



Reading and Interpreting Mechanical Construction Drawings

\$500 + HST

This applied course introduces the fundamentals of mechanical construction drawings used in building projects. Participants learn to navigate drawing sets, understand conventions, and interpret plans, elevations, sections, details, symbols, schedules, specifications, and notes.

With a focus on HVAC, plumbing, drainage, and fire protection systems, learners develop practical skills through drawing reviews, exercises, quizzes, and a final applied examination. Designed for construction professionals, estimators, site staff, tradespeople, project coordinators, and managers who need to confidently interpret mechanical drawings for construction and coordination.

Learning Outcomes:

Upon successful completion, participants will be able to:

- Interpret mechanical design and working drawings.
- Identify HVAC, plumbing, drainage, and fire protection systems.
- Understand mechanical symbols, abbreviations, legends, schedules, and specifications.
- Locate and cross-reference information within drawing sets.
- Interpret plans, elevations, sections, and details in relation to 3D systems.
- Apply drawing-reading skills to practical construction and coordination tasks.

Course Structure

A six-week course progressing from fundamental blueprint-reading principles to practical, discipline-specific mechanical drawing interpretation.

Module 1 – Principles of Reading Mechanical Drawings

Overview and purpose of mechanical drawings.

Mechanical drawing types and views.

Title blocks, drawing information, and scales.

Module 2 – Construction Graphics and Specifications

Differences between 2D and 3D drawings.

Drawing conventions, including lines, shading, symbols, and abbreviations.

Legends, notes, keynotes, and references.

Using specifications to confirm materials and installation requirements.

Module 3 – HVAC Drawings

HVAC plans, elevations, sections, and details.

Equipment tags, ductwork, diffusers, and system routing.

HVAC equipment schedules and related specifications.

Module 4 – Plumbing and Drainage Drawings

Domestic water, sanitary, and storm drainage plans.

Plumbing elevations, risers, sections, and details.

Fixture and equipment schedules.

Pipe sizes, slopes, materials, and system connections.

Module 5 – Fire Protection Drawings

Fire protection plans, elevations, risers, and details.

Sprinkler layouts, zones, valves, and fire department connections.

Fire protection schedules, symbols, and specifications.

Final Applied Examination

Integrated review of the mechanical drawing set.

Cross-referencing plans, schedules, details, risers, and specifications.

Online final examination based on the Mechanical Drawings provided in the course.

Course Evaluation and Grading

Module quizzes: 25% of the final grade; five quizzes worth 5% each.

Practical exercises: 30% of the final grade; three practical exercises worth 10% each.

Final examination: 45% of the final grade.

Passing grade: 60%.

Delivery Method

Fully online, six-week applied learning experience combining self-paced lessons, guided drawing reviews, practical exercises, quizzes, and a final online examination.

- Interactive online lessons and presentations.
- Self-study materials and drawing-reading resources.
- Guided review of a mechanical construction drawing set.
- Symbol, notation, schedule, and specification interpretation.
- Practical blueprint-reading exercises.
- Quizzes and an online final examination.

Workload: Approximately 18 hours (3 hours per week). Participants complete weekly modules, activities, and assessments according to the course schedule.

Who Should Attend

- Construction professionals.
- Project coordinators and project support staff.
- Estimators and quantity surveyors.
- Site superintendents and field staff.
- Tradespeople and mechanical contractors.
- Construction management professionals.
- Professionals involved in coordination, procurement, or document review.
- Anyone who needs to interpret mechanical construction drawings in a building-project environment.

Course Materials

Participants will use a Mechanical Drawings for a Proposed Office Building throughout the course, including practical exercises and the final examination. The drawing set covers HVAC, plumbing, drainage, and fire protection systems for integrated, real-world learning.

Certification & Gold Seal credits

This course is Gold Seal accredited, 6 credits. Participants must achieve a minimum grade of 60% to successfully complete the course and obtain a certificate from The Construction Institute of Canada.