



## OTTC Air-Conditioning Diploma - Proposed Training Plan - 2018

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<b>Client:</b>			<b>Learner:</b>		
<b>Contact:</b>			<b>Tel. No.:</b>		
<b>Tel. No.:</b>			<b>Fax No.:</b>		
Course	Content / Objective	Your Dates:	Duration	Includes also Unit Standards	Total Cost
<b>Math/Phy s</b>	Mathematics and Physics applied in refrigeration and air-conditioning		2 weeks (33 Credits)	9009, 7480, 9008, 12444, 9007, 13202, 9010, 14106, 9013, 7455, 9016	
<b>R - 1/ R - 2</b>	Mechanical principles of refrigeration cycle and components. connection of service gauges, main components, compression principles, compressor types, refrigeration cycle and components, types of heat exchangers, types of expansion devices, pressure switches and thermostats, reclaiming, recharging, <b>SAFE HANDLING OF REFRIGERANTS</b>		4 weeks (57 Credits)	116236, 116224, 116239, 116699, 116701, 116702, 116334, 116355, 116700, 116468	
<b>RPI - 1, 2, 3, 4</b>	Plotting & manufacturing of refrigeration components, soldering, brazing, welding, arc welding, pipe bending with different bending methods, full pipe installation on wall, insulation of pipes, components and ducts		4 weeks (27 Credits)	116230, 116229, 116712, 116707	
<b>ELC - 1, 2, 3, 4, 5</b>	Physical electricity basics in refrigeration, single and three phase systems, single and three phase motors, starters, pressure and temperature controllers  Wiring diagrams for electromechanical controlling, plant protection, motor managements, suction control, defrost control. Electronic motor management, soft starter, frequency converters, electronic cold room controllers		5 weeks (60 Credits)	116232, 116243, 116244, 116226, 116463, 116466, 116464, 116465	
<b>R - 3</b>	Advanced study of mechanical refrigeration cycle, heat load calculations, cold room design, capacity calculations, food-load, defrost methods; reversed cycles, pressure regulators, humidity control, frequency inverters, methods of energy saving, pump down		1 week (11 Credits)	116697, 116717	
<b>R - 4</b>	Advanced study of system design, h, lg p- diagram, sizing of main components, sizing of pipe-work, oil-problems, fault finding, refrigeration cycle analysis, refrigerant types		1 week (55 Credits)	116418, 116408, 116461, 116389, 116375, 116415, 116397, 116406	
<b>AC - 1</b>	Principles of air conditioning, main components, measurement equipment for air conditions. Psychrometrics intro, air humid handling, processes and equipment		1 week (22 Credits)	116698, 116695, 116377, 116411	
<b>AC - 2</b>	Advanced air volume calculations, sizing of AC-systems, AC projects design and calculations. Heat load and humidity load calculations, comfort zone, requirements for room conditions		1 week (7 Credits)		
<b>AC - P1/ AC - P2</b>	Practical: plot, manufacture & installation of complete duct system, connection boxes, fan, air-grilles, dampers, advanced manufacturing & servicing skills, measuring air-volume, control air-flow		2 weeks		<b>FULL PROGRAM PER PERSON 22 WEEKS Program can be spread over 3.5 Years</b>
<b>AC - 3 Diploma</b>	Lay-out & design of control, air-handling unit with mix chamber, filter, fans, heat-exchanger, air-distribution. duct design and air-distribution, plant design and tuning, heat load and humidity load calculations <b>Air-conditioning Technical Diploma Test</b>		1 week		
<b>Quoted prices includes: Work Sheets, Material, Lunch, Tea, Coffee.</b> <b>Pass mark per course 60%, Pass mark for AC-Diploma test 75% theoretical and practical.</b> <b>--Pre requisites: basic literacy + numeracy -- Courses are presented in English.</b>				<b>Total Credits: 272</b>	<b>22 weeks</b>
<b>OTTC has full Accreditation for Learners at NQF Level 2, 3, 4 Certificate No 17-QA/ACC/0333/08</b>					<b>Payment can be paid per week but must be done before course start.</b>
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