designed for those involved and 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. This course is instructed by Cornell Dairy Foods Extension staff and industry experts. While the course design assumes participants have some prior knowledge of dairy microbiology & processing (e.g., Basic Dairy Science & Sanitation Course), critical concepts will be reviewed and expanded on for those who do not. This course can be taken as a stand-alone program, but it also fulfills the core training requirement of a Cornell Dairy Foods Certificate for Fluid Milk Processing for Quality and Safety after all required prerequisite courses have been taken (e.g., Dairy Science & Sanitation, HACCP, HTST).

### **Learning Outcomes**

- Basic Microbiology in relation to Milk Quality and Safety
- Influence of Raw Milk Quality on Pasteurized Milk Quality & Shelf-Life
- Fluid Milk Processing Parameters
- Tools for Assessing Milk Quality and Shelf-Life



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## Membrane Filtration, Concentration, and Separation Technology

*(2.5 Day Course, 2.5 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. It will be instructed by Cornell Dairy Foods Extension staff and dairy and processing industry experts. While the course design assumes participants have some prior knowledge of dairy processing (e.g., Dairy Science & Sanitation Course), critical concepts will be reviewed and expanded on for those who do not. This course can be taken as a stand-alone program, but it also fulfills the core training requirement of a Cornell Dairy Foods Certificate for Membrane Filtration, Concentration and Separation Technologies after all required prerequisite courses have been taken (e.g., Basic Dairy Science & Sanitation, HACCP, HTST). Course earns 2.5 CEUs.

### Learning Outcomes

- Quality and food safety effects of operations on value-added dairy ingredients
- Current research topics in value-added dairy ingredients
- Unit operations in filtration, evaporation, and drying for dairy products
- Cleaning techniques for unit operations

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## Partner Programs

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### Accredited Introductory HACCP Training Course and Implementing SQF Systems

Two-day course 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.

Registration is \$750 and includes all training materials and lunches.

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### Implementing SQF Systems Course

Two-day course that will give participants an understanding of the SQF Code, how to implement these requirements in a food processing plant, as well as food ingredient and food packaging plants to achieve or maintain SQF Certification. It is strongly recommended that students have completed a HACCP Course of at least 16 hours prior to taking this course.

Registration is \$750 and includes all training materials and lunches. For participants that wish to take the online certification exam, a separate \$75 fee payable to SQF is required—do not bring this fee to the course, it is paid on-line to SQF.

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## Regulatory

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### FSMA Preventive Controls Qualified Individual Training

*(2.5 Day Course, 2.5 CEUs)*

This 2.5 day course will fulfill FDA Requirements for FSMA Qualified Individual Training through Accreditation by the Food Safety Preventive Controls Alliance and AFDO. The course will include opportunities for participants to review the final rule and participate in classroom exercises to better understand the regulation. At the conclusion of the course, participants will receive a certificate certifying their training as a Preventive Controls Qualified Individual.

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### **Dairy Processing Plant Superintendent**

Annual Update Provides dairy plant personnel with regulatory and extension updates. Offered at 5 locations each spring. Required update for all NY State Dairy Processing Plant Superintendents (PPS).

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### **Dairy Laboratory Regional Workshops (2 CEUs)**

Provides dairy laboratory personnel with regulatory, procedural and scientific updates. Offered at 5 locations each spring.

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### **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.

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### **Certified Milk Inspectors Annual Update**

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

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### **New York State Fair Dairy Judging and Awards 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.

## **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.

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### **Dairy Basics**

Four hour in-plant training in Milk Chemistry, Dairy Science, and Dairy Sanitation. First training is free, subsequent trainings are \$1100.

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### **Specialty Cheese Making**

This course is an advanced level hands-on course. Participants will apply scientific principles to craft six varieties of cheese from pasteurization through curing. In addition to making cheese, the course will also focus on milk quality, affinage, and sensory evaluation of cheese. It is recommended that participants have experience in cheese making.

Enrollment is limited to the first 20 participants.

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### **Pathogen Environmental Monitoring**

This course is 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.

Enrollment is limited to the first 40 participants.



## Fees

Course	NYS Early Fee	Out of State Early Fee	NYS Late Fee	Out of State Late Fee
Basic Dairy Science & Sanitation	\$600	\$725	\$725	\$900
HACCP for Dairy	\$600	\$725	\$725	\$900
HTST	\$600	\$725	\$725	\$900
Vat Pasteurization	\$150	\$180	\$180	\$225
PEM (Pathogen Environmental Monitoring)	\$600	\$725	\$725	\$900

### Fees: Specialized Courses—Basic

Course	NYS Early Fee	Out of State Early Fee	NYS Late Fee	Out of State Late Fee
Basic Cheese Making	\$600	\$725	\$725	\$900
Basic Yogurt/Fermented Products	\$600	\$725	\$725	\$900
Fluid Milk Processing	\$600	\$725	\$725	\$900
Specialty Cheese Making	\$700	\$780	\$780	\$850
Membrane Evaporation	\$800	\$960	\$960	\$1,150
















### Fees: Specialized Courses—Advanced

Course	NYS Early Fee	Out of State Early Fee	NYS Late Fee	Out of State Late Fee
Advanced Cheese Making	\$800	\$960	\$960	\$1,150
Advanced Yogurt/Fermented Products	\$800	\$960	\$960	\$1,150
Advanced Fluid Milk	\$800	\$960	\$960	\$1,150
Qualified Individual	\$700	\$750	\$780	\$850













## Calendar







 On-Campus
  On-Site
  Online
  Partnership
  Multi-modal

Topic	Date Offered	Location	Category	Training Delivery
<b>Vat Pasteurization Workshop</b>				
Vat Pasteurization Workshop	01/10/17	Sohha Savory Yogurt	Food Processing, Certificate Program, Core Course	
Vat Pasteurization Workshop	10/24/17	Cornell University	Food Processing, Certificate Program, Core Course	
<b>Dairy Science and Sanitation</b>				
Dairy Science and Sanitation	02/07/17–02/08/17	Cornell University	Core Course, Certificate Program	
Dairy Science and Sanitation	03/7/17–03/08/17	Oregon State University	Core Course, Certificate Program	

Topic	Date Offered	Location	Category	Training Delivery
Dairy Science and Sanitation	05/10/17–05/11/17	Vermont	Core Course, Certificate Program	
Dairy Science and Sanitation	08/08/17–08/09/17	Cornell University	Core Course, Certificate Program	
Dairy Science and Sanitation	10/04/17–10/05/17	Vermont	Core Course, Certificate Program	
<b>Preventive Controls Qualified Individual Training</b>				
Preventive Controls Qualified Individual Training	02/14/17–02/16/17	Cornell University	Regulatory, Food Safety	
Preventive Controls Qualified Individual Training	05/23/17–05/25/17	TBD	Regulatory, Food Safety	
Preventive Controls Qualified Individual Training	09/05/17–09/07/17	TBD	Regulatory, Food Safety	
Preventive Controls Qualified Individual Training	12/05/17–12/07/17	Cornell University	Regulatory	
<b>Dairy Lab Seminars</b>				
Dairy Lab Seminars	TBD	Cortland, NY	Regulatory	
Dairy Lab Seminars	TBD	Canton, NY	Regulatory	
Dairy Lab Seminars	TBD	Batavia, NY	Regulatory	
Dairy Lab Seminars	TBD	Long Island, NY	Regulatory	
Dairy Lab Seminars	TBD	Albany, NY	Regulatory	
<b>Dairy Processing Plant Superintendent (PPS) Update</b>				
Dairy Processing Plant Superintendent (PPS) Update	TBD	Middletown, NY	Regulatory	
Dairy Processing Plant Superintendent (PPS) Update	TBD	Jamaica, NY	Regulatory	
Dairy Processing Plant Superintendent (PPS) Update	TBD	East Aurora, NY	Regulatory	



Topic	Date Offered	Location	Category	Training Delivery
<b>Dairy Processing Plant Superintendent (PPS) Update</b>				
Dairy Processing Plant Superintendent (PPS) Update	TBD	Syracuse, NY	Regulatory	
Dairy Processing Plant Superintendent (PPS) Update	TBD	Watertown, NY	Regulatory	
Dairy Processing Plant Superintendent (PPS) Update	TBD	Albany, NY	Regulatory	
<b>High Temperature Short Time (HTST) Pasteurizer Workshop</b>				
High Temperature Short Time (HTST) Pasteurizer Workshop	04/11/17–04/13/17	Cornell University	Food Processing, Certificate Program, Core Course	
High Temperature Short Time (HTST) Pasteurizer Workshop	07/25/17–07/27/17	Cornell University	Food Processing, Certificate Program, Core Course	
High Temperature Short Time (HTST) Pasteurizer Workshop	10/10/17–10/12/17	Cornell University	Food Processing, Certificate Program, Core Course	
<b>HACCP/Food Safety Plans</b>				
Accredited Basic HACCP	08/21/17–08/22/17	Cornell University	Core Course, Certificate Program	
HACCP/Food Safety Plans	12/04/17–12/05/17	Cornell University	HACCP/SQF, Food Safety	
<b>Science of Cheese</b>				
Specialty Cheese Making Workshop	02/22/17–02/23/17	Cornell University	Specialty Training	
Science of Cheese-Basic Level	10/24/17–10/25/17	Cornell University	Food Processing, Certificate Program, Core Course	
<b>Science of Yogurt</b>				
The Science of Yogurt (Basic Level)	05/31/17–06/01/17	Oregon State University	Food Processing, Certificate Program	
Science of Yogurt & Fermented Dairy Products (Basic Level)	06/06/17–06/07/17	Cornell University	Food Processing, Certificate Program	

Topic	Date Offered	Location	Category	Training Delivery
Science of Yogurt & Fermented Dairy Products (Advanced Level)	06/13/17–06/15/17	Cornell University	Food Processing, Certificate Program	
<b>One-time Course Offerings</b>				
Certified Milk Inspectors School	07/18/17–07/20/17	Cornell University	Regulatory	 
Implementing SQF Systems	08/23/17–08/24/17	Cornell University	Core Course, Certificate Program	 
Fluid Milk Quality and Safety	08/30/17–08/31/17	Cornell University	Certificate Program, Food Processing	

## Rates—Cornell Dairy Extension Services

### Industry On-Site Workshops

Workshop	New York State	Outside NY State
<b>Dairy Science &amp; Sanitation (2.5 days)</b>	\$12,500 plus travel/ accommodation for 2 instructors as needed—up to 30 attendees	\$15,000 plus travel/ accommodation for 2 instructors as needed—up to 30 attendees
<b>Preventive Controls Qualified Individual (2–2.5 days)</b>	\$15,000 plus travel/ accommodation for 2 instructors as needed—up to 30 attendees	\$18,000 plus travel/ accommodation for 2 instructors as needed—up to 30 attendees
<b>HACCP Training (2 days)</b>	\$10,000 plus travel/ accommodation for 2 instructors as needed—up to 30 attendees	\$12,000 plus travel/ accommodation for 2 instructors as needed—up to 30 attendees
<b>GMPs Training (1 day)</b>	\$5,000 plus travel/ accommodation for 2 instructors as needed—up to 30 attendees	\$6,000 plus travel/ accommodation for 2 instructors as needed—up to 30 attendees
<b>Internal Audit Training (1 day)</b>	\$5,000 plus travel/ accommodation for 2 instructors as needed—up to 30 attendees	\$6,000 plus travel/ accommodation for 2 instructors as needed—up to 30 attendees
<b>Sensory Training (1 day)</b>	\$5,000 plus travel/ accommodation for 2 instructors as needed—up to 30 attendees	\$6,000 plus travel/ accommodation for 2 instructors as needed—up to 30 attendees





### **The Food Processing and Development Laboratory (FPDL)—*Pilot Plant***

Experienced full time staff professionals are able to assist in all aspects of food product development and processing.

You can visit our facilities and work collaboratively with our personnel, or the staff of the FPDL can process your product to your specifications and ship it to you overnight. Customized pilot plant product runs can be conducted with our established access to ingredients and raw materials.

Our 6,000 square foot main processing area is located adjacent to our fully licensed operating dairy plant. This combination allows for scaling up of production in order to provide a variety of products for customer demonstrations, food shows, and exhibitions.

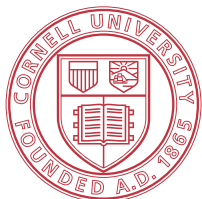
Cornell University's research and extension staff provides our clients a resource to find answers to tough research and development problems.

**To learn more about the FPDL, contact:**

**Robert D. Ralyea**

Sr. Extension Associate

Phone: (607) 255-7643 • E-mail: [rdr10@cornell.edu](mailto:rdr10@cornell.edu)



**Cornell University**