



PROCESS AND CHEMICAL ENGINEERING

Ammonia Manufacturing and Process Troubleshooting

5 day course

Classroom, online or in-house

Course overview

An ammonia plant is a long chain of catalytic and separation steps where a problem in one bed appears as a symptom several units downstream. This course covers the whole train. Delegates work through feed preparation and reforming, shift conversion, carbon dioxide removal and methanation, then synthesis loop operation and refrigeration. Catalyst behaviour, deactivation and poisoning are treated as the central operating concern they are. Energy consumption and its distribution across the plant are analysed, since ammonia economics are dominated by it. The course closes on structured troubleshooting across the train and on the safety hazards specific to ammonia service.

What you will learn

- Describe the ammonia process train and each step's function
- Operate reforming, shift conversion and carbon dioxide removal
- Run the synthesis loop and its refrigeration
- Manage catalyst activity, deactivation and poisoning
- Analyse energy consumption across the plant
- Troubleshoot a symptom back across the train to its cause
- Control the safety hazards specific to ammonia

Who should attend

- Ammonia and fertiliser plant process engineers
- Panel operators and shift supervisors
- Catalyst and technical services staff
- Maintenance engineers on ammonia plant
- Graduate engineers entering the industry

Course outline

- 01 The ammonia train and its coupling
- 02 Feed preparation and reforming
- 03 Shift conversion
- 04 Carbon dioxide removal and methanation
- 05 Synthesis loop and refrigeration
- 06 Catalyst activity, deactivation and poisoning
- 07 Energy consumption and distribution
- 08 Troubleshooting across the train and ammonia hazards

Upcoming dates

Dates	Venue	Format	Fee per delegate
28 September to 2 October 2026	Online	Online	R8,500
19 to 23 October 2026	Lagos, Nigeria	Classroom	USD 1,325
14 to 18 December 2026	Accra, Ghana	Classroom	USD 1,325
8 to 12 March 2027	Harare, Zimbabwe	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@afiscience.co.za, or WhatsApp us on **+27 63 479 1136**.

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