ENVIRONMENTAL PROTECTION TECHNOLOGY (ENVI)

This is a list of the Environmental Protection Technology (ENVI) courses available at KPU.

Enrolment in some sections of these courses is restricted to students in particular programs. See the Course Planner - kpu.ca/registration/timetables - for current information about individual courses.

For information about transfer of credit amongst institutions in B.C. and to see how individual courses transfer, go to the BC Transfer Guide bctransferguide.ca

ENVI 1106   4 Credits
Environmental Chemistry I
Students will study chemistry with a focus on environmental issues and applications. They will study volumetric and gravimetric analysis, general equilibrium reactions, intermolecular forces, basic organic chemistry concepts, and oxidation-reduction reactions relevant to natural and environmental applications. Students with credit for CHEM 1105 may not take this course for further credit.

Prerequisites: Level E1 as defined in the Math Alternatives Table, and [CHEQ 1094 (C), Chemistry 11 (C+) or Chemistry 12 (C-)] Attributes: QUAN

ENVI 1121   3 Credits
Environmental Issues
Students will learn to identify the basic scientific and social principles that underlie the main current environmental issues. They will also examine local and global case studies and will study the effects of pollution and resource degradation on society.

Attributes: QUAN

ENVI 1206   4 Credits
Environmental Chemistry II
Students will study chemistry with a focus on environmental issues and applications. They will study gases and phase equilibria as well as key organic chemistry concepts (basic compound families, important reaction types) relevant to environmental applications such as toxicity, persistence, and mobility.

Prerequisites: Level C1 as defined in the Math Alternatives Table, and (ENVI 1106 or CHEM 1110)

ENVI 1216   4 Credits
Introduction to Earth Sciences
Students will study the basic principles of geology, hydrogeology, hydrology, and atmospheric science. They will learn the key physical mechanisms that affect the transport and transformation of pollutants released in the environment.

Attributes: QUAN

ENVI 1226   3 Credits
Health & Safety
Students will study the dangers of hazardous materials using standard industrial classification systems and will learn safe emergency response procedures for spill incidents and the use of protective suits and respirators. They will also learn to recognize and control common contaminated sites hazards through the development of site health and safety plans.

Prerequisites: ENVI 1106 or CHEM 1110

ENVI 2305   3 Credits
Environmental Toxicology
Students will study the principles of toxicology and the toxicological testing of chemicals, with emphasis on environmental pollutants.

Prerequisites: BIOL 1210 and one of: CHEM 1210 or ENVI 1206.

ENVI 2307   4 Credits
Environmental Physics
Students will learn the basic principles of physics that apply to environmental concerns. They will study topics in fluid mechanics and electricity and perform labs that illustrate the physical principles underlying common environmental instrumentation.

Prerequisites: Both (a) PHYP 1011, PHYQ 1098 or Physics 11 (C), and one of: (b) MATH 1112, MATH 1117, or Principles of Math 12 (C), or (c) MATH 1111 and MATH 1113.

ENVI 2310   3 Credits
Solid Waste Management
Students will learn the principles of pollution prevention, waste minimization, recycling, landfill operation, incineration, and composting. They will also study the basic concepts of environmental management systems and environmental audits.

Prerequisites: Level C1 as defined in the Math Alternatives Table Attributes: QUAN

ENVI 2315   4 Credits
Water and Soil Sampling
Students will gain experience with the field sampling procedures, instrumentation and analytical methods used in water, soil, and sediment assessment and control.

Prerequisites: CHEM 1110 or ENVI 1106.

ENVI 2405   3 Credits
Environmental Legislation
Students will study current environmental legislation at the federal, provincial, and municipal levels. They will learn the correct procedures for adhering to current legislation. Students will participate in a project to propose a new legislation or by-law, and will identify and interact with relevant stakeholders.
Prerequisites: ENVI 1121

ENVI 2410   3 Credits
Water Resources Protection
Students will learn the principles of operation of physical, chemical, and biological treatment systems for water and wastewater. They will also learn the principles of flood control, erosion prevention, and other methods of aquatic habitat protection.
Prerequisites: ENVI 1216 and ENVI 2315

In the event of a discrepency between this document and the official KPU 2018-19 Calendar (available at www.kpu.ca/calendar/2018-19), the official calendar shall be deemed correct.

2018-19 Calendar   **www.kpu.ca/calendar/2018-19**

ENVI 2415   **4 Credits**
Air Quality Monitoring
Students will gain experience with comprehensive sampling, instrumentation and analytical techniques used in ambient air and source monitoring, and will learn to apply the scientific principles underlying air monitoring and air quality issues.

Prerequisites: ENVI 1216

ENVI 2420   **4 Credits**
Contaminated Sites Management
Students will learn the basic principles of contaminated sites management, including site assessment procedures, remediation methods, and the regulatory framework. They will also study the movement of contaminants in soils and groundwater.

Prerequisites: Both (a) CHEM 1210 or ENVI 1206, and (b) ENVI 1216.

ENVI 2901   **1 Credits**
Environmental Research Seminar
Students will discuss the scope of research projects in environmental protection in the context of their relevance to the environmental industry and needs of society. They will make a preliminary research project selection, discuss how to carry it out, and provide feedback to their classmates on their proposed research.

Prerequisites: Both (a) CHEM 1110 or ENVI 1106, and (b) ENVI 2315.
Co-requisites: MATH 1115

ENVI 2902   **2 Credits**
Environmental Research Project
Students will engage in an intensive study of a selected topic in environmental protection technology. They will select a research topic, collect and interpret data, write a report on the results of the project, and present their results.

Prerequisites: ENVI 2901 and MATH 1115

ENVI 3112   **3 Credits**
Environment and Society
Students will analyze environmental issues within their social contexts. They will examine the origins of public perception of environmental issues, including the role of the media, activists, whistle-blowers, and the artistic community. Students will debate the respective importance of science and public perception in influencing government policy in selected case studies

Prerequisites: 60 credits from courses at the 1100 level or higher.

ENVI 3212   **3 Credits**
The Urban Environment
Students will analyze environmental issues within the contexts of community projects. They will conduct a local project, from initial fact-finding and community liaison to formal proposal, and will quantify its potential impacts using local case studies as a guide.

Prerequisites: 60 credits from courses at the 1100 level or higher.

ENVI 4501   **3 Credits**
Special Topics in Sustainability
Students will engage in an intensive study of a selected topic in sustainability, as determined by the instructor. They will review relevant literature, develop a research proposal, write a comprehensive report, and present the results of their research. Note: the topic of study will be established in advance by the department. Please check with the department for proposed offerings. Students may take this course multiple times for further credit on different topics.

Prerequisites: Permission of instructor

ENVI 4599   **3 Credits**
Directed Studies
Students will carry out a detailed investigation of an environmental or sustainability topic consisting of readings and research, under the supervision of a faculty member with expertise in the area. They will identify relevant sources of information and develop a comprehensive understanding of their topic, in addition to submitting a final report. They may perform laboratory or field work as part of their research. Note: Students may take this course multiple times for further credit on different topics.

Prerequisites: Permission of instructor

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