Ottawa Campus

Program of Study

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Course Descriptions

**ENV7002 Field Tech. & Sample Acquisition**

Environmental professionals require a variety of hands-on, practical skills in order to succeed in this diverse and dynamic sector. Students will develop site plans, learn to sample soil and groundwater, survey elevations, measure groundwater levels and flow direction, complete chain of custody forms, complete Phase I-ESA reports, characterize soil, develop a sampling plan, budget and plan remediation programs, learn to log rock core and soil boreholes, and install monitoring wells. Students will also gain experience completing interviews, resume writing, participating in safety meetings and employing industry best practices.

Prerequisite(s): none
Corequisite(s): SCI7000

**ENV7003 Environmental Policy I**

The environmental policy practitioner must be trained to analyze environmental policy, law, and regulations, whether working in business or government. Students learn about the major environmental challenges of our age, as well as the costs to natural capital that require specific government mitigation and/or preventative actions. Students investigate the need for policy, law, and regulations at the federal and provincial levels in Canada and the response of business to these regulations. Students apply various environment policies for different economic sectors in Canada.

Prerequisite(s): none
ENV7005 Environmental Policy II

In the environmental sector practitioners apply policy, law and regulations to design and evaluate actions for environmental protection. Students learn about the approaches that government and businesses use to identify environmental risks and set environmental management priorities. Students gain a deeper understanding of risk management and environmental impact assessments while they analyze the economic implications and benefits of environmental protection initiatives. Students expand their skills to complex policy analysis and apply results to business or government management situations.

Prerequisite(s): ENV7003 (1)
Corerequisite(s): none

ENV7006 Environmental Auditing and Site Assessment

Students acquire the tools to perform high-level environmental audits and site assessments. Students gain an in-depth understanding of Ontario Environmental Regulation 153/04, including learning to interpret environmental data and forming conclusions and recommendations for further investigation and/or remediation. Using both case studies and field excursions, students identify environmental hazards and liabilities and assess localized environmental requirements. Students review effective and appropriate environmental management systems and learn to write technical reports.

Prerequisite(s): none
Corerequisite(s): none

ENV7008 Environmental Modelling and Risk Assessment

Understanding the underlying assumptions of environmental models, and their impact on decision-making processes is essential to determine the risk associated with chemical release. Students use modelling technology to predict the fate of contaminants in aquatic and terrestrial environments. Through hands-on activities, case studies and model development students learn how contaminants move in different mediums.

Prerequisite(s): none
Corerequisite(s): none

GIS7010 Gis and Spatial Data Foundations

Knowledge of projections and geographic coordinate systems is essential for environmental professionals. Students learn the fundamentals of spatial data. They examine means of collecting geographic data, including the use of GPS, and develop data collection protocols for data verification and field checking. Students then develop foundational skills with GIS software for data management and visualization, importing field data into geographic database formats.

Prerequisite(s): none
Corerequisite(s): none

GIS7011 Environmental Map Design

Students develop skills in environmental map design. Students explore the relationship between common statistics and geographic data, and apply this to classification of data for map purposes. Students learn graphic and colour theory, as well as cartographic design processes. They select cartographic representations most appropriate to the data and explore various approaches to visualization of environmental data in map form.

Prerequisite(s): none
Corerequisite(s): none

MGT7501 Project Management Fundamentals
Managing projects is an essential component in today’s business environment and mastering concepts, tools and techniques can help manage projects more efficiently. Students focus on the fundamental principles of project management: how to initiate, plan and execute a project that meets objectives and satisfies stakeholder’s expectations. Through case studies and team work, students examine key project management principles, tools and techniques and learn the concepts behind the foundation of project management.

Prerequisite(s): none
Corerequisite(s): none

**SCI7000 Sample Processing and Analysis**

Environmental professionals should be able to follow a project from idea through the sampling, analysis and reporting stages. Students use industry techniques and protocols to process and analyze soil and water samples. Quantitative and qualitative determinations of sample components are achieved using analytical equipment in the laboratory.

Prerequisite(s): none
Corerequisite(s): ENV7002

**SCI7002 Sustainable Hydrology**

Hydrologists apply scientific knowledge and mathematical principles to solve water-related problems in society. Students acquire a better understanding of the impact of climate change on freshwater sources. Students consider water environmental protection, with a focus on environmentally conscious handling of wastewater and storm water in water-centric urban environments. Students expand upon their knowledge of hydrology by exploring current approaches to the sustainability of freshwater sources.

Prerequisite(s): none
Corerequisite(s): none

**SCI7003 Scientific Communication for Public Policy**

Clear, concise and effective communication is required for success in this industry. Students explore and apply industry-specific technical writing strategies, such as assessing scientific procedures and clearly articulating complex technological problems. Through written assignments, presentations and simulating briefing activities, students develop written and spoken communication skills essential for professionals in this sector.

Prerequisite(s): none
Corerequisite(s): none

**SCI7007 Biodiversity and Conservation**

Understanding the impacts of urban and industrial development on biodiversity and ecosystem functions is important, as it may guide zoning decisions. Students investigate the effects of population growth on the demand for food, energy and resources. Using case studies and in-depth analysis, students examine regulations and their implications on habitat change.

Prerequisite(s): none
Corerequisite(s): none