

# Construction Craft Worker Level 2

## Construction Craft Worker (CCW)

**Unit: A3 Orientation II The Job of Journeywork:  
Workplace Skills-Coaching and Mentoring**

**Level:** Two

**Duration:** 21 hours

Theory: 14 hours

Practical: 7 hours

### Overview:

CCW Technical Training offers an entry-level orientation to the challenges of apprenticeship learning. The present unit introduces senior apprentices to the responsibilities of workplace teaching that they will assume as supervising journeypersons. Tradeworkers have a particularly rich tradition of refreshing and sharing their skills from one generation of practitioners to the next. This unit orients senior apprentices to some of the practical and conceptual tools that can enable them to contribute to this trade heritage when they themselves become certified journeypersons. The journeyperson's obligation to assist trade learners to develop skills and knowledge is complex and challenging. It involves safety considerations, employer expectations, provincial regulations, as well as the tradition of skills stewardship that links modern practice with the long history of workplace teaching and learning that defines the apprenticeable trades. The ability to offer timely, appropriate support to apprentices is itself an important area of trade learning. This unit presents material intended to help refine this ability through reflection and discussion by senior apprentices, and dialogue with their instructor. The detailed descriptors under each unit-objective reflect Manitoba and Canadian standards prescribed for journey-level supervisory capabilities, as well as key topics in current research on the importance of workplace teaching and learning in trades-apprenticeship systems. Thus, descriptors represent suggested focal points or guidelines for potentially-worthwhile exploration. Delivery of this content will vary with the discretion of individual instructors, and with the experiences senior apprentices bring forward for group/individual reflection on the skills-stewardship dimension of their own future practice as journeypersons.

<b>Objectives and Content:</b>	<b><u>Percent of Unit Mark (%)</u></b>
<b>1. Describe the scope, substance, and significance of journey-level status.</b>	<b>15%</b>
a. Historical background, including trainee experiences <ul style="list-style-type: none"><li>• Origin, definition, and examples of journey-level status</li><li>• Obligations to employers, trade clients, and apprentices</li><li>• Concept of skills stewardship, and its rationale</li><li>• Customary responsibilities of journeyperson as workplace trainer/supervisor</li><li>• Overview development of formal systems for regulating/recognizing journey-level competence in designated apprenticeable trades</li><li>• Contributions of 'unticketed journeymen' and other informally-qualified Ironworkers to workplace trade-learning</li><li>• Achievements/limitations of informal systems for workplace training</li><li>• Trends (e.g., succession planning in the trades; recognition of credentials and prior learning; defined standards for on-the-job trades education and training)</li></ul>	
b. Regulatory/legal dimensions of journey-level status in designated trades	

- Rights and obligations re: Canada's Interprovincial 'Red Seal' program (Red Seal rationale, scope, and products, including the National Occupational Analysis [NOA], and Interprovincial examinations)
  - Manitoba provincial requirements [e.g., *Apprenticeship and Certification Act*; *General Regulation*; the *Ironworker Trade Regulation*; relevant policies of the Apprenticeship and Certification Board of Manitoba]
  - Trade-specific requirements re: practical training supervision and documentation; importance of quality assurance and broad-scope coverage of prescribed task-content; ratios, etc.
- c. Other (as may be specified by instructor)

**2. Compare/contrast role-options and responsibilities of the supervising journeyperson. 30%**

- a. Recognizing the variability of supervision assignments, situations, and roles
- b. Source and specification of the supervision assignment
- c. Formal vs. informal roles (e.g., mandated by an employer's succession plan)
- d. Implicit vs. explicit standards and content: training goals are/are not codified; assessment measures are/are not used,
- e. Accountability for results: subject/not subject to third-party notification; completion of supervision assignment itself is/is not assessed by third party; journeyperson is/is not required to prepare performance evaluation that could affect apprentice's employability or wage-rate, etc.
- f. General vs. task- or job-specific supervision assignments: e.g., scope of expectations re: content of supervisory task(s)
- g. Long-term vs. short-run supervision assignments – e.g.,, considerable latitude/little latitude for apprentice to learn from mistakes
- h. Formally vs. informally structured – e.g., supervision assignment is part of a prescribed cycle of assignments involving coordination among multiple journeypersons; apprentice is trained according to an individual Training Plan negotiated with employer
- i. Typology of common supervisory role-options and what is implied by each:
  - Coach role: is often initiated by someone other than apprentice, and limited to a particular skill set, task, or production requirement
  - Mentor role : often initiated by apprentice, and relatively open-ended regarding content, duration, etc.
  - Peer role: typically involves individual upgrading or cross-training of one journeyperson by another; can include senior apprentice assisting less-experienced trade learner
  - Managerial role(s): can shade over into hire/fire issues as lead-hand or site-boss
  - Coordinator role: often a senior-level journeyperson appointed by an organization to assume responsibilities for monitoring progression of groups of apprentices
  - Other roles: may be improvised by journeyperson
- j. Possibilities, perils, and likelihood of role-overlap in 'real-life' trade practice
- k. Importance of clarifying all roles, expectations, and implications involved in accepting a supervision assignment
- l. Role of Apprenticeship Training Coordinator (ATC), Apprenticeship Manitoba
- m. Resources for developing skills and knowledge re: providing journey-level supervision
  - Books and journals (not always trade-specific)
  - Websites
  - Conversation with trade instructors, journeypersons, and peers
  - Workshops
- n. Other (as may be specified by instructor)

**3. Describe/demonstrate common requirements re: providing journey-level supervision. 30%**

- a. Review Unit A0.1 content re: challenges/opportunities of Apprenticeship learning adapted to journey-level supervision assignments and a journey-level standpoint
  - Application of adult education concepts to trades teaching/learning (e.g.,

- responsibilities and expectations of adult learners)
  - Practical significance of ‘styles’ of adult learning and teaching
  - Helping apprentices to integrate Technical Training (in school) and Practical Training (on-the-job) learning experiences
  - Providing help and guidance re: new tasks and skills
  - Providing help and guidance re: fixing mistakes
  - Learning/teaching “the ropes” – socialization of learner within a community of trade practice (e.g., how to borrow a tool, interrupt a journeyperson, ‘recruit’ an advisor )
  - Coverage/documentation of prescribed tasks and subtasks (Ironworker NOA), including responsibility re: logbook sign-off (where applicable)
  - Consultation with Apprenticeship Training Coordinator (ATC), Apprenticeship Manitoba
  - Communicating with apprentices and employers about supervision assignments and assignment specifications, including the limits of the trainers’ own responsibilities and competence (e.g., substance-abuse intervention)
  - Benefits of maintaining a personal record of achievements, ideas, and needs as a workplace trainer
- b. Individual reflection and guided group discussion re: personal experiences of workplace learning as an apprentice
- Identification of best and worst practices of supervising journeypersons
  - Assessment of personal experiences (if any) to date in supervising, coaching, or guiding other people to learn or improve their skills (e.g., entry-level apprentices, members of athletic team, younger family members, etc.), and how this might compare/contrast with the journey-level support of apprenticeship learning
  - Identification of workplace and other factors that can contribute to good and bad trades teaching/learning experiences
  - Development of personal standards re: responsibility to share one’s knowledge and skill with others in the workplace (e.g.,, use/misuse of humour, rigour, discretion, craft-pride, etc.)
- c. Comparison/contrast of discussion results with current knowledge/resources re: workplace skills coaching methods as applicable to journey-level supervision assignments
- Qualities of a good workplace coach
  - Components of workplace skills coaching
  - Processes and recommended practices re: workplace coaching
  - Troubleshooting problems re: supervision assignments
- d. Other (as may be specified by instructor)
4. **Complete Modules 1 to 3, *Workplace Coaching Skills* (Burnaby, BC: 1995), ISBN 1-55139-030-2. (or equivalent).** 10%
- a. Identifying purpose of the lesson
- explaining the point of the lesson
  - role of the coach in specific coaching situation
  - Other (specified by instructor)
- b. Linking the lesson
- Learner needs
  - Lesson sequence
  - Focus on learner
  - Selection/timing of coaching opportunities
- c. Demonstration of skill/task to be learned
- Starting the coaching session
  - Demonstration
  - Hands-on trial
  - Recap for learner

**5. Complete Modules 4 to 6, *Workplace Coaching Skills* (or equivalent).**

**15%**

- a. Practice of skill/task to be learned
  - Nature and importance of practice
  - Setting up for learner practice
  - Types of practice
  - Recycling and reinforcing skill/task learning
- a. Providing feedback to the learner
  - Value of feedback
  - Kinds of feedback
  - Guidelines and tips
- c. Assessment
  - Value of assessing learner progress
  - Assessing level of skill
  - Planning further steps toward skill/task mastery

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## Construction Craft Worker (CCW)

**Unit:** A4 Certification Exam Preparation: Program Review

**Level:** Two

**Duration:** 35 hours

Theory: 35 hours

Practical: 0 hours

### Overview:

This unit offers senior apprentices a systematic review of skills and knowledge required to pass their journey-level Certification Exam. Unit content promotes a purposeful, personal synthesis between on-the-job learning and the content of in-school technical training. The unit includes information about the significance of occupational qualifications, and the main features of the Certification Exam, as well as practical strategies/resources for mastering study materials. This material on mastering study-materials accompanies a comprehensive and systematic review of prescribed, trade-specific program content. It is intended that apprentices who seriously tackle the objectives of this unit should be able to approach the Certification Exam with well-founded confidence. The unit also supports consolidation of study practices, trade knowledge, and self-awareness to help meet longer-term requirements of further learning throughout one's career as a skilled worker.

*Note:* No percentage-weightings for test purposes are prescribed for this unit's objectives. Instead, a 'Pass/Fail' grade will be recorded for the unit in its entirety.

### Objectives and Content:

#### Percent of Unit Mark (%)

- |   |            |
|---|------------|
| <p><b>1. Describe the significance, format, and content of the Construction Craftworker Certification Exam.</b></p> <ul style="list-style-type: none"> <li>a. Scope and aims of occupational qualification systems; value of certification</li> <li>b. Obligations/entitlements of candidates for certification           <ul style="list-style-type: none"> <li>• Relevance of Certification Exam on to current industry standards, practices, and expectations</li> <li>• Supplementals Policy (retesting)</li> <li>• Confidentiality of examination content; the candidate's own stake in examination security (value of credential)</li> <li>• Limitations on use of calculators (e.g., dedicated, pre-programmed builders' calculator not allowed)</li> </ul> </li> <li>c. Multiple-choice (four-option) item format; common standards for acceptable test items (e.g., no "trick"-type questions; specifications for use of metric/Imperial units)</li> <li>d. Important government materials relevant to the Certification examination           <ul style="list-style-type: none"> <li>• National Occupational Analysis (NOA); prescribed scope of the skills and knowledge which comprise the trade</li> <li>• Special significance of subtask-level NOA descriptors re: exam content</li> </ul> </li> <li>e. Other (specified by instructor)</li> </ul> | <p>n/a</p> |
|---|------------|

2. **Identify resources, strategies, and other key considerations for maximizing successful completion of certification exams in the construction-sector.**
  - a. Personal preparedness
    - Proper rest/nutrition; eye-testing
    - Making room for a personal study regimen: appropriate prior communication with family members, friends, and employers about exam-related commitments/needs; identifying – and concluding – all necessary arrangements for minimizing distractions/disruptions
    - Focused reflection on prior experience – good and bad – in test situations (e.g., Unit Tests), especially with respect to what the trainee already has learned re: personal characteristics, learning styles, exam anxiety, and strategies (e.g., time management) for effective performance in test situations.
  - b. Self-assessment, consultation, and a personal study plan
    - Preliminary self-assessment of individual strengths/weaknesses in trade-related skills and knowledge; usefulness of old tests and training program materials; personal reflection re: in-school and on-the-job components of the Program, as well as the relationship between these two components; usefulness of consultation with trainer(s), instructor(s), appropriate peers, the Training Coordinator), and/or personal mentors and skills-coaches
    - Use(s) of approved textbooks, chapter tests, study guides, and note-taking in preparing for an examination
    - Study groups: perils and possibilities
    - Formulation, and submission for instructor's comments, of a personal study plan, including an approximate timetable, which describes/schedules a course of action for reviewing all relevant material(s) and for strengthening areas of deficient skills/knowledge in anticipation of the Certification Exam
  - c. Other (specified by instructor)
  
3. **Review program content re: trade mathematics and technical documents.**
  - a. Structure and scope of CCW trade-learning
  - b. Trade safety awareness
  - c. Workplace skills-coaching of apprentices
  
4. **Review program content re: trade mathematics and technical documents.**
  - a. Applications of basic math skills in trade practice
  - b. Technical drawing and construction-project design
  - c. General principles and key practices re: using blueprints
  - d. Using blueprints for special project applications
  - e. Estimating for construction projects
  
5. **Review program content re: tools, equipment, and materials.**
  - a. Using tools and equipment
  - b. Modern construction materials
  - c. Rigging
  - d. Material-handling for construction projects
  
6. **Review program content re: concrete-project labouring.**
  - a. Typical concrete projects and associated practices
  - b. Essentials of concrete formwork
  - c. Placement and curing of concrete
  - d. Repair and restoration of concrete structures
  - e. Roadwork repair and maintenance
  
7. **Review program content re: roadwork-project labouring.** %
  - a. Typical roadwork projects and associated practices

- b. Roadwork-project survey and layout
- c. Roadwork compaction, grading, and allied practices
- d. Roadwork repair and maintenance

**8. Review program content re: Construction Craft Worker specialties. %**

- a. Heavy-equipment communications and coordination
- b. Masonry project practices
- c. Utilities project practices

**9. Review program content re: Construction Craft Worker jobsite practices.**

- a. Jobsite preparation and maintenance
- b. Scaffolding and access structures
- c. CCW crew-leader practices re: regulation, inspections, and the environment

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## Construction Craft Worker (CCW)

**Unit:** B4 Blueprint Reading II: Special Project Applications

**Level:** Two

**Duration:** 28 hours

Theory: 7 hours

Practical: 21 hours

### Overview:

As introduced earlier in technical training, using blueprints, drawings, and other trade documents requires learning to make sense of the special symbols, codes, terminology, and rules used to convey detailed information about construction projects. This unit offers further instruction and practice to help the trainee refine skills in interpreting blueprints and technical documents for a variety of key purposes. These include achieving a deeper understanding of project details, and of conventions used throughout the construction industry. Other key purposes include using blueprints as an aid in organizing and coordinating work on project jobsites, and in developing take-offs and cut-lists. Unit content touches on all of these aspects of blueprint use in the Construction Craft Worker trade, with reference to such trade specialties as roadwork, concrete, masonry, utilities, and landscaping projects.

<b>Objectives and Content:</b>	<b><u>Percent of Unit Mark (%)</u></b>
1. Demonstrate use of provided Roadwork project blueprints, including detail drawings, to derive/verify information <i>per</i> instructor's specifications.	20%
2. Demonstrate use of provided Concrete project blueprints, including detail drawings, to derive/verify information <i>per</i> instructor's specifications.	35%
3. Demonstrate use of provided Masonry project blueprints, including detail drawings, to derive/verify information <i>per</i> instructor's specifications	20%
4. Demonstrate use of provided Utilities project blueprints, including detail drawings, to derive/verify information <i>per</i> instructor's specifications.	25%

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## Construction Craft Worker (CCW)

**Unit:** B5 Estimating Material Requirements for Construction Projects

**Level:** Two

**Duration:** 14 hours

Theory: 7 hours

Practical: 7 hours

### Overview:

This unit offers CCW senior apprentices the opportunity to apply their knowledge of construction materials, technical drawings, trade math, and construction details to solve practical problems involving estimates and quantity surveys. Unit content also includes information about typical challenges, methods, and resources used in estimating materials for the widely varied range of projects in which CCWs are involved.

<b>Objectives and Content:</b>	<b><u>Percent of Unit Mark (%)</u></b>
1. Apply/review trade-math concepts and calculator use to estimate commonly-required construction materials.	35%
2. Estimate project material requirements using technical drawings and blueprints.	25%
3. Estimate materials using information from manufacturer documentation (e.g., product catalogues, specifications), building codes, and other industry standards.	20%
4. Complete Construction Materials Estimating Assignment <i>per</i> instructor's specifications.	20%

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## Construction Craft Worker (CCW)

**Unit:** C3 Rigging, Hoisting, and Materials Handling

**Level:** Two

**Duration:** 28 hours

Theory: 7 hours

Practical: 21 hours

### Overview:

This unit of instruction introduces the basic concepts, techniques, and jobsite aids that are involved in the handling and placement of construction materials by Construction Craft Workers on modern jobsites. Content includes important information about how gravitational and other forces act on material loads of different shapes, sizes, and densities. The unit familiarizes apprentices with the rich fund of practical know-how and technological aids – both simple and complex – that are used to stabilize and position these loads as a routine requirement of modern trade practice. The considerable hazards in handling them on the jobsite are also subject to important regulations and restrictions as outlined in this unit.

<b>Objectives and Content:</b>	<b><u>Percent of Unit Mark (%)</u></b>
1. Describe rigging and hoisting in the work-practices of CCWs.	10%
2. Describe scientific and technological concepts (e.g., force, gravity, equilibrium, etc.) as they apply to rigging and hoisting on construction jobsites.	10%
4. Describe/demonstrate rigging procedure and techniques, including instructor-specified accessories and equipment.	30%
5. Perform rigging/hoisting calculations <i>per</i> instructor-specified load characteristics and equipment configurations.	30%
6. Complete the Rigging and Hoisting Demonstration Project <i>per</i> instructor specifications.	20%

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## Construction Craft Worker (CCW)

**Unit:** C4 Practicum: Materials-Handling for Construction Jobsites

**Level:** Two

**Duration:** 14 hours

Theory: 0 hours

Practical: 14 hours

### Overview:

The unit offers CCW-trade senior apprentices practical opportunities to refine under the instructor's supervision their knowledge about standards regarding rigging, hoisting and materials-handling practices as these pertain to a wide range of exacting and potentially-hazardous work-assignments.

<b>Objectives and Content:</b>	<b><u>Percent of Unit Mark (%)</u></b>
1. <b>Demonstrate instructor-specified procedures for handling construction materials using personnel-buckets, forklifts, and/or skid-steers, along with select accessories.</b>	<b>80%</b>
2. <b>Demonstrate instructor specified procedure for handling construction materials using power-elevated lift platforms.</b>	<b>20%</b>

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## Construction Craft Worker (CCW)

**Unit:** D4 Repair and Maintenance of Concrete Structures

**Level:** Two

**Duration:** 21 hours

Theory: 7 hours

Practical: 14 hours

### Overview:

Unit content builds upon earlier Technical Training units concerning the mixing, transporting, placing, finishing, and curing of concrete. The unit concentrates particularly upon how the trade knowledge associated with these aspects of the CCW skill-set is adapted to the special requirements of refurbishing and reconditioning concrete and concrete structures.

<b>Objectives and Content:</b>	<b><u>Percent of Unit Mark (%)</u></b>
1. Describe CCW-trade responsibilities, preferred practices, and construction industry standards re: repairing and maintaining concrete structures in general.	10%
2. Compare/contrast the major specific types of concrete repair/maintenance practice, including the particular challenges, material requirements, hazards, and precautions associated with each.	10%
3. Describe/demonstrate instructor-specified procedures (e.g., exposing substrates or rebar) for identifying, removing, and disposing of compromised and/or deficient concrete due to such instructor-specified conditions as spalling, scaling, pop-outs, honeycomb, etc.	40%
4. Describe/demonstrate instructor-specified detailed procedures for selecting and applying concrete repair/maintenance products, materials and tools/equipment.	40%

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## Construction Craft Worker (CCW)

**Unit:** D5 Practicum: Concrete-Skills Demonstration Project

**Level:** Two

**Duration:** 14 hours

Theory: 0 hours

Practical: 14 hours

### Overview:

Completing this project to instructor-provided specifications offers senior-level trainees a hands-on opportunity to review, synthesize, and demonstrate the acquired practical skills that enable them to contribute to a wide variety of construction projects involving concrete products and structures. It is intended that several instructor-designed project options will be made available to trainees, allowing some individual choice of project to demonstrate competence performing concrete-related job assignments. Project criteria reflect content and grading standards derived from one or more units in the program's concrete content-area, subject to the instructor's discretion.

<b>Objectives and Content:</b>	<b><u>Percent of Unit Mark (%)</u></b>
1. Identify/comply with all safety requirements relevant to the project.	20%
2. Demonstrate proper technique in selecting/using required tools and equipment.	20%
3. Interpret all materials (drawings, handouts, etc.) and instructions re: project specifications.	20%
4. Complete the project as per instructor-specified standards of execution and quality (e.g., achievement of finished dimensions, general appearance, etc).	40%

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## Construction Craft Worker (CCW)

**Unit:** E4 Roadwork Repair and Maintenance

**Level:** Two

**Duration:** 7 hours

Theory: 7 hours

Practical: 0 hours

### Overview:

Unit content builds upon earlier technical training concerning roadwork-sector projects, equipment, and technical procedures in general. The unit concentrates particularly upon how the trade knowledge associated with these aspects of CCW skill are adapted to the special requirements of refurbishing and reconditioning existing roads of several kinds. Although the unit mainly emphasizes conventional asphalt, concrete, and gravel road-surfaces, some attention is paid to temporary-road projects associated with Manitoba climatic extremes and topography.

<b>Objectives and Content:</b>	<b><u>Percent of Unit Mark (%)</u></b>
1. Describe the major types of roadwork repair/maintenance, and compare/contrast the project-requirements generally associated with them.	10%
2. Describe special hazards and precautions associated with roadwork repair/maintenance projects.	30%
3. Compare/contrast specific roadwork-repair/maintenance projects with particular reference to instructor-specified procedures including materials usage/salvage, equipment selection/use, exposure of substrates, and application of restoration materials.	40%
4. Describe special requirements for repairing/maintaining roads in western Canada and the North (e.g., winter roads, heaving of earth, extreme weather impacts, etc.	20%

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## Construction Craft Worker (CCW)

**Unit:** E5 Practicum: Roadwork Skills Demonstration Project

**Level:** Two

**Duration:** 14 hours

Theory: 0 hours

Practical: 14 hours

### Overview:

Completing this project to instructor-provided specifications offers senior-level apprentices a hands-on opportunity to review, synthesize, and demonstrate the acquired practical skills that enable them to contribute to a wide variety of roadwork construction projects. It is intended that several instructor-designed Project options will be made available to apprentices, allowing some individual choice of Project to demonstrate competence performing Roadwork-related job assignments. Project criteria reflect content and grading standards derived from one or more units in the program's Roadwork content-area, subject to the instructor's discretion.

<b>Objectives and Content:</b>	<b><u>Percent of Unit Mark (%)</u></b>
1. Identify/comply with all safety requirements relevant to the Project.	20%
2. Demonstrate proper technique in selecting/using required tools and equipment..	20%
3 Interpret all materials (drawings, handouts, etc.) and instructions re: Project specifications.	20%
4. Complete the Project as per instructor-specified standards of execution and quality (e.g., achievement of finished dimensions, general appearance, etc).	40%

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## Construction Craft Worker (CCW)

**Unit:** F2 Masonry Project Practices

**Level:** Two

**Duration:** 21 hours

Theory: 7 hours

Practical: 14 hours

### Overview:

Completing this project to instructor-provided specifications offers senior-level apprentices a hands-on opportunity to review, synthesize, and demonstrate the practical skills required for them to contribute productively to the completion of masonry projects. The unit includes theoretical material concerned with the variety of masonry components and materials, as well as the practical procedures and precautions associated with this work.

<b>Objectives and Content:</b>	<b><u>Percent of Unit Mark (%)</u></b>
1. Compare/contrast CCW trade practices re: instructor-specified varieties of masonry project, including those involving brick, block, refractory materials, membranes, protective coatings, stone, precast hollow-core, and synthetic products.	10%
2. Describe special hazards and precautions associated with masonry construction projects.	15%
3. Describe the requirements of preparing jobsites for masonry projects (e.g., special scaffolding, falsework, skidding of materials, dedication of special-purpose areas for such activities as mixing and weather-hoardings, etc.).	20%
4. Describe/demonstrate instructor-specified procedure for masonry-materials transport and handling.	15%
5. Describe/demonstrate procedure for preparing masonry-project materials including washing as well as cutting bricks/blocks, mixing mortars and castables, etc.	25%
6. Describe/demonstrate instructor-specified procedure for preparing substrate and for applying protective coatings, including waterproofing/fireproofing materials.	15%

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## Construction Craft Worker (CCW)

**Unit:** F3 Utilities Project Practices

**Level:** Two

**Duration:** 28 hours

Theory: 14 hours

Practical: 14 hours

### Overview:

This unit concentrates on CCWs' widely varied responsibilities associated with water, sewer and pipeline infrastructure projects, which range from testing/inspection procedures and installation/repair activities through the heavy but exacting work of constructing pipeline rights-of-way.

<b>Objectives and Content:</b>	<b><u>Percent of Unit Mark (%)</u></b>
1. Compare/contrast CCW trade practices re: instructor-specified varieties of utilities project including sewer, water, and pipeline systems.	10%
2. Describe special hazards and precautions associated with utilities-construction/maintenance projects.	15%
3. Describe/demonstrate procedures for establishing, maintaining, and back-filling utilities-project excavations, including inspections and compliance protocols.	15%
4. Describe/demonstrate procedures for installing/repairing instructor-specified utilities-project components, including pipes, pumps, and system tie-ins.	40%
5. Describe/demonstrate procedures for testing water/sewer lines.	15%
6. Describe/demonstrate procedures for constructing rights of way for utilities projects.	5%

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## Construction Craft Worker (CCW)

**Unit:** F4 Practicum: Senior-Level Specialties  
Demonstration Project

**Level:** Two

**Duration:** 7 hours

Theory: 0 hours

Practical: 7 hours

### Overview:

Completing this project to instructor-provided specifications offers senior-level trainees a hands-on opportunity to review, synthesize, and demonstrate the acquired practical skills that enable them to contribute to specialized masonry-, and utilities-labouring projects. It is intended that several instructor-designed Project options will be made available to apprentices, allowing some individual choice of Project to demonstrate competence performing job-assignments in one of these specialty areas. Project criteria reflect content and grading standards derived from one or more units in the program's Concrete content-area, subject to the instructor's discretion.

<b>Objectives and Content:</b>	<b><u>Percent of Unit Mark (%)</u></b>
1. Identify/comply with all safety requirements relevant to the Project.	20%
2. Demonstrate proper technique in selecting/using required tools and equipment.	20%
3. Interpret all materials (drawings, handouts, etc.) and instructions re: Project specifications.	20%
4. Complete the Project as per instructor-specified standards of execution and quality (e.g., achievement of finished dimensions, general appearance, etc).	40%

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## Construction Craft Worker (CCW)

**Unit: G3 Regulation, Inspections and the Environment:  
An Overview for CCW Crew-Leaders**

**Level:** Two

**Duration:** 14 hours

Theory: 7 hours

Practical: 7 hours

### Overview:

The preparation and coordination of project jobsites in 'real time' are essential to the safety, efficiency, and successful completion of CCWs' work. These practices were introduced in Level 1, and are revisited here at a more advanced level of learning suited to the needs and interests of the senior trainee who might be called upon to accept responsibilities as a CCW crew-leader. The specific requirements of doing so will vary widely with the complexity, scale, seasonality, and the regulatory dimension of particular projects. This unit focuses on several key requirements of crew-leadership that are common to most construction jobsite. Specifically, these concern the need to fulfill project administrative, production, and site-specific requirements. Content may be of particular interest to those apprentices who hope eventually to specialize as project lead-hands, forepersons, and supervisors.

<b>Objectives and Content:</b>	<b>Percent of <u>Unit Mark (%)</u></b>
1. Compare/contrast the CCW Crew-Leader's role and responsibilities with regard to those of other jobsite personnel.	15%
2. Describe the scope and substance of CCW Crew-Leader responsibility re: regulations, inspections, and environmental concerns, including arrangements for bottle-watch, safety-watch, confined-space watch, etc.	60%
3. Describe/demonstrate development of a CCW Crew Leader's protocol -- including practical guidelines - for inspections and compliance with regulations per instructors-specified project conditions (e.g., asbestos abatement, wildlife habitat, waterway).	25%

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