

**BAA "CORE – Construction Orientation and Retention for
Employment Foundation 11 – Level 2" Framework**

District Name: School District #34

District Number: 34

Developed by: Glen Roger –Principal -Yale Secondary School
Jay Pankratz – Vice-principal – Yale Secondary School
Larry Colby – Instructor – Yale Secondary School

Date Developed: December 2007

School Name: Yale Secondary School

Principal's Name: Glen Roger

Board/Authority Approval Date: April 2007

Board /Authority Signature: _____
Board Chair

Board /Authority Signature: _____
Superintendent

Course Name: CORE 11 Level 2

Course Code: YCREF11A *Victoria School district.*

Number of Course Credits: 4

Number of Hours of Instruction: 100

Prerequisite(s):

ITA recommendation – Grade 10 – or equivalent including English 10, Mathematics 10 and Science 10. An equivalency assessment can be conducted prior to admission.

Special Training, Facilities or Equipment Required:

This course will be delivered in a classroom and technology education shop setting by a teacher who is knowledgeable in the construction trades and its careers. The classroom desk/table work area should be large enough to accommodate theoretical and practical problem solving for each student. A computer lab must be accessible for certain portions of the program and the lab set up for the Construction Safety Training System network (online safety training)

Certain requirements are outlined by ITA – Industry Training Authority. The shop working area be at least 4000 square feet with a 22 foot high ceiling space to allow for scaffold erecting. The work area must be equipped with enough hand tools for student use suitable for the construction industry. The power tools required are listed as follows:

1-portable table saw 1-stationary table saw 1-drill press 4-hand grinders
2-power mitre saws 10-electric handsaws 10-power drills 4-screw guns
1-chain saw 2-pneumatic nailers 1-gas nailer 2-jigsaws
2-staplers 2-routers 1-reciprocating saw
1-hand power plane 2-electric nailers (brad guns)

Shop Equipment Required

- Ladders - Extension, Folding,
- 4 - Sets of 3 stage scaffolding
- Material handling equipment
- Level Two First Aid Kit
- Eye Wash Station

Hand Tools (enough for class use)

- pliers • screwdrivers • hammers • allen wrenches (keys)
- files • punches and chisels • hack saws • wrenches
- hand saws • measurement, layout and alignment tools • Tool Pouch
- squaring and marking tools • cutting tools (edge and tooth)
- assembly and dismantling tools • clamping tools • block plane
- abrasives and scraping tools • combination square

Course Synopsis:

The course is one of two parts of the **ITA CORE Certification Program**. The ITA Construction Orientation and Retention for Employment Foundation Program is based on equal time of in-school and field experience. This program offers the in-school portion of the program. The field experience portion would be covered through the work experience courses already in existence.

This course is the in-school portion of the ITA CORE Program designed to train students who have an interest for employment as entry level skilled trade workers, helpers, and labourers in the construction industry. The program trains foundation skills required to successfully learn on the job and allows for opportunities for bridging into a building trades apprenticeship.

Learning Outcomes:

1. Explain harassment as it applies to the workplace.
2. Describe the employer's responsibilities to protect employees from harassment.
3. Describe the possible results of harassment in the workplace.

Achievement Criteria:

It is expected that students will:

- be able to identify various forms of harassment in the workplace. (70% minimum test mark required for CORE completion)

Unit 2: Line B - Comply with Safety Procedures

25 hours

Overview

In this unit students are introduced to safety procedures as found in the construction industry. The construction industry is regulated through safety practices and procedures. One major partner in this is WorkSafeBC and the WCB Act, which enforces its regulations. These regulations are in place for the protection of the employee. This unit consists of introducing the students to WorkSafeBC Occupational Health and Safety Regulations, construction site safety training, first aid training, flag person training, WHMIS training, Fall Protection Training, and fire extinguishers types and uses.

Curriculum Organizers and Learning Outcomes

This unit is organized into eight sections. B-5, B-6, B-7 are covered in this course.

• **B-5 Complete Level One First Aid Training**

In this section, the student will be introduced to First Aid -its purpose, structure, and composition. Students will have the opportunity to complete the Level One First Aid Training in accordance to local jurisdiction authorities.

Learning Outcomes:

1. Explain the purpose of emergency First Aid Training
2. Describe a typical emergency First Aid training program.
3. Explain the focus of a typical emergency First Aid training program.
4. Complete a Level One First Aid Training Program.

• **B-6 Complete Flag Person Safety and Training Requirements**

In this section student are introduced to Flag Person Safety and Training requirements. They have the opportunity to complete the Flag Person and Safety Training which is a two day course.

Learning Outcomes:

1. Describe the purpose of Traffic Control Person Training
2. State the skills required to become a certified Traffic Control Person in BC
3. Describe the responsibilities and role of a certified Traffic Control Person in BC.

• **B-7 Complete the Fall Protection Training Program**

In this section students will be introduced to the hazards and precautions surrounding fall protection. The students will have an opportunity to complete a Fall Protection Training Program.

Learning Outcomes:

1. Explain the WCB regulations for Fall Protection (section #11)
2. Explain the obligations for use of Fall Protection equipment as per WCB.
3. Describe the requirements for Fall Protection equipment.
4. Complete the Fall Protection training.

Achievement Criteria:

It is expected that students will:

- demonstrate the basic skills needed to reduce shock and contain injuries as per St. John Ambulance Canada's standards.
- successfully complete practical and written assessments established by the BC Ministry of Transportation to a level of 70% grade. (70% minimum test mark required for CORE completion)
- demonstrate the proper use of Fall Protection equipment as per WCB in a in class scenario
- demonstrate the knowledge of Fall Protection with a written and practical assessment. (70% minimum test mark required for CORE completion)

Unit 3: Line C - Use Construction Tools

10 hours

Overview

In this unit, student will be introduced to tools and equipment used in the construction industry. The effective and safe use of these is valuable both to the employee and employer. Tools and equipment covered in this unit are measuring and layout tools, hand and power tools, and leveling tools.

Curriculum Organizers and Learning Outcomes

This unit is organized into four sections. C-3, C-4 covered in this course.

• **C-3 Use Leveling Tools (including lasers)**

In this section, students will be able introduced to the use of various types of leveling equipment common to the building trades in the construction industry. They will also be introduced to their common applications, as well as the basic procedures for site layout and related information.

Learning Outcomes:

1. Identify common leveling systems and describe methods of transferring elevations with leveling tools.
2. Describe common applications for leveling tools.
3. Describe the basic procedures for site layout and related documents.

• **C-4 Use Fastening Tools (e.g. Drills and Rotary Hammers)**

In this section, students will be introduced to the use of various types of fastening tools used in the construction industry. They will also learn about appropriate and related hardware to these tools.

Learning Outcomes:

1. Identify types of fastening tools – drills and rotary hammers.
2. Identify the commonly used fasteners and how they are used.
3. Demonstrate the use of fastening tools and fastening devices.

Achievement Criteria:

It is expected that students will:

- be observed on the use of measuring tools as part of the practical shop project assessment to a standard of 100%.
- achieve a 70% mark on the in class evaluation of the use of the measuring tools through various assignments.
- be observed on the ability to use hand and power tools for the carpenter trades as part of a practical shop project assessment to a standard of 70% accuracy.
- achieve a 70% mark on a test with question related to a given drawing.
- Be observed on the use of fastening tools and fasteners as part of a practical shop project to a standard of 70% accuracy.

Unit 4: Line D -Use Ladders and Scaffolds

4 hours

Overview

In this unit students will be introduced to the safety and use of ladders and scaffolds. They will be introduced to the WorkSafeBC Occupational Health & Safety (OH&S) regulations regarding the setup and use of scaffold, ladders, and work platforms. Student will also erect steel scaffolding, use portable and fixed ladders, and learn about work platforms as per WorkSafeBC standards practices.

Curriculum Organizers and Learning Outcomes

This unit is organized into four sections. D-2 and D-4 covered in this course.

• **D-2 Erect Steel Scaffolding as per WorkSafeBC Standards Practices**

In this section, students will be introduced to the safety involved with steel scaffolding, and will erect safely and effectively steels scaffolding as per WorkSafeBC standards practices.

Learning Outcomes:

1. Describe common erection requirements for scaffolds.
2. Describe the common types of steel scaffolds.

• **D-4 Comply with WorkSafeBC Safety Procedures for Using Movable Work Platforms**

In this section, students will be introduced safety and training to be able to comply with WorkSafeBC safety procedures for using movable work platforms such as scissor-lifts, forklifts, and swing staging.

Learning Outcomes:

1. Describe scissor-lift safety and training requirements as per WorkSafeBC.
2. Describe swing staging safety and training requirements as per WorkSafeBC.
3. Describe forklift (lift truck) safety training requirements.

Achievement Criteria:

It is expected that students will:

- achieve a minimum 70% mark on a test with question related to WorkSafeBC regulations for ladders and scaffolds.
- achieve a minimum 70% mark on a test on WorkSafeBC regulations for erection procedures for steel scaffolds.
- be observed on erection procedures for steel scaffolds as part of a practical shop project to a standard of 70% accuracy.
- achieve a minimum 70% mark on a test about WorkSafeBC safety procedures for using movable work platforms.

Unit 5: Line E - Move and Place Materials

10 hours

Overview

In this unit, students will be introduced safety and training regarding the movement and placement of materials typically found in working environment in the construction industry. They will be introduced to theory and practical components considering using ropes, tying knots, bends and hitches, using rigging equipment, using signals for crane and hoisting operations, moving and storing materials and equipment, and job-site clean- up and housekeeping.

Curriculum Organizers and Learning Outcomes

This unit is organized into five sections. E-2, E-3 and E-4 covered in this course.

• E-2 Use Rigging Equipment as per WorkSafeBC Regulations

In this section students will be introduced to the use of rigging equipment as per standard practices and WorkSafeBC regulations. They will learn about WCB Section #15, slings, rigging hardware, rigging safety, and types of hoisting equipment.

Learning Outcomes:

1. Define the most common rigging terms as per WCB section #15.
2. Identify common types of slings and rigging hardware.
3. Use common types of sling configurations and describe their application.
4. Describe rigging safety requirements.
5. Identify common types of hoisting equipment and describe their application.

• E-3 Use Signals for Crane & Hoisting Operations

In this section, students will be introduced to the use of WorkSafeBC hand signals for crane and hoisting operations. They will learn about the need for accurate, effective communication during hoist operations.

Learning Outcomes:

1. Explain the need for effective communications during hoisting operations
2. Identify Signals for Crane and Hoisting Operations

• **E-4 Move and Store Industry Materials and Rigging Equipment**

In this section, students will be introduced to the industry standards of being able to move and store industry materials and rigging equipment. They will learn about WorkSafeBC regulations considering a construction project, common safe work procedures, and safety requirements for moving materials.

Learning Outcomes:

1. Describe a "construction project" as per WorkSafeBC regulations.
2. Describe basic common safe work procedures associated with the mounting and dismounting of construction equipment.
3. Describe safety requirements for moving materials.

Achievement Criteria:

It is expected that students will:

- be observed on the ability to use rigging equipment as part of a practical shop project assessment to a 70% accuracy.
- achieve a 100% mark on the in class written/practical where the students will give and receive visual hoisting(hand) signals.
- be observed on the ability to move and store industry materials and rigging equipment as part of a practical shop project assessment to a standard of 70% accuracy.

Unit 6: Line F-Complete Building Projects

42 hours

Overview

In this unit, student will be introduced to various projects associated with the construction industry. They will be introduced to various projects involving the electrical, carpentry, rebar, formwork, framework, and interior finishing trades. They will also attend job-site visits to see and understand what the various trades offer.

Curriculum Organizers and Learning Outcomes

This unit is organized into six sections. F-4, F-5, F-6 are covered in this course.

• **F-4 Build a Set of Forms as a Team Project**

In this section, student will build a set of forms as a team project as per a set drawing. They will learn about safety procedures and considerations, the importance of reading drawings, and the effective use of time, materials, and equipment. This project also teaches students to work as a team, and how to work with each others' strengths and weaknesses.

Learning Outcomes:

1. Describe safety considerations for forming projects.
2. Explain the importance of reading drawings and making accurate measurements.
3. Build the forms as per drawing.

4. Working collaboratively with others.

• **F-5 Build a Framing Structure as a Team**

In this section students will build a shed as a team as per a drawing supplied. They will learn about safety procedures and considerations, the importance of reading drawings, and the effective use of time, materials, and equipment. This project also teaches students to work as a team, and how to work with each others strengths and weaknesses. They will learn about the planning of a project, the correct and safe use of hand and power tools, handling materials, and keeping the work area clean. Through the method of building a shed, the students will be introduced to the method of construction of a house, from floor system to walls to ceilings to roof structures.

Learning Outcomes:

1. Describe safety considerations for framing project construction.
2. Explain the importance of reading drawing and making accurate measurements.
3. Build a structure as per drawing.

• **F-6 Install Steel Stud Wall-Drywall-Tape & Finish with Paint**

In this section, the students will be introduced to the installation of steel studs, drywall installation, taping, and painting. They will learn about safety procedures and considerations, the importance of reading drawings, and the effective use of time, materials, and equipment. This project also teaches students to work as a team, and how to work with each others strengths and weaknesses.

Learning Outcomes:

1. Describe safety considerations for installation projects.
2. Explain the importance of reading drawings and making accurate measurements.
3. Install steel studs, wall, drywall, tape, and finish with paint.

Achievement Criteria:

It is expected that students will:

- demonstrate workmanship, and time required to complete the projects. (70% minimum)
- be assessed by observation on a set of forms based on appearance, accuracy, workmanship, and time required to complete the project (70% minimum)
- be assessed by observation on framing techniques based on appearance, accuracy, workmanship and time required to complete the project (70% minimum)
- be assessed by observation on steel stud, drywall, taping, and painting techniques based on appearance, accuracy, workmanship and time required to complete the project (70% minimum)

Unit 7 Line G - Search for Careers & Employment Opportunities 6 hours

Overview

In this unit student will be introduced to the careers and employment opportunities available in the construction industry. The will attend field trips to

construction sites and report on observations. They will be introduced to how apprenticeship works and what are other possible training options. Careers in the construction industry and related fields will be explored.

They will learn how to prepare a resume directed towards the construction industry as well as other professional fields. They will learn how to search for a job and how to go through the application process with a potential employer.

Curriculum Organizers and Learning Outcomes

This unit is organized into five sections. G-3, G-4, G-5 are covered in this course.

• **G-3 Prepare Career Goals and Discuss with Job Coach**

In this section, students will be introduced to the typical careers available to them in the construction industry. They will learn about what considerations they must take into account, such as employment opportunities and earnings, and what factors may change their choices of career paths.

Learning Outcomes:

1. Explain the factors to consider prior to making a career choice in the construction industry.
2. Describe typical careers in the construction industry.

• **G-4 Prepare a Resume**

In this section, the student will learn how to prepare a resume based on their career choices, goals, and qualifications. The students will be given various resume formats to choose from, and be able to select the best format based on their needs and type of information to be provided.

Learning Outcomes:

1. Describe the requirements to prepare a basic resume.
2. Describe the format for a good resume.
3. Prepare a resume for employment.

• **G-5 Schedule and Attend a Job Interview with a Potential Employer**

In this section, students will be introduced to the skills to be able to search for a job for a potential employer. Various types of media will be used - newspaper, Internet, government agencies, yellow pages. The students will also learn how to apply for a job with potential employer by going through the process of submitting a resume, completing employment applications, and preparing for an interview.

Learning Outcome:

1. Describe the different ways to search for a job in the construction industry.
2. Describe and demonstrate how to apply for a job with a potential employer.

Achievement Criteria:

It is expected that students will:

- prepare a resume that will be based on specified criteria. (70% minimum accuracy)

- conduct a job search to meet with potential employers and will successfully complete a role play interview exercise.

Instructional Components:

- Direct Instruction
- Demonstrations
- Practical Experience
- Brainstorming
- Group/Team Learning
- Hand-outs
- Self-Evaluation Projects
- Guest Speakers

Assessment Component:

Formative:

- Assignments 10%

Summative:

- Tests/Quizzes 30%
- Skills, demonstration of competencies 30%
- Practical projects 30%

Learning Resources:

**Alberta Carpenter Apprenticeship self-teaching packages available from the
Queens**

Printers in Victoria:

- "Orthographic Drawings" # 785 0001923
- "Fire Prevention and Control" # 7850001151
- "Work Site Safety " # 020101b
- "Hand Tools" # 7850001158
- "Portable Power Tools" # 7850001159
- "Pneumatic and Fuel-Powered Tools" # 7850001163
- "Fasteners, Adhesives and Sealants" #7850001156
- "Preliminary Building Operations" #7850001164
- "Ladders and Scaffolds "module # 020101d.
- "Construction Equipment" # 7850001165

**"Traffic Control Person Training – Instructor Guide"- #MN2060 – Province of
British Columbia Ministry of Transportation**

Web-Site: Doing Business with WorkSafeBC -

<http://www.worksafebc.com/default.asp>

(This Site has all WCB's current Occupational Health and Safety Regulations)