



# IN-CONTAINER THERMAL PROCESSING SKILLS

April 22 / 26, 2024



## Microbiology and Sterilization Concepts

Thermobacteriology  
Canned Food Spoilage  
Heat Resistance (D, z, and Fo values)

## Retorts and Temperature Distribution

Heat Transfer Concepts  
Retort Systems Overview  
Temperature Distribution  
TC placement, Data Evaluation  
Calibration, Instrumentation

## Heat Penetration and Critical Factors

Product and Retort-related Critical Factors  
HP Strategies for Different Retorts  
Calibration, Instrumentation  
TC placement, Data Evaluation

## Process Calculation Methods

General Method  
Ball Formula Method  
Heating Factor Development  
Process Calculation  
Lethality Calculation  
NumeriCAL™  
Overview of this advanced Method

## Process Deviations

Approach, consideration and evaluation of thermal process deviations.

## Regulatory Overview

## THIS COURSE INCLUDES HANDS-ON PILOT PLANT EXPERIENCE

Review HP procedures and then, with your team, design and conduct a complete heat penetration study in the Process Technologies Laboratory Pilot Plant. Instrument containers and collect data. Evaluate data and then compare results to those of other teams.

### Contact:

Karen Brown (559) 661-3345  
Karen.Brown@jbt.com  
Cristin Williams (559) 661-3286  
CristinD.Williams@jbt.com



**Course Instructors:** JBT is an FDA and USDA recognized thermal process authority. Our staff has over 180 years of collective experience. Staff teaching this course includes: Karen Brown, Senior Research Engineer Terry Heyliger, Thermal Processing Consultant.

**Course Tuition:** \$4,000 per student. Register before March 1<sup>st</sup>, 2024 and receive a \$300 reduction! Lunches, refreshments and course materials provided.

WHERE IS THIS COURSE HELD: **Madera, CA 93637 - USA:** JBT Process Technologies Laboratory | 2300 Industrial Avenue

[www.jbt.com/foodtech/customer-care/training/technical-school](http://www.jbt.com/foodtech/customer-care/training/technical-school)