

Certificate of Steel Detailing

by the Australian Construction Modellers Association

Course Structure:

The course is divided into 2 Units, and is designed to be undertaken over a 12-month period.

Reference Material:

This course has been structured around the **Australian Steel Institute's (ASI) *Australian Steel Detailers' Handbook – Second Edition (2019)***. Access to this publication is essential, as it forms the foundation of the course content and will serve as a valuable reference throughout your training and professional career.

The Handbook is available for purchase in hard copy or as an eBook from the ASI website:

<https://www.steel.org.au>.

In addition, it is a requirement to have access to the **ASI's Standardised Structural Connections manual**, which is also available for purchase from the ASI website. This manual provides important detailing standards and is frequently referenced in the course material.

Delivery Method:

Online via www.acmatraining.org.au

Course Schedule:

There are no set dates for enrolment or course duration. Students can enrol online and commence when they wish and complete the course at their own pace.

Assessment:

Upon completing each Module, the student will have completed several assignments. These assignments will be graded and will form the basis for the overall assessment. The assessment will be carried out by a representative of the ACMA.

Mentorship:

Each student undertaking this training program is encouraged to nominate a mentor from within their company. The mentor's role is to provide guidance on the company's specific detailing standards and practices, ensuring that the student can apply what they learn in a way that aligns with internal processes. Mentors are also asked to review and provide feedback on the student's assignments prior to submission, helping to bridge any gaps between the course content and company-specific requirements. While the ACMA trainer remains available to support students with course-related questions, the mentor offers valuable, practical insight into how the training connects to real project workflows.

Course Objectives:

By the end of the course, students should have an understanding of:

Unit 1

- An overview of the industry and project participants relating to Structural Steel Fabrication
- The history of Steel Detailing
- The role of a Steel Detailer
- Compliance with Industry standards
- Materials and products used in Steel Fabrication and construction of Steel Structures
- Steel Grades, Profiles, suppliers
- Bolting and welding processes and standards and products used
- An overview of Drafting, the tools required, drafting standards and the processes
- Industry Documentation and Deliverables
- Elements of a Steel Structure and their associated connection types such as:
 - Columns
 - Beams
 - Trusses
 - Rafters
 - Bracing & Struts
 - Portal Frames
- Cold Rolled systems covering:
 - Purlins
 - Girts
 - Bridging
 - Fly Bracing
 - Eave struts
 - Proprietary systems

- Stairs, Flooring, Handrail and Ladders including the associated standards

- Bolting covering areas such as:
 - Bolt types and categories
 - Bolt length selection
 - Bolt edge distances
 - Drafting standards for bolting
 - Installation of bolts
 - HD Bolts and Chemical Anchors

- Welding covering areas such as:
 - Joint and weld types
 - Butt welds and edge preparation
 - Welding symbols

- Standard Structural connections such as:
 - Angle seat
 - End plate
 - Shear plate / Web side plate
 - Splices
 - Purlin and Girt connections
 - Baseplates
 - Bracing Connections

Unit 2

- Interpreting design documentation and information provided
 - Working with CAD files or IFC files supplied by designers
 - Working with Laser Scans
 - Communicating issues - RFI's, Variations etc.

- Workshop drawings covering areas such as:
 - Drawing sheets
 - 3rd Angle projection
 - Fundamentals of drawing set-out
 - Scales
 - Workshop Assembly drawings and their purpose
 - Workshop Single part drawings and their purpose
 - Standard dimensioning practices for various drawing types

- Practical Detailing of the following member types:
 - Columns
 - Beams
 - Bracing & Struts
 - Trusses
 - Rafters
 - Portal Frames
 - Cold Rolled Systems
 - Stairs
 - Grating, Floor plate, Handrails and Ladders

- Arrangement Drawings / Marking plans covering areas such as:
 - Drawing sheets
 - 3rd Angle projection
 - Fundamentals of drawing set-out
 - Scales
 - HD Bolt layouts
 - Plans and Elevations

- Steel Detailing Deliverables:
 - 3D Models
 - 2D Drawings
 - Reports
 - NC & DXF Data
 - Layout Points