Surveying and Concrete 40S

In this course, students will demonstrate knowledge of site layout tools, equipment, and processes. They will also demonstrate knowledge of concrete and concrete products, footings, slab-on-grade, grade beam forms, and walls forms.

Safety:

1) Demonstrate an understanding of and adherence to health and safety practices
2) Demonstrate the identification, installation, and management of materials

Terminology and Skills:

3) Demonstrate the identification, use, and management of tools and equipment used in surveying and concrete
4) Demonstrate the identification, use, and management of fasteners and adhesives
5) Interpret codes, regulations, and specifications pertaining to project drawings, specifications, and trade documentation
6) Calculate area/volume
7) Define terminology associated with site layout and the layout of building lines
8) Identify hazards and describe safe work practices pertaining to site layout and the layout of building lines
9) Interpret codes, regulations, applicable covenants, and information found on drawings and specifications pertaining to site layout and the layout of building lines
10) Identify tools and equipment used to perform site layout and the layout of building lines, and describe their applications and procedures for use
11) Explain surveying theory as it pertains to site layout
12) Describe the procedures used to perform site layout
13) Perform calculations pertaining to site layout and layout of building lines
14) Use site layout equipment to determine elevations and lay out building lines
15) Define terminology associated with concrete and concrete products
16) Identify hazards and describe safe work practices pertaining to concrete and concrete products
17) Interpret codes, regulations, and information found on drawings and specifications pertaining to concrete and concrete products
18) Identify tools and equipment used to test, consolidate, and finish concrete, and describe their applications and procedures for use
19) Identify concrete products, structures, and components, and describe their characteristics and applications
20) Identify types of concrete reinforcement and describe their applications
21) Identify types of embedded materials and describe their applications
22) Describe the effects of water/cement ration on concrete
23) Describe the effects of aggregate size on concrete

24) Identify additives/admixtures used in concrete and describe their purpose and applications
25) Identify types of concrete tests and describe their associated procedures
26) Identify type of joints and describe their applications
27) Describe the procedures used to place, consolidate, and finish concrete and to facilitate the curing of concrete
28) Demonstrate the procedures to mix, place, consolidate, and finish concrete and to facilitate the curing of concrete
29) Perform the slump/compression test
30) Define terminology associate with footings, slab-on-grade, and grade beam forms
31) Identify hazards and describe safe work practices pertaining to footings, slab-on-grade, and grade beam forms
32) Interpret codes, regulations, and information found on drawings and specifications pertaining to construction of footings, slab-on-grade, and grade beam forms
33) Identify tools and equipment used to construct footings, slab-on-grade, and grade beam forms, and describe their applications and procedures for use
34) Identify types of footings, slab-on-grade, grade beam forms, form materials, and accessories, and describe their characteristics and applications
35) Identify the steps involved and factors to consider in the preparation of a site for construction of footings, slab-on-grade, and grade beam forms
36) Identify types of piles and piers, and describe their characteristics and applications
37) Describe the procedures used to construct, dismantle, and recondition footing, slab-on-grade, and grade beam forms
38) Identify types of embedded materials used in footings, slab-on-grade, and grade beam forms, and describe their characteristics and applications
39) Describe the procedures used to place embedded materials in footings, slab-on-grade, and grade beam forms
40) Calculate materials needed to construct footings, slab-on-grade, and grade beam forms, and calculate the volume of concrete required
41) Lay out and construct footings, slab-on-grade, and grade beam forms
42) Define terminology associated with wall forms
43) Identify hazards and describe safe work practices pertaining to wall forms
44) Identify tools and equipment used with wall forms, and describe their applications and procedures for use
45) Identify types of wall form systems, and describe their characteristics and applications
46) Identify types of wall form system components, accessories, and materials, and describe their purpose and applications
47) Describe the procedures used to construct, dismantle, and recondition wall forms
48) Identify types of embedded materials used in wall forms, and describe their characteristics and applications
49) Describe the procedures used to place embedded materials in wall forms

50) Calculate materials needed to construct wall forms, and calculate the volume of concrete required
51) Demonstrate the procedures to lay out and construct wall forms
52) Demonstrate and awareness of the existence of building codes and other local regulations related to concrete

Employability Skills:

- Demonstrate regular attendance and punctuality
- Demonstrate accountability by taking responsibility for own actions
- Demonstrate adaptability and effort
- Demonstrate the ability to accept and follow direction and feedback
- Demonstrate teamwork skills
- Demonstrate the ability to stay on task and effectively use time

Critical Thinking:

- Demonstrate problem-solving skills

Different Cultures

- Demonstrate an awareness of cultural differences in the workplace

Human Sustainability

- Demonstrate an awareness of the sustainability of the carpenter's working conditions, including working hours and out-of town travels, shift work and so on

Sustainability Practices

- Demonstrate the ability to reuse materials

Structure and Scope

- Demonstrate an awareness of the scope of surveying and concrete

Apprenticeship, Post-Secondary Education, and Employment Opportunities

- Describe employment opportunities in surveying and concrete

Evolution of Carpentry (Technological Progression and Emerging Trends)

- Demonstrate an awareness of the evolution of surveying and concrete, including its technological progression and emerging trends

Digital Citizenship

- The use of cell phones may be used discretely if students are completed with the classroom assignments. If the use of cell phone disrupts other students, it will be taken away from the student by the instructor and given back at the end of class. If this type of behavior keeps reoccurring, the instructor may ask the student to leave device in locker for the length of the class until student earns the privilege again. Any further disciplinary actions may be taken to administration and parents may be notified.
- The use of cell phones is encouraged in the carpentry program as long as it is carpentry

related and used in a safe manner. The students need to be aware of their surroundings when using cell phones in the shop and will be asked to keep clear of any machinery.

Assessment Outline:

General Safety	10%
Course Specific Folders	20%
Final Exam	10%
Projects	50%
Class Participation	10%
Total	**100%**

SVRSS 3-Step PPE Compliance Order - proper Personal Protective Equipment (PPE) is essential for safety in the Building Trades Shop (carpentry shop). **CSA Approved Safety boots or CSA approved toe caps (properly fitted to appropriate footwear) must be worn in the shop. Safety glasses must be worn in the Automotive shop.** If a student fails to comply with PPE requirements, the following steps will be followed:

Step #1: Reminder & Documentation

- The student will be reminded to wear their PPE. PPE will be provided for duration of class
- An entry log will be made in **PowerSchool**, recording that the student was non-compliant and asked to wear their required gear.
- The teacher will explain the importance of PPE and the potential risks of non-compliance.

Step #2: Parent/Guardian Contact

- If the student is reminded to wear PPE again, the teacher will call the student's **parent/guardian** to inform them of the issue. A log entry of this will be made as well. PPE will be provided for the duration of class.
- The teacher will explain the importance of PPE and the potential risks of non-compliance.

Step #3: Office Referral & Potential Removal

- If the student is reminded to wear PPE a third time, they will be **sent to the office** for further action, which will include a parent/guardian, student, teacher and administration meeting.
- The student **may be removed from Vocational programs** for failing to meet minimum safety requirements.

By signing below, I acknowledge that I understand and agree to comply with these PPE requirements.

Student Name: _____ **Parent/Guardian Name:** _____

Student Signature: _____ **Parent/Guardian Signature:** _____

Date: _____ **Date:** _____