

Section - Environmental Engineering

Environmental Engineering Applications (Post-Graduate)

This one-year post-diploma program has been designed to meet the growing demand for practitioners in the environmental engineering field. The program focuses on the application of current engineering and scientific principles to protect and manage the environment. The program content includes instruction and training in the following areas: Environmental Monitoring and Investigations; Environmental Auditing and Assessment; Management and Cleanup of Contaminated Sites; 40 Hour HAZWOPER Training Certificate; Environmental Enforcement and Regulations; Solid and Hazardous Waste Management, Air Quality, and Water Quality.

The program has been developed and is kept current in consultation with the support of industry. This program will complement and add to the skills and competencies possessed by the graduate with a related degree or an engineering technology diploma. Classroom instruction will be complemented by project mentoring sessions at local consulting firms, environmental monitoring training in the field, visits to solid waste facilities, health and safety training, and visits to sites undergoing environmental investigation or cleanup. Valuable work experience will be gained through a four-month co-op work term upon program completion.

Program Courses

Level One

Environmental Auditing and Site Assessment
Environmental Legislation with Applications
Environmental Project I
Field Methods in Environmental Engineering I
Hydrogeology I
Introduction to AutoCAD with Environmental Engineering Applications
Site Remediation and Development
Water Quality

Level Two

Air Quality
Co-op and Career Preparation
Environmental Project II
Field Methods in Environmental Engineering II
Hazardous Waste Site Worker Training
Hydrogeology II
Risk Assessment
Solid Waste Engineering & Management

Level Three - Work Term I

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Work/Study Sequence

	Fall (Sept. - Dec.)	Winter (Jan. - Apr.)	Spring/Summer (May - Aug.)
Year 1	Classes	Classes	Work Term

Work Term Capabilities

- Collect groundwater, soil, sediment and air samples for analysis
- Supervise environmental drilling and monitor well installation programs
- Assist with human health and ecological risk assessment
- Prepare basic AutoCAD drawings
- Assess regulatory compliance of operating facilities
- Conduct Phase 1 and 2 environmental site assessments
- Prepare technical specifications and drawings for site remediation projects
- Assist in environmental risk assessments
- Write reports and proposals
- Supervise cleanup of contaminated sites
- Apply surveying techniques to environmental applications
- Level and total station surveying

- Classify and manifest wastes
- Assist in ISO 14001 implementation
- Conduct waste audits
- Develop an emissions inventory for C of Applications and annual emissions reporting
- Computer literate: Aqtesolv, Quickflow, HELP, Visual HELP, Aquifertest, MOE Air Dispersion Model, Screen 3, Aeromod, B-Hole Logger
- Landfill monitoring and design

Additional Skills/Qualifications

Students in the program have either a university degree or college diploma in the following areas: environmental science, environmental studies, earth sciences, civil engineering, chemistry or microbiology.

Some students in the program may have had additional training in AutoCAD, Geographic Information Systems (G.I.S.), Global Positioning System (G.P.S), and WHMIS, dependent on their previous diploma/degree.

Sample Job Titles

Environmental Consultant, Health and Safety Environmental Co-ordinator, Environmental Engineering Technologist, Environmental Technician, Geology Technician, Groundwater Technician, Junior Hydrogeologist/Environmental Technician, Project Technician