

COURSE DESCRIPTION:

This course focuses on elements of Construction site set up and control including, but not limited to, Scaffolding, Earthwork, Barriers and Control.

A significant portion of the course will focus on the methods and procedures used in scaffold erection and dismantlement. You will learn how to interpret scaffolding requirements from print, layout and sketches. The use of scaffold inspection procedures will also be covered as well as the methods and processes in base preparation, placement of scaffold mudsill and components. You will also learn to install two scaffolding system types including standard frame and stick built.

The course will also focus on Earthwork, Barriers and Controls. You will learn to interpret prints and plans related to back fill and compaction procedures. You will also learn about methods and procedures used for traffic control in backfill and compaction operations as well as protection board, insulation materials and material placement.

II. LEARNING OUTCOMES:

1. Describe and demonstrate methods and procedures for the use of hand, power and stationary tools and equipment according to industry standards and practices
2. Adhere to applicable health and safety related legislation and practices.
3. Describe and demonstrate methods and procedures required for scaffold erection and dismantlement according to industry standards and practices.
4. Describe earthwork, barriers and environmental control practices and procedures according to industry standards and practice.
5. Apply sound environmental practices and policies in civil engineering and construction projects.

III. REQUIRED RESOURCES/TEXTS/MATERIALS:

1. **2009 Pocket Ontario OH&S Act & Regulations – Construction Edition** (Available in the Sault College Book Store)

2. **Personal Protective Equipment (PPE)** will be required during classes to be conducted in a shop environment. PPE required to be:

- a) CSA Certified Hard Hat
- b) CSA Certified (Green Patch) work boots
- c) CSA Certified Safety Glasses
- d) Work gloves

IV. EVALUATION PROCESS/GRADING SYSTEM:

Assignments and Activities (9-3)	50%
Tests	35%
Attendance	15%
Total	<hr/> 100%

The following semester grades will be assigned to students:

Grade	<u>Definition</u>	<i>Grade Point Equivalent</i>
A+	90 – 100%	4.00
A	80 – 89%	
B	70 - 79%	3.00
C	60 - 69%	2.00
D	50 – 59%	1.00
F (Fail)	49% and below	0.00
CR (Credit)	Credit for diploma requirements has been awarded.	
S	Satisfactory achievement in field /clinical placement or non-graded subject area.	
U	Unsatisfactory achievement in field/clinical placement or non-graded subject area.	
X	A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course.	
NR	Grade not reported to Registrar's office.	

W Student has withdrawn from the course
without academic penalty.

V. SPECIAL NOTES

Course Outline Amendments:

The professor reserves the right to change the information contained in this course outline depending on the needs of the learner and the availability of resources.

Retention of Course Outlines:

It is the responsibility of the student to retain all course outlines for possible future use in acquiring advanced standing at other postsecondary institutions.

Prior Learning Assessment:

Students who wish to apply for advance credit transfer (advanced standing) should obtain an Application for Advance Credit from the program coordinator (or the course coordinator regarding a general education transfer request) or academic assistant. Students will be required to provide an unofficial transcript and course outline related to the course in question. Please refer to the Student Academic Calendar of Events for the deadline date by which application must be made for advance standing.

Credit for prior learning will also be given upon successful completion of a challenge exam or portfolio.

Substitute course information is available in the Registrar's office.

Disability Services:

If you are a student with a disability (e.g. physical limitations, visual impairments, hearing impairments, or learning disabilities), you are encouraged to discuss required accommodations with your professor and/or the Disability Services office. Visit Room E1101 or call Extension 2703 so that support services can be arranged for you.

Communication:

The College considers **WebCT/LMS** as the primary channel of communication for each course. Regularly checking this software platform is critical as it will keep you directly connected with faculty and current course information. Success in this course may be directly related to your willingness to take advantage of the **Learning Management System** communication tool.

Plagiarism:

Students should refer to the definition of “academic dishonesty” in *Student Code of Conduct*. A professor/instructor may assign a sanction as defined below, or make recommendations to the Academic Chair for disposition of the matter. The professor/instructor may (i) issue a verbal reprimand, (ii) make an assignment of a lower grade with explanation, (iii) require additional academic assignments and issue a lower grade upon completion to the maximum grade “C”, (iv) make an automatic assignment of a failing grade, (v) recommend to the Chair dismissal from the course with the assignment of a failing grade. In order to protect students from inadvertent plagiarism, to protect the copyright of the material referenced, and to credit the author of the material, it is the policy of the department to employ a documentation format for referencing source material.

Student Portal:

The Sault College portal allows you to view all your student information in one place. **mysaultcollege** gives you personalized access to online resources seven days a week from your home or school computer. Single log-in access allows you to see your personal and financial information, timetable, grades, records of achievement, unofficial transcript, and outstanding obligations. Announcements, news, the academic calendar of events, class cancellations, your learning management system (LMS), and much more are also accessible through the student portal. Go to <https://my.saultcollege.ca>.

Electronic Devices in the Classroom:

Students who wish to use electronic devices in the classroom will seek permission of the faculty member before proceeding to record instruction. With the exception of issues related to accommodations of disability, the decision to approve or refuse the request is the responsibility of the faculty member. Recorded classroom instruction will be used only for personal use and will not be used for any other purpose. Recorded classroom instruction will be destroyed at the end of the course. To ensure this, the student is required to return all copies of recorded material to the faculty member by the last day of class in the semester. Where the use of an electronic device has been approved, the student agrees that materials recorded are for his/her use only, are not for distribution, and are the sole property of the College.

Attendance:

Sault College is committed to student success. There is a direct correlation between academic performance and class attendance; therefore, for the benefit of all its constituents, all students are encouraged to attend all of their scheduled learning and evaluation sessions. This implies arriving on time and remaining for the duration of the scheduled session.

VII. TOPIC OUTLINE

Outcome	Topic and Content	Reading	Week
2,3	1. Scaffolding Problem Areas 1.1. Erecting and Dismantling 1.2. Climbing Up and Down 1.3. Planks Sliding Off or Breaking 1.4. Improper Loading or Overloading 1.5. Platforms Not Fully Planked 1.6. Platforms without Guardrails 1.7. Failure to Install Required Components 1.8. Electrical contact with overhead Wires 1.9. Moving Rolling Scaffolding with Workers on the Platform 1.10 Assignment #1-Answer questions at the end of the chapter	Handout	1
2,3	2. Basic Types of Scaffolds 2.1. Standard Tubular Frame Scaffolds 2.2. Standard Walk-through Frame Scaffolds 2.3. Spans of Tower Base 2.4. Rolling Scaffolds 2.5. Fold-up Scaffold Frames 2.6. Adjustable Scaffolds 2.7. Tube-and-Clamp Scaffolds 2.8. System Scaffolds 2.9. Mast Climbing Scaffolds 2.10. Crank-Up or Tower Scaffolds 2.11. Assignment #2-Answer questions at the end of the chapter 2.12 Activity #1- Set-up of one Section of Scaffolding	Handout	2
2,3	3. Scaffold Components 3.1. Platforms 3.2. Outrigger Brackets 3.3. Ladders	Handout	3

	3.4. Guardrails		
	3.5 Test #1 on Units 1,2,3		
1,2,3	4. Erecting and Dismantling Scaffolds		4,5
	4.1. Foundation and Support Surfaces	Handout	
	4.2. Inspection		
	4.3. Location		
	4.4. Base Plates		
	4.5. Plumb		
	4.6. Hoisting Materials		
	4.7. Tie-Ins		
	4.8. Fall Protection in Scaffold Erection		
	4.9. Erecting Frame Scaffolds		
	4.10. Erecting Tube-and-Clamp Scaffolds		
	4.11. Erection of System Scaffolds		
	4.12. Assignment #3-Answer questions at the end of the chapter		
	4.13. Activity #2- Set-up of two Section of Scaffolding horizontally		
	4.14. Test #2 – Unit #4		
2,3	5. Scaffold Stability	Handout	6
	6.1 Three-to-One Rule		
	6.2 Outrigger Stabilizers		
	6.3 Limitations to the Three-to-One Rule		
	6.4 Damage		
	6.5 Installation Problems and Symptoms		
	6.6 Tie-in Requirements		
	6.7 Assignment #3-Answer questions at the end of the chapter		
	6.8. Activity #3- Set-up of two Section of Scaffolding vertically with guardrails on the second section		
2,3	6. Platforms	Handout	6
	6.1. Typical Load Requirements		
	6.2. Aluminum/Plywood Platform Panels		
	6.3. Laminated Veneer Lumber		
	6.4. Sawn Lumber Planks		
	6.5. Securing Platforms to the Frame		
	6.6. Wind Uplift		
	6.7. Assignment #4-Answer questions at the end of the Chapter.		
2,3	7. Proper use of Scaffolds	Handout	6,7
	7.1. Ladders and Climbing		
	7.2. Guardrails Missing or Removed		
	7.3. Standing on Objects Above the Platform		

	7.4. Overload		
	7.5. Debris on Scaffold Decks		
	7.6. Exposure to Hazardous Material		
	7.7. Assignment #4-Answer questions at the end of the chapter.		
	7.8. Test #3 Unit 5,6,7.		
1,2,3,5	8. Scaffold –Occupational Health and Safety Act	Handout OHSA	8
	8.1. Assignment #5 –Using the OHSA answer the following questions		
	8.2. Stick built scaffolding (Discuss one design)		
2,3	9. Fall Arrest Training	Training	9
	9.1. Student to receive Fall Arrest Training		
4	10. The Building Site	Handout	10
	10.1 Assignment #6 “The Building Site		
	10.2 Earthwork Barriers and Controls Definitions		
2,4,5	11. Traffic Control	Handout	11
	11.1 Assignment #7 -Guidelines for Training Traffic Control Persons		
	11.2. Handbook for Construction Traffic Control persons		
2	12. Backing Up	Handout	12
	12.1. Assignment #8-Backing up Safety Manual		
2,4,5	13. Trenching Safety	Handout	13
	13.1. Assignment #9-Trenching Safety		
4,5	14. Compaction, Protection Board, Insulation, Vapour Barriers	Handout	14,15
	Material Placement and compaction		
	Protection Board		
	Insulation Materials		
	Vapour Barriers		