



**Module 3: Construction and Design**

Subject Title	Qualification Level *			
	(Training Hours Part 3+Part 1/Part 1 –Training Hours)			
	IWE	IWT	IWS	IWP
3.1 Basic theory of structural systems	4/4	4/4	2/0	0/0
3.2 Fundamentals of the strength of materials	4/4	4/4	2/2	0/0
3.3 Welded Joint design	4/4	4/4	4/0	4/0
3.4 Basics of weld design	8/2	6/2	3/2	0/0
3.5 Behaviour of welded structures under different types of loading	4/0	2/0	1/0	0/0
3.6 Design of welded structures with predominantly static loading	8/0	5/0	3/0	2/0
3.7 Behaviour of welded structures under dynamic loading	6/0	2/0	1/0	1/0
3.8 Design of dynamically loaded welded structures	8/0	4/0	2/0	0/0
3.9 Design of welded pressure equipment	6/0	4/0	2/0	1/0
3.10 Design of aluminium alloys structures	4/0	2/0	1/0	0/0
3.11 Reinforcing-steel welded joints	2/0	1/0	1/0	0/0
3.12 Introduction to fracture mechanics	6/0	2/0	0/0	0/0
<b>Total</b>	<b>64/14</b>	<b>40/14</b>	<b>22/4</b>	<b>8/0</b>

\* P1 = Part 1, Figures under P1 are given for the Standard Route (see 4.1)

**Module 4: Fabrication, applications engineering**

Subject Title	Qualification Level *			
	(Training Hours Part 3+Part 1/Part 1 –Training Hours)			
	IWE	IWT	IWS	IWP
4.1 Introduction to quality assurance in welded fabrication	6/0	6/0	2/0	1/0
4.2 Quality control during manufacture	14/0	12/0	10/0	6/0
4.3 Residual Stresses and Distortion	6/0	4/0	2/0	2/0
4.4 Plant facilities, welding jigs and fixtures	4/0	4/0	4/0	2/0
4.5 Health and Safety	4/0	4/0	3/0	2/0
4.6 Measurement, Control and Recording in Welding	4/0	4/0	4/0	2/0
4.7 Non Destructive Testing	20/0	10/0	10/0	10/0
4.8 Economics	8/0	5/0	2/0	1/0
4.9 Repair Welding	2/0	2/0	2/0	2/0
4.10 Fitness for Purpose	2/0	1/0	0/0	0/0
4.11 Case Studies	40/0	28/0	14/0	0/0
<b>Total</b>	<b>110/0</b>	<b>80/0</b>	<b>53/0</b>	<b>28/0</b>

\* P1 = Part 1, Figures under P1 are given for the Standard Route (see 4.1)