

**SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY**

**SAULT STE. MARIE, ONTARIO**



**CICE COURSE OUTLINE**

**COURSE TITLE:** Concrete and Formwork I

**CODE NO. :** CCT120 **SEMESTER:** Winter  
**MODIFIED CODE:** CCT0120

**PROGRAM:** Civil Engineering Technician

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**MODIFIED BY:** Rachel Valois, Learning Specialist CICE Program

**DATE:** Jan/2016 **PREVIOUS OUTLINE DATED:** 2015

**APPROVED:** "Angelique Lemay" Jan/2016

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**DEAN** **DATE**

**TOTAL CREDITS:** 4

**PREREQUISITE(S):** none

**HOURS/WEEK:** 4

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*(705) 759-2554, Ext. 2737*

**I. COURSE DESCRIPTION:**

This course focuses on the methods and procedures used in the placement of concrete and form setting. CICE students, with assistance from a Learning Specialist, will learn the basics about equipment and tools used in concrete placement, and will learn to assist with the installation of concrete and grout material as well as reinforcement components. CICE students will also learn to assist in the interpretation of blueprints for form setting activities and the use of form setting tools.

**II. LEARNING OUTCOMES:**

Upon successful completion of this course, the CICE student, along with the assistance of a Learning Specialist, will demonstrate the basic ability to:

1. Use surveying instruments to collect and provide data for engineering / construction projects.
2. Adhere to applicable health and safety legislation and practices.
3. Conduct material testing and inspection using accepted standards and practices.

**III. REQUIRED RESOURCES/TEXTS/MATERIALS:**

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

- 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:**

Theory Testing	35%
Application Exercises	50%
Attendance	15%
Total	100%

The following semester grades will be assigned to students:

<b>Grade</b>	<b><u>Definition</u></b>	<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.	

If a faculty member determines that a student is at risk of not being successful in their academic pursuits and has exhausted all strategies available to faculty, student contact information may be confidentially provided to Student Services in an effort to offer even more assistance with options for success. Any student wishing to restrict the sharing of such information should make their wishes known to the coordinator or faculty member.

## **VI. SPECIAL NOTES:**

**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.

**Addendum:**

Further modifications may be required as needed as the semester progresses based on individual student(s) abilities and must be discussed with and agreed upon by the instructor.

**COURSE OUTLINE ADDENDUM:**

The provisions contained in the addendum located on the portal form part of this course outline. Further modifications may be required as the semester progresses based on the needs of the learner and agreed upon by the instructor.

**VII. TOPIC OUTLINE**

<b>Outcome</b>	<b>Topic and Content</b>	<b>Reading</b>	<b>Week</b>
1. Intro to concrete	1.1 Concrete Basics 1.2 Concrete Basic (Written Test) 1.3 Placing and Handling Concrete (Pgs. 7.1 –7.10) 1.3 Placing Concrete In Forms (Pgs. 7.11-7.14) 1.4 Finishing Concrete (Pgs. 7.15-7.23) 1.5 Written Test (Pgs. 7.1-7.23) 1.6 Curing Concrete (Pgs. 7.23-7.29) 1.7 Concrete Estimating 1.8 Concrete PPE and Safety (Dust Masks, Form Release Oil (MSDS))	Handout	1,2,3,4,
2. Intro to Formwork	2.1. Formwork Definitions and Test 2.2. Concrete Footings and Design 2.3. Footing Details and 2.4. Foundation Wall 2.5. Test on 2.1. – 2.4. 2.6. Blueprint Reading Exercise 2.7. Plot Plan Print Reading Exercise 2.8. Full Basement Foundation Print Reading	Handout	5,6,7,

## Exercise

- 2.9. Wall Form Methods and Materials
- 2.10. Alternative Wall Form Methods (Insulated)
- 2.11. Formwork Hardware (Snap-Tys, Tyscrus)

## 3. Projects

8,9,10,  
11,12

- 3.1. Building and Pouring a Concrete Patio Slab
- 3.2. Building forms for Light Concrete Formwork
- 3.3. Building Forms for Heavy Concrete Formwork
- 3.4. Assembling both types of Concrete Formwork
- 3.5. Concrete Mixer Safety
- 3.6. Mixing and Pouring Concrete in Forms
- 3.7. Stripping Concrete Forms
- 3.8. Damp-proofing and water-proofing the concrete wall.
- 3.9 Jack Hammer safety and PPE
- 3.10 Demolition of the concrete walls and clean-up

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**CICE Modifications:****Preparation and Participation**

1. A Learning Specialist will attend class with the student(s) to assist with inclusion in the class and to take notes.
2. Students will receive support in and outside of the classroom (i.e. tutoring, assistance with homework and assignments, preparation for exams, tests and quizzes.)
3. Study notes will be geared to test content and style which will match with modified learning outcomes.
4. Although the Learning Specialist may not attend all classes with the student(s), support will always be available. When the Learning Specialist does attend classes he/she will remain as inconspicuous as possible.

**A. Tests may be modified in the following ways:**

1. Tests, which require essay answers, may be modified to short answers.
2. Short answer questions may be changed to multiple choice or the question may be simplified so the answer will reflect a basic understanding.
3. Tests, which use fill in the blank format, may be modified to include a few choices for each question, or a list of choices for all questions. This will allow the student to match or use visual clues.
4. Tests in the T/F or multiple choice format may be modified by rewording or clarifying statements into layman's or simplified terms. Multiple choice questions may have a reduced number of choices.

**B. Tests will be written in CICE office with assistance from a Learning Specialist.*****The Learning Specialist may:***

1. Read the test question to the student.
2. Paraphrase the test question without revealing any key words or definitions.
3. Transcribe the student's verbal answer.
4. Test length may be reduced and time allowed to complete test may be increased.

**C. Assignments may be modified in the following ways:**

1. Assignments may be modified by reducing the amount of information required while maintaining general concepts.
2. Some assignments may be eliminated depending on the number of assignments required in the particular course.

***The Learning Specialist may:***

1. Use a question/answer format instead of essay/research format
2. Propose a reduction in the number of references required for an assignment
3. Assist with groups to ensure that student comprehends his/her role within the group
4. Require an extension on due dates due to the fact that some students may require additional time to process information
5. Formally summarize articles and assigned readings to isolate main points for the student
6. Use questioning techniques and paraphrasing to assist in student comprehension of an assignment

**D. Evaluation:**

Is reflective of modified learning outcomes.