Co-operative Education
Information for Employers

FANSHAWE

Civil Engineering Technology

A Three-Year Ontario College Advanced Co-operative Education Endorsed Diploma

1001 Fanshawe College Blvd. – Room D1063
London, ON N5Y 5R6
Phone: 519-452-4294 Fax: 519-452-4572
coop@fanshawec.ca

The Program
Civil Engineering Technology prepares students to work in design, construction and operation of civil projects such as water distribution systems, storm and sanitary sewer networks and highways.

The Content
Steel frame and reinforced concrete building design are studied in structural courses as well as materials testing and computer assisted design (CAD). Municipal topics include the design and construction of water distribution systems, storm and sanitary sewage networks, storm water management and highways. Water, sewage and solid waste treatment theories are also analyzed.
A minimum of three work terms must be completed for a Co-operative Education Endorsed Diploma.

Outcomes
Graduates – employed by consulting engineers, surveyors, government agencies and contractors – become part of the overall engineering team concerned with the design, construction, supervision and operation of all types of civil projects.

Skill Levels

Year One
- Perform preliminary and layout surveys for roads, sewers and buildings
- Conduct preliminary sampling and testing
- Draft civil engineering drawings
- Assist construction supervisors on the job

Year Two
- Conduct soil, asphalt and concrete tests
- Operate and download data collectors
- Prepare drawings using CADD
- Assist in the design of roads, highways
- Function as a construction inspector

Year Three
- Plan, organize and run job sites
- Supervise junior personnel
- Highway layout
- Inspection
- Drafting/design
- Layout for civil projects

Sample Co-op Progression Charts:

September Intake			
	Fall	**Winter**	**Summer**
Year 1	Academic Term 1	Academic Term 2	Work Term 1
Year 2	Academic Term 3	Academic Term 4	Work Term 2
Year 3	Work Term 3	Academic Term 5	Academic Term 6

January Intake			
	Winter	**Summer**	**Fall**
Year 1	Academic Term 1	Academic Term 2	Academic Term 3
Year 2	Academic Term 4	Work Term 1	Work Term 2
Year 3	Academic Term 5	Academic Term 6	Work Term 3

Course Outline for Fall Intakes (Winter may differ)
For the official Degree Audit, please see Registrar's Office

Level 1 – Take all of the following Mandatory Courses

CADD-1008	Basic AutoCAD
CIVL-1001	Fundamentals of Computation
COMP-1039	Computer Operations
MATH-1036	Mathematics in Technology I
SFTY-1029	Health & Safety
ENVR-1017	Sustainability in the Built Environment
ENGR-1019	Civil Engineering Statics I
SURV-1008	Plane Surveying - Intro
COOP-1020	Co-op Ed Employment Prep

Level 2 – Take all of the following Mandatory Courses

CADD-3028	AutoCAD - Inter
CIVL-1002	Highway Design Fundamentals
ENGR-3011	Civil Engineering Statics II
GEOM-1006	Electronic Surveys
MATH-3011	Mathematics in Technology II
WRIT-1039	Reason & Writing I – Technology
SURV-5005	Survey Field Application
INDS-3001	Water and Civilization
DRAF-3020	Civil Engineering Drawings

Level 3 – Take all of the following Mandatory Courses
Gen Ed – Take a 3 credit Gen. Ed. elective course

CADD-5003	Civil Engineering AutoCAD Drawing
CONS-1008	Construction Materials
CIVL-5001	Highway Technology I
CIVL-1044	Soil Mechanics
MATS-1016	Mechanics of Materials
MATH-3013	Mathematics in Technology III

Level 4 – Take all of the following Mandatory Courses
Gen Ed – Take a 3 credit Gen. Ed. elective course

CIVL-5002	Highway Technology II
CIVL-1007	Fluid Mechanics
CIVL-3002	Theory of Structures
MATH-5019	Calculus
GEOM-3004	Geographic Information Systems I
COMP-5018	Civil Eng Computer Applications

Level 5 – Take all of the following Mandatory Courses

CIVL-5008	Storm & Sanitary Drainage Design
CIVL-3007	Building Science
CIVL-3003	Surface Flows
CIVL-5004	Steel Design & Drawings
MGMT-1001	Contract Administration
COMM-5005	Technical Report Prod for Bldg Tech'y
CIVL-1005	Construction Methods

Level 6 – Take all of the following Mandatory Courses

CIVL-5005	Municipal Engineering
CIVL-5006	Reinforced Concrete & Foundations
CIVL-1033	Quantities for Civil Eng Projects
DRAF-5009	Environmental Drafting
MATH-5018	Statistical Data Management
ENVR-5004	Environmental Technology
CIVL-1043	Civil Eng Economics & Math of Finance

Requirements:

- Take two 3-credit General Education (Gen.Ed.) elective Courses
- Program Residency

Students must complete a minimum of 37 credits in this program at Fanshawe College to meet the Program Residency requirement and graduate from this program.

Why Should You Hire a Co-operative Education Student?
Many employers feel today's graduates have no concept of the "real" world of work; we are providing this experience in Co-operative Education. Any job that gives the student related background in your business would be suitable.

Eligible employers can claim a tax credit for each qualifying work placement for up to $3000.

Co-operative Education students are ultimately looking ahead to careers in businesses such as yours. For this reason they are not expecting to simply put in time on the job, but are eager to get involved and make a worthwhile contribution. Participation in co-operative education also gives the employer the opportunity to try out a student's capabilities without obligation or commitment to permanent employment.

This work oriented educational system integrates classroom study and paid, on-the-job work experience, by alternating periods in College with periods of employment by co-operating organizations. The work terms are spaced out through the academic program and students will be at various academic levels in successive work terms. The working experience will ideally increase in difficulty and responsibility as the student progresses academically. However, the College realizes it is often difficult in practice to do this.

It is essential that the work experience be a normal one; that the student be treated like a regular company employee so that a realistic picture of the working environment in that field may be obtained. Perhaps most important is what students gain from the working experience, i.e. an attitude for success and the ability to get along with co-workers at all levels.