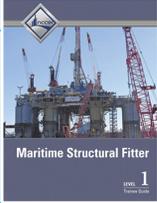




Maritime Structural Fitter

L1 MARITIME STRUCTURAL FITTER

LEVEL 1



Curriculum Notes

- 240 Hours
 - Includes 100 hours of *Maritime Industry Fundamentals*, which is a prerequisite for Level One completion and must be purchased separately.
 - Hardcover: ISBN 978-0-13-456850-1
- Published: 2014
- Downloadable instructor resources that include module tests, PowerPoints®, and performance profile sheets are available at www.nccer.org/irc.

PAPERBACK

ISBN

Trainee Guide: \$69.99

978-0-13-294864-7

Individual Modules: \$24.99

see module list

MODULES

The modules listed below are included in the Trainee Guide. The following ISBNs are for ordering individual modules only.

Welding Safety (2.5 Hours)

ISBN 978-0-13-610526-8

(Module ID 29101-09; from *Welding Level One, Fourth Edition*)

Covers safety equipment, protective clothing, and procedures applicable to the cutting and welding of metals.

Oxyfuel Cutting (17.5 Hours)

ISBN 978-0-13-610528-2

(Module ID 29102-09; from *Welding Level One, Fourth Edition*) Explains the safety requirements for oxyfuel cutting. Identifies oxyfuel cutting equipment and setup requirements. Explains how to light, adjust, and shut down oxyfuel equipment. Trainees will perform cutting techniques that include straight line, piercing, bevels, washing, and gouging.

Base Metal Preparation (12.5 Hours)

ISBN 978-0-13-610531-2

(Module ID 29105-09; from *Welding Level One, Fourth Edition*) Describes how to clean and prepare all types of base metals for cutting or welding. Identifies and explains joint design and base metal preparation for all welding tasks.

Weld Quality (10 Hours)

ISBN 978-0-13-610532-9

(Module ID 29106-09; from *Welding Level One, Fourth Edition*) Identifies the codes that govern welding, including marine welds. Identifies and explains weld imperfections and causes. Describes non-destructive testing, visual inspection criteria, welder qualification tests, and the importance of quality workmanship.

Shielded Metal Arc Welding – Electrodes (2.5 Hours)

ISBN 978-0-13-610534-3

(Module ID 29108-09; from *Welding Level One, Fourth Edition*) Describes electrode characteristics and different types of filler metals. Reviews the role of the American Welding Society (AWS) and the American Society of Mechanical Engineers (ASME). Explains proper storage and control of filler metals and identifies the use of codes.

Tack Welding (40 Hours)

ISBN 978-0-13-377945-5

(Module ID 86101-14) Describes how to set up welding equipment, strike an arc, and make tack welds in order to maintain proper alignment of parts in anticipation of finish welding. Covers the machines, tools, and techniques used to make tack welds in various positions.

Fire Watch (5 Hours)

ISBN 978-0-13-377947-9

(Module ID 86102-14) Prepares a worker to perform fire watch duties in support of welding and flame cutting activities. Describes the classes of fires and the methods used to extinguish them, as well as the responsibilities of a person assigned as a fire watch.

Introduction to Structural Fitter Drawings (10 Hours)

(10 Hours)

ISBN 978-0-13-377948-6

(Module ID 86103-14) Covers fundamental skills needed to read fabrication drawings that are commonly used by structural fitters. Focuses on basic drawing elements such as title blocks, revision blocks, and drawing lines and introduces plan, elevation, and detail drawings.

Fitting One (40 Hours)

ISBN 978-0-13-377949-3

(Module ID 86104-14) Introduces layout tools, fitting tools, and fitting aids used to fit up and align plate joints. Incorporates hands-on tasks through which the beginning fitter will learn how to perform basic layout, alignment, and fit-up tasks.

L2 MARITIME STRUCTURAL FITTER

LEVEL 2

Curriculum Notes

- 227.5 Hours
- Published: 2014
- Downloadable instructor resources that include module tests, PowerPoints®, and performance profile sheets are available at www.nccer.org/irc.

PAPERBACK

ISBN

Trainee Guide: \$99.99

978-0-13-383066-8

Individual Modules: \$24.99

see module list

MODULES

The modules listed below are included in the Trainee Guide. The following ISBNs are for ordering individual modules only.

Cutting and Burning Processes (40 Hours)

ISBN 978-0-13-378724-5

(Module ID 86201-14) Expands on flame cutting methods covered in Level 1, including laying out and cutting bevels, chamfers, and circles. Also covers the methods used to cut or split common structural components such as beams and bars.

Plasma Arc Cutting (7.5 Hours)

ISBN 978-0-13-610529-9

(Module ID 29103-09; from *Welding Level One, Fourth Edition*) Introduces plasma arc cutting equipment and safe work area preparation. Identifies correct amperage, gas pressures, and flow rates. Covers plasma-arc cutting methods for piercing, slotting, squaring, and beveling metals. Explains how to store equipment and clean the work area.

Intermediate Structural Print Reading (40 Hours)

ISBN 978-0-13-378725-2

(Module ID 86202-14) Covers interpretation of fabrication and installation drawings, sketching of isometric and orthographic drawings, and interpretation of welding symbols.

Fitting Two (140 Hours)

ISBN 978-0-13-378729-0

(Module ID 86203-14) Explains selection and application of gaskets and packings, fit-up tasks, and inspection of finished work. Also covers structural accessories, proper measuring techniques, and creating a materials list.

Continued on following page



L3 MARITIME STRUCTURAL FITTER

LEVEL 3

Curriculum Notes

- 237.5 Hours
- Published: 2016
- Downloadable instructor resources that include module tests, PowerPoints®, and performance profile sheets are available at www.nccer.org/irc.

PAPERBACK

Trainee Guide: \$99.99
Individual Modules: \$24.99

ISBN

978-0-13-457826-2
see module list

MODULES

The modules listed below are included in the Trainee Guide. The following ISBNs are for ordering individual modules only.

Advanced Structural Print Reading (40 Hours)

ISBN 978-0-13-414487-0

(Module ID 86301-15) Focuses on learning to interpret ship construction drawings, ranging from the highest level general arrangement drawing to the lowest level piece-part drawing. Includes a set of drawings.

Fitting Three (80 Hours)

ISBN 978-0-13-414489-4

(Module ID 86302-15) Provides an overview of the ship construction process, from the lowest subassembly to the erection of the vessel itself. Illustrates laying out the locations of equipment and structural members, installing the equipment and structural members, and the use of leveling and alignment equipment.

GMAW and FCAW – Equipment and Filler Metals (10 Hours)

ISBN 978-0-13-214147-5

(Module ID 29205-09; from *Welding Level Two, Fourth Edition*) Describes general safety procedures for GMAW and FCAW. Identifies GMAW and FCAW equipment and explains the filler metals and shielding gases used to perform GMAW and FCAW. Explains how to set up and use GMAW and FCAW equipment and how to clean GMAW and FCAW welds.

GMAW and FCAW – Plate (80 Hours)

ISBN 978-0-13-214113-0

(Module ID 29206-09; from *Welding Level Two, Fourth Edition*) Explains how to set up and use FCAW equipment and how to select and use different filler metals and shielding gases. Describes how to make multiple-pass fillet and V-groove welds on carbon steel plate in various positions.

Physical Characteristics and Mechanical Properties of Metals (7.5 Hours)

ISBN 978-0-13-214145-1

(Module ID 29203-09; from *Welding Level Two, Fourth Edition*) Explains physical characteristics, mechanical properties, composition, and classification of common ferrous and nonferrous metals. Identifies the various standard metal forms and structural shapes. Shows how to extract metal information from Welding Procedure Specification (WPS) sheets and Procedure Qualification Records (PQRs). Covers visual inspection, magnetic testing, and X-ray fluorescent spectrometry methods used to identify metals.

Fundamentals of Crew Leadership (20 Hours)

ISBN 978-0-13-414493-1

(Module ID 46101-11, Second Edition) Covers basic leadership skills and explains different leadership styles, communication, delegating, and problem solving. Jobsite safety and the crew leader's role in safety are discussed, as well as project planning, scheduling, and estimating. Includes performance tasks to assist the learning process.

