

University of
Lethbridge



Program Planning Guide

Name: _____

ID: _____

Calendar Year: 2023/2024

Major in Environmental Science:

www.ulethbridge.ca/artsci/environmental-science

Academic Calendar:

www.ulethbridge.ca/ross/academic-calendar

High School Admission Requirements:

www.ulethbridge.ca/ross/admissions/undergrad/high-school

Current and Past Program Planning Guides:

www.ulethbridge.ca/ross/ppgs

Co-operative Education:

www.ulethbridge.ca/career-bridge/co-operative-education

Faculty of Arts and Science Advising:

www.ulethbridge.ca/artsci/advising
artsci.advising@uleth.ca
403-329-5106
M2102

Bachelor of Science Environmental Science

This is a planning guide and not a graduation check or guarantee of course offerings. You should have a program check done in your final year of studies. Students are responsible for the accuracy of their own programs. The guide should be used in conjunction with the University of Lethbridge Calendar, which is the final authority on all questions regarding program requirements and academic regulations.

Contact an Academic Advisor (www.ulethbridge.ca/ross/academic-advising) for advising information.

Name : _____

ID : _____

Program Requirements

Completion of at least 40 courses (120.0 credit hours) with cumulative and graduation grade point averages of at least 2.00.

Major Requirements (24 courses)

- _____ Biology 1010 - Cellular Basis of Life
- _____ Biology 1020 - Diversity of Life
- _____ Biology 2000 - Principles of Genetics
- _____ Biology 2200 - Principles of Ecology
- _____ Biology 3300 - Evolution
- _____ Chemistry 1000 - General Chemistry I
- _____ Chemistry 2000 - General Chemistry II
- _____ Environmental Science 2000 - Fundamentals of Environmental Science
- _____ Environmental Science 4000 - Selected Studies in Environmental Science II (Series)
- _____ Geography 1000 - Introduction to Physical Geography
- _____ Geography 2030 - Geomorphology
- _____ Geography 2300 - Weather and Climate
- _____ Geography 2735 - Introduction to Geographical Information Science

One of:

- _____ Biology 2150 - Biostatistics
- _____ Geography 2700 - Geographical Data and Analysis

One of:

- _____ Chemistry 2410 - Analytical Chemistry I
- _____ Chemistry 2500 - Organic Chemistry I

One of:

- _____ Mathematics 1410 - Elementary Linear Algebra
- _____ Mathematics 1560 - Calculus I
- _____ Mathematics 1565 - Accelerated Calculus I

One of:

- _____ Physics 1000 - Introduction to Physics I
- _____ Physics 1050 - Introduction to Biophysics

Three of:

- _____ Geography 2065 - Physical Geology
- _____ Geography 2090/Biology 2090 - Biogeography
- _____ Geography 3060 - Glaciology and Glacial Geomorphology
- _____ Geography 3080 - Soils
- _____ Geography 3300 - Microclimatology
- _____ Geography 3400 - Hydrology
- _____ Geography 3720 - Remote Sensing
- _____ Geography 3740 - Geographical Information Systems
- _____ Geography 4400 - Advanced Hydrology
- _____ Geography 4730 - Spatial Statistics

Three of (at least two must be offered with a lab):

- _____ Biology 3460 - Plant Physiology
- _____ Biology 3520 - Invertebrate Zoology
- _____ Biology 3530 - Vertebrate Zoology
- _____ Biology 3560 - Integrative Plant Biology
- _____ Biology 3630 - Field Biology
- _____ Biology 3660 - Field Botany
- _____ Biology 3700 - Ecosystem Ecology
- _____ Biology 3710 - Population Biology
- _____ Biology 3720 - Community Ecology
- _____ Biology 4605 - Conservation Biology
- _____ Biology 4700 - Molecular Ecology
- _____ Biology 4710 - Evolutionary and Ecological Modelling
- _____ Biology 4740 - Behavioural Ecology
- _____ Biology 4800 - Biology of Parasitism
- _____ Biology 4840/Geography 4840 - Limnology

One of:

- _____ Biology 3630 - Field Biology
- _____ Biology 3660 - Field Botany
- _____ Geography 3710 - Field Techniques in the Earth Sciences
- _____ ¹ Geography 3780 - Field Research in Geography
- _____ Geography 3792 - Field Excursion in Physical Geography (Series)
- _____ ² An approved field course

Technical Studies Term (five courses)

- _____ Environmental Science 2000 unspecified
- _____ Environmental Science 2000 unspecified
- _____ Environmental Science 2000 unspecified
- _____ Environmental Science 3000 unspecified
- _____ Environmental Science 3000 unspecified

Other Courses (minimum 11 courses)

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____

¹ This course has a prerequisite or corequisite that is not required for the major. See the Course Catalogue (p. 351) for more information.

² Must be approved by the Coordinator of Environmental Science.

Students may not receive credit for courses at the University of Lethbridge for which close equivalents have been taken at Lethbridge College, and vice versa. Students must ensure that their course selection has been approved by the Coordinator of Environmental Science.

Completion of the Liberal Education List Requirement (Lib Ed Requirement)

Only four courses (12.0 credit hours) in total may be counted from any one discipline toward the Lib Ed Requirement. Disciplines are identified by separate course subject codes.

Only four courses (12.0 credit hours) in total from the Faculty of Education (EDUC), Faculty of Health Sciences (ABHL, ADCS, HLSC, NURS, PUBH, and TREC), and the Dhillon School of Business (ACCT, AGEM, FINC, HRLR, IGBM, IMGT, MGT, and MKTG) may be counted towards the Lib Ed Requirement.

See the 2023/2024 Calendar, p. 83, for more information.

_____ Four Fine Arts and Humanities courses:

1. _____
2. _____
3. _____
4. _____

_____ Four Social Science courses:

1. _____
2. _____
3. _____
4. _____

_____ Four Science courses:

1. _____
2. _____
3. _____
4. _____

Not more than 12 courses (36.0 credit hours) may be completed at the 1000 level (or lower) [0500 - 1999] for credit towards the degree, excluding Activity courses (labelled PHAC and MUSE) and courses numbered in the range of 0520 to 0530.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____

_____ **Minor (Optional):** _____

See the 2023/2024 Calendar, p. 331, for more information.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

Completion of at least 15 courses (45.0 credit hours) from disciplines offered by the Faculty of Arts and Science, Faculty of Fine Arts, or the School of Liberal Education at the 3000/4000 level, excluding Activity courses (labelled PHAC and MUSE). Out-of-faculty courses (i.e. labelled ABHL, ACCT, ADCS, AGEM, CDEV, CRED, EDUC, FINC, HLSC, HRLR, IGBM, IMGT, MGT, MKTG, NURS, PUBH, and TREC) will not meet this requirement.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____

_____ Not more than five Independent Study courses (15.0 credit hours) may be completed for credit towards the degree.

_____ Not more than five Disciplinary Credit Applied Studies courses (15.0 credit hours) may be completed for credit towards the degree. Students may, in addition, complete Applied Studies 2000, 2001, 2010, and 2011.

_____ * Not more than 24 courses (72.0 credit hours) may be completed from any one discipline for credit towards the degree.

_____ Not more than six credit hours in Activity courses (i.e. courses labelled PHAC and MUSE) may be completed for credit towards the degree, except for Kinesiology majors (not more than 15.0 credit hours) and Music majors (not more than 12.0 credit hours).

_____ Not more than six courses (18.0 credit hours) from disciplines outside the Faculty of Arts and Science, Faculty of Fine Arts, or School of Liberal Education may be completed for credit towards the degree (i.e. labelled ABHL, ACCT, ADCS, AGEM, CDEV, CRED, EDUC, FINC, HLSC, HRLR, IGBM, IMGT, MGT, MKTG, NURS, PUBH, and TREC). Courses cross-listed between the Faculty of Arts and Science and another Faculty do not count towards this limit.

_____ Residence requirement:

Degree: a minimum of 20 courses (60.0 credit hours) must be completed at the University of Lethbridge, including at least 10 courses (30.0 credit hours) from disciplines offered by the Faculty of Arts and Science, Faculty of Fine Arts, or School of Liberal Education at the 3000/4000 level.

Major: at least half of the courses required in the major must be completed at the University of Lethbridge.

** Disciplines are identified by a specific course label (e.g. KNES, ASTR, and HIST are separate disciplines).*

_____ **Concentration: Geographical Information Science (Optional)**

See the 2023/2024 Calendar, p. 116, for more information.

1. _____
2. _____
3. _____
4. _____
5. _____

Sample Sequencing Plan

Shown below is a sample sequence of courses for your degree. Consult timetables for course offerings, prerequisites, and corequisites before registering each term. This is just one example of how you could complete your major and degree requirements; you may find that a different sequence works as well as this one.

<p>Year 1, Fall Biology 1020 or Biology 1010 Chemistry 1000 Geography 1000 Mathematics requirement Lib Ed Requirement course</p>	<p>Year 1, Spring Biology 1010 or Biology 1020 Chemistry 2000 Environmental Science 2000 Physics 1000 or Physics 1050 Lib Ed Requirement course</p>
<p>Year 2, Fall Biology 2150 or Geography 2700 Biology 2200 Chemistry 2410 or Chemistry 2500 Geography 2030 Geography 2300</p>	<p>Year 2, Spring Biology 2000 Geography 2735 Geography list course Lib Ed Requirement course Lib Ed Requirement course</p>
<p>Year 3, Fall Biology list course (lab-based) Geography 3000/4000-level list course Field course Lib Ed Requirement course Lib Ed Requirement course</p>	<p>Year 3, Spring Technical Studies Term¹ (15.0 credit hours) Students will receive credit for the following (upon successful completion and receipt of transcript):</p> <ul style="list-style-type: none"> • 2 Environmental Science 3000-level courses • 3 Environmental Science 2000-level courses
<p>Year 4, Fall Biology list course Biology list course (lab-based) Geography 3000/4000-level list course Lib Ed Requirement course 3000/4000 level Elective 3000/4000 level</p>	<p>Year 4, Spring Biology 3300 Environmental Science 4000 Lib Ed Requirement course 3000/4000 level Elective 3000/4000 level Elective 3000/4000 level</p>

¹ If the Technical Studies Term is assigned for Fall, Year Three, students should follow the Fall, Year Three sequence in Spring, Year Three.

Note: Courses in **bold** in Years 1 and 2 of the sample sequence are prerequisite(s) for required courses and should be completed early in your program. Students are advised to review the prerequisites for elective courses within the major and plan accordingly.

Students should complete Biology 1010, Biology 1020, Biology 2000, Biology 2200, Chemistry 1000, and Chemistry 2000 by the end of Year Two to be eligible to undertake the required Technical Studies Term in Year Three.