



COURSE OUTLINE: CCT120 - CONCRETE/FORMWORK I

Prepared: Marc Pilon, MBA, P.Eng, FEC, C.E.T, PMP

Approved: Martha Irwin - Dean

Course Code: Title	CCT120: CONCRETE & FORMWORK I
Program Number: Name	4080: CIVIL ENG TECHNICIAN 4098: CONSTRUCTION TECH.
Department:	CIVIL/CONSTRUCTION
Academic Year:	2025-2026
Course Description:	This course focuses on the methods and procedures used in the placement of concrete and form setting. Students will learn about equipment and tools used in concrete placement, and will learn to install concrete and grout material as well as reinforcement components. Students will also learn to interpret blueprints for form setting activities and the use of form setting tools.
Total Credits:	4
Hours/Week:	4
Total Hours:	56
Prerequisites:	CCT100
Corequisites:	There are no co-requisites for this course.
Vocational Learning Outcomes (VLO's) addressed in this course:	<p>4080 - CIVIL ENG TECHNICIAN</p> <p>VLO 2 comply with workplace health and safety practices and procedures in accordance with current legislation and regulations.</p> <p>VLO 6 collect, process and interpret technical data to produce written and graphical project-related documents.</p> <p>VLO 8 participate in the design and modeling phase of civil engineering projects by applying engineering concepts, basic technical mathematics and principles of science to the review and production of project plans.</p> <p>VLO 10 perform quality control testing and the monitoring of equipment, materials and methods involved in the implementation and completion of civil engineering projects.</p> <p>4098 - CONSTRUCTION TECH.</p> <p>VLO 1 Identify and use strategies to enhance professional growth and ongoing learning in the construction field.</p> <p>VLO 2 Identify and adhere to established health and safety practices.</p> <p>VLO 3 Perform all construction tasks in compliance with applicable laws, regulations, codes and ethical practices in the construction field.</p> <p>VLO 9 Select, maintain and safely operate hand and power tools and equipment used in the building construction trades.</p>
Essential Employability Skills (EES) addressed in	<p>EES 3 Execute mathematical operations accurately.</p> <p>EES 5 Use a variety of thinking skills to anticipate and solve problems.</p>



this course:

- EES 6 Locate, select, organize, and document information using appropriate technology and information systems.
- EES 8 Show respect for the diverse opinions, values, belief systems, and contributions of others.
- EES 9 Interact with others in groups or teams that contribute to effective working relationships and the achievement of goals.
- EES 10 Manage the use of time and other resources to complete projects.
- EES 11 Take responsibility for ones own actions, decisions, and consequences.

Course Evaluation:

Passing Grade: 50%, D

A minimum program GPA of 2.0 or higher where program specific standards exist is required for graduation.

Other Course Evaluation & Assessment Requirements:**EVALUATION PROCESS/GRADING SYSTEM:**

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

Grade

Definition Grade Point Equivalent

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.

Course Outcomes and Learning Objectives:

Course Outcome 1	Learning Objectives for Course Outcome 1
1. Solve on-site related construction problems using mathematical equations and geometric concepts	1.1 Calculate footing and wall elevations 1.2 Calculate volumes and quantities of concrete required for footings and walls 1.3 Estimate volume of concrete for different formwork applications
Course Outcome 2	Learning Objectives for Course Outcome 2
2. Select maintain and safely operate hand and power tools and equipment	2.1 Select, use and maintain hand tools, portable and stationary power tools 2.2 Use rakes, shovels and wheelbarrows



used in the building construction trades.		2.3 Select and use materials, fasteners and connectors commonly used in the construction industry. 2.4 Operate and safely maintain pneumatic hammers and vibrators 2.5 Tend to concrete mixers used in construction 2.6 Use survey equipment to layout concrete formwork
	Course Outcome 3	Learning Objectives for Course Outcome 3
	3. Assist in the preparation of project estimates.	3.1 Apply basic quantity surveying principles to assist in concrete and formwork takeoff and ordering 3.2 Assist in the calculation of quantities for concrete and formwork 3.3 Use industry standards relating to allowances for material and time allotments for labour calculations
	Course Outcome 4	Learning Objectives for Course Outcome 4
	4. Assist skilled tradespersons and perform laboring tasks at construction sites.	4.1 Load and unload construction materials and move materials to work area. 4.2 Remove rubble and debris at construction sites 4.3 Build and dismantle concrete forms 4.4 Mix, pour and spread concrete 4.5 Assist concrete finishers 4.6 Construct forms for footings, flatwork, foundation and walls 4.7 Demonstrate finishing and curing techniques appropriate for footings and flatwork 4.8 Apply PPE procedures specific to form release agents and concrete dust exposure 4.9 Identify and install typical formwork hardware including snap-ties and spacing devices 4.10 Compare traditional and insulated form systems in terms of assembly and materials 4.11 Construct and pour concrete slabs using correct setup and finishing methods 4.12 Operate concrete mixers and jackhammers in accordance with safety procedures 4.13 Demonstrate proper clean-up, stripping, and demolition techniques for concrete work
	Course Outcome 5	Learning Objectives for Course Outcome 5
5. Communicate technical information to a variety of clients, supervisors and tradesperson to participate in the successful completion of construction projects.	5.1 Use industry specific terminology as it relates to building materials, projects and trades 5.2 Read and interpret construction documents including drawings, specifications and schedules 5.3 Maintain project records, logs and schedules 5.4 Interpret plot plans, full foundation details, and wall section drawings to guide formwork layout	

Evaluation Process and Grading System:

Evaluation Type	Evaluation Weight
Application Exercises	50%
Theory Testing	50%



Date: July 31, 2025

Addendum: Please refer to the course outline addendum on the Learning Management System for further information.

