



CHEMICAL OPERATIONS LEVEL 1 (NQF1) CURRICULUM

	MODULE ID	MODULE NAME	NQF LEVEL	CREDITS
Core	110075	Apply basic fire fighting techniques	1	3
Core	12199	Demonstrate an understanding of quality principles used in the chemical industry	1	8
Core	244062	Demonstrate understanding of elementary chemical principles and their applications in process industries	1	8
Core	244065	Demonstrate understanding of process piping, fittings and valves	1	4
Core	244069	Demonstrate understanding of solid, liquid and gas storage methods	1	6
Core	244070	Demonstrate understanding of solid, liquid and gas transfer equipment	1	12
Core	244061	Interpret material safety data sheets (MSDS) in order to address chemical safety in the workplace	1	4
Core	244063	Maintain basic safety, health and environmental issues	1	6
Core	244067	Read and interpret simple drawings in a process environment	1	3
Core	244064	Understand elementary process instrumentation	1	5
Core	244066	Understand the principles of physics related to heat and thermal energy and its application in a processing environment	1	4
Core	244068	Demonstrate understanding of the organisation and its relationships with stakeholders and the industry within which it operates	2	3
Fundamental	119373	Describe and represent objects in terms of shape, space and measurement	1	5
Fundamental	119368	Describe, interpret and represent mathematical patterns, functions and algebra in different contexts	1	6
Fundamental	119635	Engage in a range of speaking/signing and listening interactions for a variety of purposes	1	6
Fundamental	119364	Evaluate and solve data handling and probability problems within given contexts	1	5
Fundamental	119631	Explore and use a variety of strategies to learn	1	5
Fundamental	119640	Read/view and respond to a range of text types	1	6
Fundamental	119636	Write/Sign for a variety of different purposes	1	6
Elective	14664	Demonstrate knowledge of diversity within different relationships in the South African society	1	3
Elective	116527	Demonstrate knowledge pertaining to basic health and safety principles in and around a workplace	1	2
Elective	13165	Describe the properties of materials found in the workplace and describe their impact on the environment	1	6
Elective	12484	Perform basic fire fighting	2	4
TOTAL CREDITS				120



CHEMICAL OPERATIONS LEVEL 2 (NQF2) CURRICULUM

	MODULE ID	MODULE NAME	NQF LEVEL	CREDITS
Core	244076	Apply elementary statistical process control principles	2	6
Core	244071	Apply sampling theory and practice	2	5
Core	244080	Apply standard operating procedures in a process environment	2	10
Core	244078	Demonstrate understanding of a work permit system	2	3
Core	244074	Demonstrate understanding of liquid-solid and solid-solid separation processes	2	10
Core	244075	Maintain the quality of products in a production environment	2	5
Core	244082	Monitor plant and equipment in a process environment	2	10
Core	12317	Read and adjust instruments on production or packing equipment	2	7
Core	244073	Receive, handle and store hazardous chemicals safely	2	5
Core	244079	Respond to emergencies in a process environment	2	3
Fundamental	119463	Access and use information from texts	2	5
Fundamental	9009	Apply basic knowledge of statistics and probability to influence the use of data and procedures in order to investigate life related problems	2	3
Fundamental	7480	Demonstrate understanding of rational and irrational numbers and number systems	2	3
Fundamental	9008	Identify, describe, compare, classify, explore shape and motion in 2-and 3-dimensional shapes in different contexts	2	3
Fundamental	119454	Maintain and adapt oral/signed communication	2	5
Fundamental	119460	Use language and communication in occupational learning programmes	2	5
Fundamental	7469	Use mathematics to investigate and monitor the financial aspects of personal and community life	2	2
Fundamental	9007	Work with a range of patterns and functions and solve problems	2	5
Fundamental	119456	Write/present for a defined context	2	5
Elective	115188	Apply environmental protection procedures	2	4
Elective	114639	Control waste or effluent water in a manufacturing environment	2	4
Elective	244072	Demonstrate understanding of heat transfer equipment	2	10
Elective	9322	Work in a team	2	3
Elective	244083	Solve operating problems using relevant technologies	2	5
Elective	244081	Understand the properties and applications of materials in a processing environment.	2	5
Elective	244077	Demonstrate understanding of chemicals in a processing environment	2	6
TOTAL CREDITS				137

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CHEMICAL OPERATIONS LEVEL 3 (NQF3) CURRICULUM

	MODULE ID	MODULE NAME	NQF LEVEL	CREDITS
Core	244241	Apply knowledge of chemical reactions in a processing environment	3	6
Core	244086	Apply quality procedures in a process plant	3	6
Core	244092	Demonstrate understanding of solid-vapour and surface based separation processes	3	10
Core	244091	Identify and interpret instrument control loops	3	8
Core	244098	Perform statistical process control in a process environment	3	4
Core	244093	Read and interpret process and instrumentation diagrams	3	4
Core	244085	Respond to emergencies in a process environment	3	6
Core	244087	Solve operating problems in a process plant	3	5
Core	244084	Use operating instructions to control process plant conditions	3	10
Fundamental	119472	Accommodate audience and context needs in oral/signed communication	3	5
Fundamental	9010	Demonstrate an understanding of the use of different number bases and measurement units and an awareness of error in the context of relevant calculations	3	2
Fundamental	9013	Describe, apply, analyse and calculate shape and motion in 2-and 3-dimensional space in different contexts	3	4
Fundamental	119457	Interpret and use information from texts	3	5
Fundamental	9012	Investigate life and work related problems using data and probabilities	3	5
Fundamental	119467	Use language and communication in occupational learning programmes	3	5
Fundamental	7456	Use mathematics to investigate and monitor the financial aspects of personal, business and national issues	3	5
Fundamental	119465	Write/present/sign texts for a range of communicative contexts	3	5
Elective	244078	Demonstrate understanding of a work permit system	2	3
Elective	244108	Apply safety, health and environment protection procedures in a process plant	3	6
Elective	10170	Demonstrate understanding of employment relations in an organisation	3	3
Elective	263495	Monitor and control the production of chemicals in a chemical process plant	3	15
TOTAL CREDITS				122

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CHEMICAL OPERATIONS LEVEL 4 (NQF 4) CURRICULUM

	MODULE ID	MODULE NAME	NQF LEVEL	CREDITS
Core	117877	Perform one-to-one training on the job	3	4
Core	244100	Apply integrated process control methods	4	15
Core	244097	Demonstrate an understanding of the principles of work, energy and power in physics	4	6
Core	244099	Demonstrate understanding of liquid-liquid and liquid-vapour separation processes	4	10
Core	244102	Demonstrate understanding of water treatment processes	4	10
Core	244105	Participate in a task team in a process environment	4	4
Core	244089	Understand applications of Physical Chemistry in a processing environment	4	6
Fundamental	119472	Accommodate audience and context needs in oral/signed communication	3	5
Fundamental	119466	Interpret a variety of literary texts	3	5
Fundamental	119457	Interpret and use information from texts	3	5
Fundamental	119465	Write/present/sign texts for a range of communicative contexts	3	5
Fundamental	9015	Apply knowledge of statistics and probability to critically interrogate and effectively communicate findings on life related problems	4	6
Fundamental	119462	Engage in sustained oral/signed communication and evaluate spoken/signed texts	4	5
Fundamental	119469	Read/view, analyse and respond to a variety of texts	4	5
Fundamental	9016	Represent analyse and calculate shape and motion in 2-and 3-dimensional space in different contexts	4	4
Fundamental	119471	Use language and communication in occupational learning programmes	4	5
Fundamental	7468	Use mathematics to investigate and monitor the financial aspects of personal, business, national and international issues (Budgets)	4	6
Fundamental	119459	Write/present/sign for a wide range of contexts	4	5
Elective	244104	Issue a permit to work in a process environment	4	4
Elective	244106	Use standard operating procedures to control a process from a panel or computer interface	4	15
Elective	244103	Use automated control techniques to control a process	4	8
Elective	244101	Use a panel or a computer interface to control a process	4	4
TOTAL CREDITS				140