



MANUFACTURING AND PRODUCTION

Thermal Processing, Sterilisation and Canning

5 day course

Classroom, online or in-house

Course overview

Thermal processing is the one food operation where an error can be fatal rather than merely costly, and the process that delivers safety is a calculation before it is an operation. This course treats it that way. Delegates work through microbial death kinetics, decimal reduction time and the z value, then through the difference between pasteurisation and commercial sterility. Product classification by acidity is covered, since it decides which organism the process must destroy. Heat penetration testing is addressed practically, including thermocouple placement and identifying the slowest heating point. Process calculation and establishing a scheduled process follow. Retort operation is covered: come up time, venting, overpressure and cooling water chlorination. Process deviations and the decision to reprocess, destroy or evaluate are addressed. Container integrity and seam inspection follow. The course closes on records, on the process authority's role and on regulatory expectations.

What you will learn

- Apply decimal reduction time and z value to process design
- Classify products by acidity and select the target organism
- Conduct heat penetration tests and find the slowest heating point
- Calculate and establish a scheduled process
- Operate a retort through venting, overpressure and cooling
- Handle a process deviation and decide the disposition of the batch
- Inspect container and seam integrity, and keep the required records

Who should attend

- Retort operators and supervisors
- Food safety and quality assurance managers
- Process engineers in canning and aseptic production
- Product developers launching thermally processed products
- Regulatory and inspection staff

Course outline

- 01 A calculation before it is an operation
- 02 Microbial death kinetics and the z value
- 03 Pasteurisation against commercial sterility
- 04 Acidity classification and target organisms
- 05 Heat penetration testing
- 06 Establishing a scheduled process
- 07 Retort operation and cooling water control
- 08 Deviations, seam integrity, records and the process authority

Upcoming dates



Dates	Venue	Format	Fee per delegate
19 to 23 October 2026	Kigali, Rwanda	Classroom	USD 1,325
7 to 11 December 2026	Lusaka, Zambia	Classroom	USD 1,325
11 to 15 January 2027	Durban, South Africa	Classroom	R19,950
18 to 22 January 2027	Kampala, Uganda	Classroom	USD 1,325

Fees and how to register

This 5 day course is **R8,500** per delegate online, **R19,950** in the classroom in South Africa, Botswana, Namibia, Lesotho and Eswatini, and **USD 1,325** in the classroom elsewhere in Africa. In-house training is quotation on request. Book 2 or more delegates on this course and save 10%.

To register or request an in-house proposal, visit www.afrisciencegroup.com, email info@afriScience.co.za, or WhatsApp us on **+27 63 479 1136**.

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