

University of
Lethbridge



Program Planning Guide

Program: Bachelor of Science/Bachelor of Education (B.Sc./B.Ed.)

Major (Arts and Science): Biological Sciences

Major (Education): Science Education

Calendar Year: 2014/2015

Name: _____

ID: _____

Major in Biological Sciences:

www.uleth.ca/artsci/biological-sciences

Academic Calendar:

www.uleth.ca/ross/academic-calendar

High School Prerequisites by Course:

www.uleth.ca/ross/hs_prereqs/course

Faculty of Education Admission Requirements:

www.uleth.ca/education/programs-degrees/undergraduate-studies/admission

Current and Past Program Planning Guides:

www.uleth.ca/ross/ppgs

Faculty of Arts and Science Student Program Services:

www.uleth.ca/artsci/advising
artsci.advising@uleth.ca
(403) 329-5106
SU060

Faculty of Education Student Program Services:

www.uleth.ca/education/student-advising
edu.sps@uleth.ca
(403) 329-2254
TH421

Biological Sciences/Science Education

Bachelor of Science/Bachelor of Education

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 in the Faculty of Arts and Science for advising information.

Name : _____

ID : _____

B.Sc./B.Ed. (Biological Sciences/Science Education)

Completion of at least 30 courses (90.0 credit hours) from disciplines offered by the Faculty of Arts and Science or Faculty of Fine Arts with a grade point average of at least 2.00.

Completion of the equivalent of 20 courses (60.0 credit hours) in Education with a program grade point average of at least 2.50 in Education courses and the appropriate major.

Major Requirements (16 courses)

- ___ 1. Biology 1010 - Cellular Basis of Life
- ___ 2. Biology 1020 - Diversity of Life
- ___ 3. Biology 2000 - Principles of Genetics
- ___ 4. Biology 2200 - Principles of Ecology
- ___ 5. Biology 3300 - Evolution

A minimum of two courses in two of the following areas: Cellular and Molecular Biology, Organismal Biology, Ecology and Evolutionary Biology, and a minimum of one course in the third area as listed below. Of these five courses, at least one must be at the 4000 level.

- 6. _____ 9. _____
- 7. _____ 10. _____
- 8. _____

Required cognates:

- ___ 11. Biochemistry 2000 - Introductory Biochemistry
- ___ 12. Chemistry 1000 - General Chemistry I
- ___ 13. Chemistry 2000 - General Chemistry II
- ___ 14. Chemistry 2500 - Organic Chemistry I
- ___ 15. **One of:**
 - ___ Mathematics 1410 - Elementary Linear Algebra
 - ___ Mathematics 1560 - Calculus I
- ___ 16. **One of:**
 - ___ Physics 1000 - Introduction to Physics I
 - ___ Physics 1050 - Introduction to Biophysics (preferred)

Recommended course:

Environmental Science 2000 - Fundamentals of Environmental Science

Other Courses (minimum 14 courses)

Arts and Science or Fine Arts courses only

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

Education Requirements (20-course equivalent)

- ___ Education 2500 - Practicum I - Orientation to Teaching
- ___ Professional Semester I (15.0 credit hours)
- ___ Professional Semester II (15.0 credit hours)
- ___ Professional Semester III (15.0 credit hours)

Education Foundation: _____

Three Education Electives:

- 1. _____ 3. _____
- 2. _____

List 1 - Cellular and Molecular Biology

- | | | |
|--------------|--------------|--------------|
| Biology 3000 | Biology 3210 | Biology 4140 |
| Biology 3005 | Biology 4100 | Biology 4170 |
| Biology 3105 | Biology 4110 | Biology 4200 |
| Biology 3115 | Biology 4130 | Biology 4230 |

List 2 - Organismal Biology

- | | | |
|--------------|--------------|--------------|
| Biology 3310 | Biology 3505 | Biology 4420 |
| Biology 3400 | Biology 3520 | Biology 4440 |
| Biology 3420 | Biology 3530 | Biology 4560 |
| Biology 3460 | Biology 3560 | |

List 3 - Ecology and Evolutionary Biology

- | | | |
|---------------|--------------|--------------|
| Biology 3605 | Biology 3710 | Biology 4710 |
| *Biology 3610 | Biology 3800 | Biology 4740 |
| Biology 3630 | Biology 4700 | Biology 4800 |
| Biology 3700 | | |

**Prerequisite required: Environmental Science 2000.*

Completion of the General Liberal Education Requirement (GLER).

Only four courses (12.0 credit hours) in total may be counted from all courses offered by a single department. See the 2014/2015 Calendar, p. 88, for more information.

LIST I: Fine Arts and Humanities Courses

- | | |
|----------|----------|
| 1. _____ | 3. _____ |
| 2. _____ | 4. _____ |

LIST II: Social Science Courses

- | | |
|----------|----------|
| 1. _____ | 3. _____ |
| 2. _____ | 4. _____ |

LIST III: Science Courses

- | | |
|----------|----------|
| 1. _____ | 3. _____ |
| 2. _____ | 4. _____ |

Not more than 10 courses (30.0 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).

- | | |
|----------|------------------|
| 1. _____ | 6. _____ |
| 2. _____ | 7. _____ |
| 3. _____ | 8. _____ |
| 4. _____ | 9. _____ |
| 5. _____ | 10. _____ (max.) |

Completion of at least 10 courses (30.0 credit hours) from disciplines offered by the Faculty of Arts and Science or the Faculty of Fine Arts at the 3000/4000 level, excluding Activity courses (labelled PHAC and MUSE).

- | | |
|----------|------------------|
| 1. _____ | 6. _____ |
| 2. _____ | 7. _____ |
| 3. _____ | 8. _____ |
| 4. _____ | 9. _____ |
| 5. _____ | 10. _____ (min.) |

____ Not more than three Independent Study courses (9.0 credit hours) may be completed for credit towards the degree.

____ Not more than three Disciplinary Credit Applied Studies courses (9.0 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 17 courses (51.0 credit hours) may be completed from any one discipline for credit towards the degree.

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

____ 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).

____ Residence requirement:

Degree:

Art and Science: at least 15 courses (45.0 credit hours) offered by the Faculty of Arts and Science or the Faculty of Fine Arts must be completed at the University of Lethbridge.

Education: at least 15 courses (45.0 credit hours) offered by the Faculty of Education must be completed at the University of Lethbridge.

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

Education Minor (If Applicable): _____

See the 2014/2015 Calendar, p. 166, for eligible minors.

- | | |
|----------|---------------------------------|
| 1. _____ | 4. _____ |
| 2. _____ | 5. _____ |
| 3. _____ | 6. _____ |
| | Education (methods requirement) |

Specialization (If Applicable): _____

See the 2014/2015 Calendar, p. 170, for details.

- | | |
|----------|--------------------------|
| 1. _____ | 4. _____ |
| 2. _____ | 5. <u>Education 4573</u> |
| 3. _____ | |

Sample Sequencing Plan

Shown below is a sample sequence of courses for your degree. If you follow this plan, you should be able to graduate in four years, provided you complete five courses per semester. 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 1010 Chemistry 1000 Mathematics 1410 or Mathematics 1560 Physics 1050 (<i>preferred</i>) GLER course</p> <p>Year 2, Fall Biology 2000 Biology 2200 Chemistry 2500 Education 2500¹ GLER course</p> <p>Year 3, Fall Professional Semester I</p> <p>Year 4, Fall Biology 3000/4000 level Biology 3000/4000 level Elective 3000/4000 level Elective 3000/4000 level Elective</p> <p>Year 5, Fall Professional Semester III</p> | <p>Year 1, Spring Biology 1020 Chemistry 2000 Environmental Science 2000 (<i>recommended</i>) GLER course GLER course</p> <p>Year 2, Spring Biochemistry 2000 Biology 3300 GLER course GLER course GLER course</p> <p>Year 3, Spring Biology 3000/4000 level Biology 3000/4000 level Elective 3000/4000 level Elective 3000/4000 level GLER course</p> <p>Year 4, Spring Professional Semester II</p> <p>Year 5, Spring Biology 4000 level Education Foundation course Education elective Education elective Education elective</p> |
| <p>Elementary Education and Special/Inclusive Education students will reverse the Fall and Spring semesters in Year 5 and complete PS III in the Spring.</p> | |

¹ Education 2500 may also be taken in Spring or Summer semester.

Note: 3000- and 4000-level Biology courses are not typically offered every semester. Please use the following guidelines when planning your schedule:

Courses typically offered in the Fall Semester
 Biology 3005, 3210, 3420, 3605, 3630, 3700, 3710, 4110, 4130, 4200, 4560, 4700, 4740

Courses typically offered in the Spring Semester
 Biology 3115, 3310, 3400, 3460, 3800, 4100, 4170, 4230

Courses typically offered in alternate years
 Biology 3520, 3505, 3530, 3560, 3610, 4140, 4420, 4440, 4710, 4800

Terms Used

GLER course: A course that could count toward the General Liberal Education Requirement. You may use courses in your major towards this 12-course requirement. See the 2014/2015 University of Lethbridge Calendar, Part 4 - Academic Regulations (p. 88) for complete information.

The Faculty of Arts and Science offers Liberal Education 1000 and 2000, specifically designed to introduce first-year students to the wide scope of human knowledge and teach essential university success skills, critical thinking, and integrative thinking (see the 2014/2015 University of Lethbridge Calendar, Part 14 - Courses, p. 315). LBED 1000 and 2000 may be used toward satisfying the GLER.

Elective: A course that you may choose freely from all those available and applicable to your program. Use courses inside or outside your major, bearing in mind any restrictions that may apply (e.g., a maximum of 1724 courses from any one discipline).

Faculty of Education Admission

Admission to the Faculty of Education requires successful completion of the following:

- ___ 20 semester courses (60.0 credit hours).
- ___ Minimum cumulative grade point average of 2.50 on all UofL and transferable courses taken within the semesters containing the last 20 courses (60.0 credit hours).
- ___ Minimum of eight courses (24.0 credit hours) in the major.
- ___ Minimum cumulative grade point average of 2.50 on all graded courses comprising the major, including all transferable courses.
- ___ Credit in Education 2500 - Practicum I - Orientation to Teaching (or equivalent) including a favourable recommendation from the instructor.
- ___ Writing Proficiency Requirement:
 See Part 13 (Combined Degrees) in the Academic Calendar:
www.uleth.ca/ross/academic-calendar
- ___ Additional admission requirements in the following majors:
 Dramatic Arts, Music, Native Education and Physical Education

For specific information on admission requirements, please refer to the Combined Degrees section of the Academic Calendar:
www.uleth.ca/ross/academic-calendar/part13.pdf

Students are advised to contact Student Program Services in the Faculty of Education (TH421; tel. 403-329-2254) for guidelines regarding the requirements stated above.

For application and document deadlines please refer to:
www.uleth.ca/ross/admission-information/deadlines

Combined Degrees Program:

Students begin this program in the Faculty of Arts and Science where they progress toward completion of Arts and Science degree requirements, and prepare to meet the admission requirements for the Faculty of Education. Please note that completion of the required prerequisites does not guarantee admission to the Faculty of Education. For students of Aboriginal descent, and students with a significant shift in academic performance, please see the current Calendar for the Faculty of Education's admission policy.

