



Short-Course April 7-8, 2026

Advanced Unit Operations in Dairy Processing

Location: Dairy Products Technology Center, CalPoly, San Luis Obispo

This workshop focuses on the fundamentals and building blocks of dairy processing. Hands-on demonstrations in the pilot plant, equipment displays/demos. No pre-requisites needed, open to all dairy processing staff.

Instructors: CalPoly faculty and staff, industry representatives, equipment and process suppliers, expert consultants. DRAFT PROGRAM – ALL SPEAKERS TO BE CONFIRMED (INVITED)

Tuesday, April 7



8:00 Registration, continental breakfast available

Building Blocks & Fundamentals

8:15 **Milk Pricing, Dairy Economics Overview**
Peter Fredericks, CDFA

9:15 **Factors Impacting Milk Production & Quality**
Rob Diepersloot, Dairy Producer

10:00 **Break**

10:15 **Fundamentals of Milk composition, Significance for Processors, Product Standards**
Dr. C. Licon, DPTC, Dr. P. Tong

11:15 **Unit Operations Part I: Receiving, Separation, Homogenization, Standardization -Creamery**
Dr. C. Licon, DPTC, Dr. P. Tong

12:00 **Lunch**



Unit Operations – Fluid Milks and Fresh Dairy

12:45 **Unit operations Part II: Concentration, Evaporation, Drying. Non-thermal treatments: UV light, HPP**
DPTC Staff

2:00 **Break**

2:15 **Operations for Fluid Milk Processing:** Aseptic processing, ESL, UHT – systems and their operation
Tetra Pak Representative

3:15 **Sanitation in the Processing Plant**
Hydrite Representative

4:15 **Fermentation – Hands-on in Pilot Plant (Port I)**
5: 00 **Cocktail hour and group dinner (location TBA)**



Wednesday, April 8

8:00 Coffee, Continental Breakfast, Recap from Day 1

Unit Operations – Cheese, Proteins

8:15 **Membrane Separation, Fractionation:** Equipment and Processes
Industry representatives.

9:30 **Cheese Manufacturing Operations**

Dr. C. Licon, DPTC, Industry Representative

10:00 **Break**

10:15 **Membrane separation and fractionation of whey streams and their co-products. Permeate processing innovation**
Representative, Hilmar. Dr. Zhang, UC Davis

11:30 **DPTC Pilot Plant Demonstration - Filtration**

Dr. Carmen Licon, CalPoly DPTC, Membrane Supplier

12:00 **Lunch**

Advanced Topics, Demos & Case Studies

12:45 **Pilot Plant Demonstrations (Part II) – Coagulation, Curd Handling (yogurt, cheese) - DPTC staff**

2:00 **Break**

2:15 **Integration of Artificial Intelligence, Costs, Regulations in Decision-making – Case Studies, Q&A**

Dr. P. Tong, CalPoly, Industry Representatives

Certificates and evaluation

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