

University of
Lethbridge



Program Planning Guide

Name: _____

ID: _____

Calendar Year: 2021/2022

Major in Biological Sciences:

www.uleth.ca/artsci/biological-sciences

Academic Calendar:

www.uleth.ca/ross/academic-calendar

High School Admission Requirements:

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

Current and Past Program Planning Guides:

www.uleth.ca/ross/ppgs

Co-operative Education:

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

Faculty of Arts and Science Advising:

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

Bachelor of Science
Biological Sciences

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.uleth.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 (23 courses)

- _____ Biochemistry 2000 - Introductory Biochemistry
- _____ Biology 1010 - Cellular Basis of Life
- _____ Biology 1020 - Diversity of Life
- _____ Biology 2000 - Principles of Genetics
- _____ Biology 2150 - Biostatistics
- _____ Biology 2200 - Principles of Ecology
- _____ Biology 2300 - Cell Biology
- _____ Biology 3300 - Evolution
- _____ Biology 4500 - Seminars in Biological Sciences
- _____ Chemistry 1000 - General Chemistry I
- _____ Chemistry 2000 - General Chemistry II
- _____ 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 (preferred)

One of:

- _____ One course (3.0 credit hours) in English at the 1000 level or higher
- _____ Writing 1000 - Introduction to Academic Writing

¹Six courses (18.0 credit hours) in Biology at the 3000 level, including two from each of the subfield lists.

Two of (List 1 - Cellular and Molecular Biology)

- _____ Biochemistry 3100 - Proteins, Enzymes and Nucleic Acids
- _____ Biochemistry 3700/Neuroscience 3700 - Introduction to Bioinformatics
- _____ Biology 3000 - Gene Expression and Regulation
- _____ Biology 3005 - Genomes
- _____ Biology 3110 - Cell Signalling
- _____ Biology 3210 - Experimental Methods in Molecular and Cellular Biology
- _____ Biology 3400 - Principles of Microbiology

Two of (List 2 - Organismal Biology)

- _____ Biology 3310 - Developmental Biology
- _____ Biology 3420 - Animal Physiology
- _____ Biology 3460 - Plant Physiology
- _____ Biology 3520 - Invertebrate Zoology
- _____ Biology 3530 - Vertebrate Zoology
- _____ Biology 3560 - Integrative Plant Biology

Two of (List 3 - Ecology and Evolutionary Biology)

- _____ Biology 3630 - Field Biology
- _____ Biology 3660 - Field Botany
- _____ Biology 3700 - Ecosystem Ecology
- _____ Biology 3710 - Population Biology
- _____ Biology 3720 - Community Ecology
- _____ Two additional courses (6.0 credit hours) in Biology at the 4000 level.
 1. _____
 2. _____

Notes

¹Topics courses (Biology 3850) may be assigned to one of the Biological Sciences lists at the time of scheduling. Please refer to the current term timetable.

Applied Studies, Independent Studies, and the Undergraduate Thesis may not be counted as part of the minimum requirements for the major; however, they are strongly encouraged for students taking courses beyond this minimum.

Other Courses (minimum 17 courses)

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

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 2021/2022 Calendar, p. 79, 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. _____

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).*

_____ **Minor (Optional):** _____
See the 2021/2022 Calendar, p. 317, for more information.

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

_____ **Concentration (Optional):** _____
See the 2021/2022 Calendar, p. 104, 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.

Year 1, Fall

Biology 1010 or Biology 1020
 Chemistry 1000
 English 1900 or Writing 1000
Mathematics Requirement
 Lib Ed Requirement course

Year 2, Fall

Biology 2200
 Biology 2150¹
 Chemistry 2500
 Lib Ed Requirement course
 Lib Ed Requirement course

Year 3, Fall

Biology 3000 level
 Biology 3000 level
 Biology 3000 level
 Elective
 Elective

Year 4, Fall

Biology 3000 level
 Biology 4000 level
 Elective 3000/4000 level
 Elective 3000/4000 level
 Elective

Year 1, Spring

Biology 1020 or Biology 1010
 Chemistry 2000
 Physics 1050 or Physics 1000
 Lib Ed Requirement course
 Lib Ed Requirement course

Year 2, Spring

Biochemistry 2000
 Biology 2000
 Biology 2300¹
 Lib Ed Requirement course
 Lib Ed Requirement course

Year 3, Spring

Biology 3300
 Biology 3000 level
 Biology 3000 level
 Elective 3000/4000 level
 Elective

Year 4, Spring

Biology 4500
 Biology 4000 level
 Elective 3000/4000 level
 Elective 3000/4000 level
 Elective

¹ Term of offering may vary.

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.

