ASCES – Associate of Science – Environmental Sciences

University Arts and Science

Effective Term & Year: Fall 2022
Program Outline Review Date: 2027-04-01

Program Area: Math and Sciences

Description:

An Associate of Science (ASc) Degree provides students with the first two years of study towards a Bachelor of Science degree. The ASc in Environmental Science offers students cross-disciplinary studies that relate to local and global environmental issues.

Using an interdisciplinary approach to build a strong foundation in science, the ASc in Environmental Science will provide students with an understanding of the Earth's natural systems and how human interactions impact those systems. A combination of learning modes and learning environments including lectures, labs, tutorials, field trips and guest lectures will give students the opportunity to integrate and apply their knowledge of biological, physical, Earth and environmental sciences to examine current environmental issues and explore solutions to some of the most important problems facing humanity today.

Program Information:

Courses in the ASc in Environmental Science program have been selected for transfer to degree programs at other institutions, including the Environmental Science BSc programs at University of Lethbridge, Simon Fraser University (Applied Biology or Environmental Earth Systems concentration), and University of Northern BC. Many courses can also be applied towards professional designations:

- Professional Geoscientist (P.Geo) with the Engineers and Geoscientists BC or Association of
  Professional Engineers and Geoscientists of Alberta
- Registered Professional Biologist (R.P.Bio) with the College of Applied Biology or Alberta Society

- Professional Biologists or Registered Agrologist (P.Ag) with the BC institute of Agrologists or Alberta Institute of Agrologists.

Bachelor degree programs generally accept students by competitive admission; the ASc degree in Environmental Science does not guarantee admission to a degree program. Students who transfer into a degree program are responsible for meeting all entrance requirements and degree completion requirements, and in some cases these requirements entail additional coursework to complete the 120 credits generally required of a Bachelor of Science degree. For a list of transfer policies at each institution, please see https://www.bctransferguide.ca/transfer-options/search-programs/.

Credentials Granted:

Students who complete all requirements with a minimum C average will be granted an Associate of Science degree in Environmental Science.

The Associate Degree guarantees 60 transfer credits to BC's research universities, even if all the courses taken towards the ASc in Environmental Science degree do not transfer individually to an institution. Students are still responsible for completing all degree requirements of the receiving institution, which may entail completing more than 60 additional credits.

Minimum Course Grade: A minimum grade of D

Program Average: A minimum program grade point average of 3.0/10 (C average)

Program Goals and Career Pathways:

Environmental science students may work within a variety of industries in both private and governmental sectors. Most jobs in the field require at least a bachelor's degree. Specific job roles may include (additional education required for most positions):

Environmental Impact Analyst	*Ecologist*
Air & Water Quality Specialist/Technician	*GIS Specialist/Technician/Analyst*
Hydrologist	*Natural Resource Specialist*
Environmental Protection Officer	*Graduate Research*
Interpretive Naturalist	*Renewable Resource Manager*
Environmental Chemist	*Environmental Consultant*
Environmental Educator	*Environmental Research Scientist*
Environmental Field Monitor/Auditor	*Environmental Planner/Analyst*
Environmental Protection Officer	*Environmental Specialist*
Environmental Health and Safety Inspector	*Environmental Auditor*

Cartographer	*Climatologist*
Field Technician	*Fisheries Biologist*
Fisheries Technician	*Conservation Biologist*
Ecology Research Technician	*Ecologist*
Food Safety Coordinator	*Hazardous Waste Management Officer*
Scientific Journalist	*Soil Conservationist*
Food Safety Coordinator	*Forester/Park Naturalist*
Fundraiser for Environmental Organizations	*Geographer*
Government Advisor	*Industrial Advisor*
Laboratory Technician	*Museum Technician*
Pesticide Evaluator	*Pollutant Risk Assessor*
Scientific Journalist	*Soil Conservationist*
Water Quality Inspector/Controller	*Wildlife Manage*

Delivery Methods: On-Campus (Face-to-Face), Online

Credits: 60

Admission Requirements:

- Complete all of the following
  - Secondary school graduation or equivalent.
  - Earned a minimum grade of C+ (65%) in at least 1 of the following:
    - ENST 12 – English Studies 12
    - ENFP 12 – English First Peoples 12
    - ENGL090 – English – Provincial Level
  - Complete 1 of the following
    - Earned a minimum grade of C+ (65%) in each of the following:
      - PREC 11 – Pre-Calculus 11
      - PREC 12 – Pre-Calculus 12
    - Earned a minimum grade of C+ (65%) in each of the following:
      - MATH090 – Mathematics – Provincial Level
    - Complete all of the following
      - Completed the following:
        - PREC 12 – Pre-Calculus 12
      - Earned a minimum grade of B (75%) in each of the following:
        - CALC 12 – Calculus 12

Recommended Admission Requirements:

Basic computer skills
Biology 11 or Life Sciences 11

Program Completion Requirements:

Associate of Science Degree
60 Total Credits

- Complete 1 of the following
  Specific Requirements and Sample Courses for University of Lethbridge transfer:
  - Complete all of the following
    6 Credits in First Year English
    - Complete all of the following
      - Completed the following:
        - ENGL100 – English Composition (3)
      - Completed at least 1 of the following:
        - ENGL101 – Introduction to Poetry and Drama (3)
        - ENGL102 – Introduction to Prose Fiction (3)

    6 Credits in Mathematics
    - Complete all of the following
      - Completed the following:
        - MATH103 – Differential Calculus (3)
      - Completed at least 1 of the following:
        - MATH101 – Finite Mathematics 1 (3)
        - MATH104 – Integral Calculus (3)
        - STAT106 – Statistics (3)

    36 Credits in Science
    - Complete all of the following
      At least 3 credits in a laboratory science
      - Completed the following:
        - ENSC101 – Introduction to Environmental Science (3)

      Up to 15 credits in other science courses
      - Completed the following:
        - BIOL101 – Introduction to Biology 1 (3)
        - BIOL102 – Introduction to Biology 2 (3)
        - CHEM101 – Fundamentals of Chemistry 1 (3)
        - CHEM102 – Fundamentals of Chemistry 2 (3)
        - GEOG101 – Introduction to Physical Geography 1 (3)

      At least 18 credits in second year science in two or more subject areas
      - Complete all of the following
        - Completed the following:
          - BIOL203 – Genetics (3)
          - BIOL204 – Introduction to Ecology (3)
          - CHEM215 – Introduction to Chemical Analysis (3)
          - GEOG211 – Introduction to Geographic Information Systems

(3)
- GEOG230 – Meteorology, Climatology and Hydrology (3)
- GEOG251 – Quantitative Geography (3)

- *UofL and UNBC accept CHEM 201 in place of CHEM 215

6 Credits in Arts other than English

- Complete all of the following
  - Earned at least 6 credits from the following courses in these areas of study:
  - Humanities Other Than English
  - Social Science
  - Fine Arts
  - Humanities other than English:
    FNST 101, HIST 201, HIST 202, PHIL 102
  - Social Sciences:
    ECON 101, ECON 102, ECON 250, ENST 200, POLI 100
  - Fine Arts:
    FA 101, FA 105

  6 Credits in Arts, Science or other areas
- Earned at least 6 credits from the following:
  - ANTH101 – Introduction to Cultural Anthropology (3)
  - BIOL200 – Introduction to Microbiology (3)
  - BIOL208 – Vertebrate Biology (3)
  - GEOL105 – Introduction to Geology (3)

Specific Requirements and Sample Courses for University of Northern BC transfer:

- Complete all of the following

  6 Credits in First Year English
  - Complete all of the following
    - Completed the following:
      - ENGL100 – English Composition (3)
    - Completed at least 1 of the following:
      - ENGL101 – Introduction to Poetry and Drama (3)
      - ENGL102 – Introduction to Prose Fiction (3)

  6 Credits in Mathematics
  - Completed the following:
    - MATH103 – Differential Calculus (3)
    - MATH104 – Integral Calculus (3)

  36 Credits in Science
  - Complete all of the following

    At least 3 credits in a laboratory science
    - Completed the following:
      - ENSC101 – Introduction to Environmental Science (3)

    Up to 15 credits in other science courses
    - Completed the following:
      - BIOL101 – Introduction to Biology 1 (3)

        - BIOL102 – Introduction to Biology 2 (3)
        - CHEM101 – Fundamentals of Chemistry 1 (3)
        - CHEM102 – Fundamentals of Chemistry 2 (3)
        - GEOG101 – Introduction to Physical Geography 1 (3)

      At least 18 credits in second year science in two or more subject areas
      - Completed the following:
        - BIOL200 – Introduction to Microbiology (3)
        - BIOL204 – Introduction to Ecology (3)
        - CHEM215 – Introduction to Chemical Analysis (3)
        - GEOG211 – Introduction to Geographic Information Systems (3)
        - GEOG230 – Meteorology, Climatology and Hydrology (3)
        - GEOG251 – Quantitative Geography (3)

    6 Credits in Arts other than English
    - Complete all of the following
      - Earned at least 6 credits from the following courses in these areas of study:
        - Humanities Other Than English
        - Social Science
        - Fine Arts
      - Humanities other than English:
        ANTH 101, FNST 101, HIST 201, HIST 202, PHIL 102
      - Social Sciences:
        ECON 101, ECON 102, ECON 250, ENST 200, GEOG 210, POLI 100, PSYC 101, PSYC 102
      - Fine Arts:
        FA 101, FA 105

    6 Credits in Arts, Science or other areas
    - Earned at least 6 credits from the following:
      - PHYS103 – Introduction to Physics 1 (3)
      - PHYS104 – Introduction to Physics 2 (3)
      - BIOL208 – Vertebrate Biology (3)
      - GEOL105 – Introduction to Geology (3)
      - STAT106 – Statistics (3)

  Specific Requirements and Sample Courses for Simon Fraser University transfer:
- Complete all of the following

    6 Credits in First Year English
    - Complete all of the following
      - Completed the following:
        - ENGL100 – English Composition (3)
      - Completed at least 1 of the following:
        - ENGL101 – Introduction to Poetry and Drama (3)
        - ENGL102 – Introduction to Prose Fiction (3)

    6 Credits in Mathematics

- Completed the following:
  - MATH103 – Differential Calculus (3)
  - MATH104 – Integral Calculus (3)

36 Credits in Science

- Complete all of the following

At least 3 credits in a laboratory science

- Completed the following:
  - ENSC101 – Introduction to Environmental Science (3)

Up to 15 credits in other science courses

- Completed the following:
  - BIOL101 – Introduction to Biology 1 (3)
  - BIOL102 – Introduction to Biology 2 (3)
  - CHEM101 – Fundamentals of Chemistry 1 (3)
  - CHEM102 – Fundamentals of Chemistry 2 (3)
  - GEOG101 – Introduction to Physical Geography 1 (3)

At least 18 credits in second year science in two or more subject areas

- Completed at least 6 of the following:
  - BIOL203 – Genetics (3)
  - BIOL204 – Introduction to Ecology (3)
  - BIOL208 – Vertebrate Biology (3)
  - CHEM215 – Introduction to Chemical Analysis (3)
  - GEOG211 – Introduction to Geographic Information Systems (3)
  - GEOG230 – Meteorology, Climatology and Hydrology (3)
  - GEOG251 – Quantitative Geography (3)

6 Credits in Arts other than English

- Complete all of the following
  - Earned at least 6 credits from the following courses in these areas of study:
  - Humanities Other Than English
  - Social Science
  - Fine Arts
  - Humanities other than English:
    ANTH 101, FNST 101, HIST 201, HIST 202, PHIL 102
  - Social Sciences:
    ECON 101, ECON 102, ECON 250, ENST 200, GEOG 210, POLI 100, PSYC 101, PSYC 102
  - Fine Arts:
    FA 101, FA 105

6 Credits in Arts, Science or other areas

- Earned at least 6 credits from the following:
  - ENST200 – Introduction to Environmental Sustainability (3)
  - PHYS103 – Introduction to Physics 1 (3)
  - PHYS104 – Introduction to Physics 2 (3)

- GEOL105 – Introduction to Geology (3)
- STAT106 – Statistics (3)

Grand Total Credits: 60

Program Completion Requirements Notes:

A grade of "D" grants credit, but may not be sufficient as a prerequisite for sequential courses.

Flexible Assessment: Yes

In some cases students may be able to apply for recognition of prior learning outside the classroom. This flexible assessment process provides equivalent course credit. It is a rigorous process that may include external evaluation, worksite assessment, demonstration, standardized test, self-assessment, interview, products/portfolio, and challenge exam, or other measures as appropriate. Tuition fees apply. Contact an education advisor for more information.

Program Transfer Credit:

For information about block transfer agreements between programs in British Columbia, Alberta, and elsewhere, please visit http://www.cotr.bc.ca/transfer.

To minimize transfer issues, check with an academic advisor at the institution that will receive the transfer credits.

Academic Policies:

College of the Rockies policies related to courses can be found at https://cotr.bc.ca/about-us/college-policies/ and include the following:

- Policy 2.4.3 Students with Documented Disabilities
- Policy 2.4.4 Student Conduct (plagiarism, other cheating, behavioral misconduct)
- Policy 2.4.8 Academic Performance
- Policy 2.5.3 Grade Appeal
- Policy 2.4.9 Student Concerns Re Faculty

Program Changes:

Information contained in this program outline is correct at the time of publication. Courses and course content may be revised from time to time based on changing educational, employment and marketing needs. The timetable may also be revised.

Course Descriptions: Refer to Course Outlines – https://outlines.cotr.bc.ca/course/