



# PROGRAM PLANNING GUIDE

**Name:** \_\_\_\_\_

**ID:**

## Bachelor of Science

### Neuroscience



Neuroscience is a rapidly expanding discipline that aims to solve the mysteries of the brain's functionality by better understanding its resilient capacity for consciousness, perception, memory and learning. The primary focus of this multidisciplinary program is to enhance your technical and practical skills with extensive theoretical knowledge in biology, chemistry, physics, psychology, philosophy and other related areas. With an emphasis on neurological disorders, the program will also give you hands-on experience using the latest instruments, technology and research findings.

#### What determines my program requirements?

Please refer to the Academic Calendar ([www.ulethbridge.ca/ross/academic-calendar](http://www.ulethbridge.ca/ross/academic-calendar)) for complete program information.

**Calendar Year:** 2025/2026 - Your calendar year is set to the academic year you are admitted (or readmitted) and you should follow the requirements for that year for the duration of your program.

**Faculty/School:** Faculty of Arts and Science ([www.ulethbridge.ca/artsci](http://www.ulethbridge.ca/artsci))

**Program(s):** Bachelor of Science

**Major(s):** Neuroscience

**Minor:** A defined set of courses, designed to provide depth in a particular discipline, study in an interdisciplinary area, or focus on a theme-related topic. To learn more about optional minors see [www.ulethbridge.ca/ross/minors](http://www.ulethbridge.ca/ross/minors).

#### Am I admissible to this program?

**Admission:** [www.ulethbridge.ca/ross/admissions/undergrad](http://www.ulethbridge.ca/ross/admissions/undergrad)

**Transfer:** [www.ulethbridge.ca/ross/transfer-resources](http://www.ulethbridge.ca/ross/transfer-resources)

#### When/How do I apply to the University?

**Deadlines:** [www.ulethbridge.ca/ross/admissions/undergrad/deadlines](http://www.ulethbridge.ca/ross/admissions/undergrad/deadlines)

**Step-by-Step:** [www.ulethbridge.ca/ross/admissions/step-by-step](http://www.ulethbridge.ca/ross/admissions/step-by-step)

#### Where can I find information on courses?

**Course Catalogue:** [www.ulethbridge.ca/ross/courses](http://www.ulethbridge.ca/ross/courses)

**Registration Guide:** [www.ulethbridge.ca/ross/registration-guide](http://www.ulethbridge.ca/ross/registration-guide)

#### When can I register for classes?

**Register early!** (March for Summer and Fall; November for Winter)

**Registration Dates:** [www.ulethbridge.ca/ross/registration-dates](http://www.ulethbridge.ca/ross/registration-dates)

#### How can I enhance my program?

**Career Bridge:** [www.ulethbridge.ca/career-bridge](http://www.ulethbridge.ca/career-bridge)

**Co-op Education:** [www.ulethbridge.ca/career-bridge/co-operative-education](http://www.ulethbridge.ca/career-bridge/co-operative-education)

**Honours Thesis:** [www.ulethbridge.ca/ross/undergraduate-thesis](http://www.ulethbridge.ca/ross/undergraduate-thesis)

**Double Major:** [www.ulethbridge.ca/ross/double-major](http://www.ulethbridge.ca/ross/double-major)

#### What supports are available to students?

**Student Services:** [www.ulethbridge.ca/campus-life/student-services](http://www.ulethbridge.ca/campus-life/student-services)

**Student Success Centre:** [www.ulethbridge.ca/student-success-centre](http://www.ulethbridge.ca/student-success-centre)

**Accessible Learning:** [www.ulethbridge.ca/ross/alc](http://www.ulethbridge.ca/ross/alc)

**Counselling Services:** [www.ulethbridge.ca/counselling](http://www.ulethbridge.ca/counselling)





# PROGRAM REQUIREMENTS (2025/2026)

## Required courses and notes

### Major Requirements (24 Courses)

- \_\_\_\_\_ 1. Biology 1010 - Cellular Basis of Life
- \_\_\_\_\_ 2. Biology 1020 - Diversity of Life
- \_\_\_\_\_ 3. Biology 2000 - Principles of Genetics
- \_\_\_\_\_ 4. Neuroscience 2610 - Principles of Brain Structure and Function
- \_\_\_\_\_ 5. Neuroscience 2620 - Principles of Behavioural Neuroscience
- \_\_\_\_\_ 6. Neuroscience 3600 - Fundamental Neurobiology
- \_\_\_\_\_ 7. Psychology 1010 - Introduction to Psychology A: Evolution, Mechanisms, and Cognition/Perception
- \_\_\_\_\_ 8. Psychology 2330 - Learning and Cognition
- \_\_\_\_\_ 9. Psychology 2700 - Behaviour and Evolution

#### 10.-12. Three of:

- \_\_\_\_\_ <sup>1</sup>Biochemistry 2000 - Introductory Biochemistry
- \_\_\_\_\_ Neuroscience 3610 - Human Neuropsychology
- \_\_\_\_\_ Neuroscience 3615 - Functional Neuroanatomy
- \_\_\_\_\_ Neuroscience 3625 - Cellular and Molecular Neurobiology
- \_\_\_\_\_ Neuroscience 3645 - Cognitive Neuroscience I
- \_\_\_\_\_ Neuroscience 3655 - Cognitive Neuroscience II
- \_\_\_\_\_ Neuroscience 3660 - Neurobiological Basis of Learning and Memory in the Mammal
- \_\_\_\_\_ Neuroscience 3710 - Behaviour and the Evolution of Brains

#### 13. One of:

- \_\_\_\_\_ Neuroscience 4630 - Neuroscience (Series)
- \_\_\_\_\_ Neuroscience 4980 - Applied Studies
- \_\_\_\_\_ Neuroscience 4990 - Independent Study
- \_\_\_\_\_ <sup>2</sup>Neuroscience 4995 - Undergraduate Thesis (6.0 credit hours)

#### 14. One of:

- \_\_\_\_\_ Philosophy 2220 - Philosophy of Mind
- \_\_\_\_\_ <sup>3</sup>Philosophy 3402 - Biomedical Ethics

#### 15. One of:

- \_\_\_\_\_ Physics 1000 - Introduction to Physics I
- \_\_\_\_\_ Physics 1050 - Introduction to Biophysics

#### 16. One of:

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

#### 17. One of:

- \_\_\_\_\_ Neuroscience 3690 - Introduction to Programming and Statistics in MATLAB
- \_\_\_\_\_ <sup>3</sup>Psychology 2030 - Thinking with Data I
- \_\_\_\_\_ Statistics 1770 - Introduction to Probability and Statistics

#### 18.-19. Two courses (6.0 credit hours) in Neuroscience or Psychology at the 3000/4000 level with a Science designation (see **School of Liberal Education** in the 2025/2026 University of Lethbridge Calendar, [www.ulethbridge.ca/ross/academic-calendar](http://www.ulethbridge.ca/ross/academic-calendar)).

- \_\_\_\_\_ 18. \_\_\_\_\_
- \_\_\_\_\_ 19. \_\_\_\_\_

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### 20.-24. One of the following Streams (a. or b.):

#### <sup>1</sup> Stream a:

- \_\_\_\_\_ Biochemistry 2000 - Introductory Biochemistry
- \_\_\_\_\_ Chemistry 1110 - Chemistry for Life Sciences I
- \_\_\_\_\_ Chemistry 2120 - Chemistry for Life Sciences II
- \_\_\_\_\_ Two additional courses (6.0 credit hours) in Biology, Chemistry, Neuroscience, or Psychology at the 3000/4000 level with a Science Designation (see **School of Liberal Education** in the 2025/2026 University of Lethbridge Calendar, [www.ulethbridge.ca/ross/academic-calendar](http://www.ulethbridge.ca/ross/academic-calendar))

#### Stream b:

- \_\_\_\_\_ Chemistry 1000 - General Chemistry I
- \_\_\_\_\_ Chemistry 2000 - General Chemistry II
- \_\_\_\_\_ Chemistry 2500 - Organic Chemistry I
- \_\_\_\_\_ Chemistry 2600 - Organic Chemistry II

#### One of:

- \_\_\_\_\_ Mathematics 1410 - Elementary Linear Algebra
- \_\_\_\_\_ Mathematics 1560 - Calculus I
- \_\_\_\_\_ Mathematics 1565 - Accelerated Calculus I

### Notes

<sup>1</sup> Students may not choose Stream a. if Biochemistry 2000 was chosen as part of the "Two of" list.

<sup>2</sup> If Neuroscience 4995 is chosen, the requirement for two additional courses at the 3000/4000 level in Neuroscience or Psychology with a Science designation is reduced to one additional course.

<sup>3</sup> This course has a prerequisite or corequisite that is not required for the major. See the Course Catalogue (p. 367) for more information.

### Electives (16 Courses)

#### 25.-40. Sixteen additional courses (48.0 credit hours) chosen to complete program requirements

- \_\_\_\_\_ 25. \_\_\_\_\_
- \_\_\_\_\_ 26. \_\_\_\_\_
- \_\_\_\_\_ 27. \_\_\_\_\_
- \_\_\_\_\_ 28. \_\_\_\_\_
- \_\_\_\_\_ 29. \_\_\_\_\_
- \_\_\_\_\_ 30. \_\_\_\_\_
- \_\_\_\_\_ 31. \_\_\_\_\_
- \_\_\_\_\_ 32. \_\_\_\_\_
- \_\_\_\_\_ 33. \_\_\_\_\_
- \_\_\_\_\_ 34. \_\_\_\_\_
- \_\_\_\_\_ 35. \_\_\_\_\_
- \_\_\_\_\_ 36. \_\_\_\_\_
- \_\_\_\_\_ 37. \_\_\_\_\_
- \_\_\_\_\_ 38. \_\_\_\_\_
- \_\_\_\_\_ 39. \_\_\_\_\_
- \_\_\_\_\_ 40. \_\_\_\_\_



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### Liberal Education List 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. Cross-listed courses count toward the limit for both disciplines (e.g. IGBM 3250/INDG 3250 counts toward the limit for Dhillon School of Business courses and Indigenous Studies).

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

To determine if a course has a Liberal Education designation, see School of Liberal Education in the 2025/2026 University of Lethbridge Undergraduate Calendar, [www.ulethbridge.ca/ross/academic-calendar](http://www.ulethbridge.ca/ross/academic-calendar).

\_\_\_\_\_ **1.-4. List I: Fine Arts and Humanities**

- \_\_\_\_\_ 1. \_\_\_\_\_
- \_\_\_\_\_ 2. \_\_\_\_\_
- \_\_\_\_\_ 3. \_\_\_\_\_
- \_\_\_\_\_ 4. \_\_\_\_\_

\_\_\_\_\_ **5.-8. List II: Social Science**

- \_\_\_\_\_ 5. \_\_\_\_\_
- \_\_\_\_\_ 6. \_\_\_\_\_
- \_\_\_\_\_ 7. \_\_\_\_\_
- \_\_\_\_\_ 8. \_\_\_\_\_

\_\_\_\_\_ **9.-12. List III: Science**

- \_\_\_\_\_ 9. \_\_\_\_\_
- \_\_\_\_\_ 10. \_\_\_\_\_
- \_\_\_\_\_ 11. \_\_\_\_\_
- \_\_\_\_\_ 12. \_\_\_\_\_

### General Requirements

\_\_\_\_\_ A minimum of 40 courses (120.0 credit hours) with a GPA of at least 2.00.

\_\_\_\_\_ A maximum of five Independent Study courses (15.0 credit hours) may be completed for credit towards the degree.

\_\_\_\_\_ A maximum of 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.

\_\_\_\_\_ A maximum of 24 courses (72.0 credit hours) may be completed from any one discipline for credit towards the degree. Disciplines are identified by a specific course label (e.g. KNES, ASTR, and HIST are separate disciplines).

\_\_\_\_\_ A maximum of 6.0 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).

\_\_\_\_\_ A maximum of six courses (18.0 credit hours) from disciplines offered 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 ACCT, ADCS, AGEM, CDEV, CRED, EDUC, FINC, GLBU, HLSC, HRLR, IGBM, INHL, MGT, MKTG, NURS, PUBH, and TREC). Courses cross-listed between the Faculty of Arts and Science and another Faculty or School do not count towards this limit.

\_\_\_\_\_ Residence requirement: 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. At least half of the courses required in the major must be completed at the University of Lethbridge.

A **maximum** of 12 courses (36.0 credit hours) may be completed at the 1000 level (or lower) for credit towards the degree, excluding Activity courses (labelled PHAC and MUSE) and courses numbered in the range of 0520 to 0530.

\_\_\_\_\_ **1.-12. Introductory Course Limit**

- \_\_\_\_\_ 1. \_\_\_\_\_
- \_\_\_\_\_ 2. \_\_\_\_\_
- \_\_\_\_\_ 3. \_\_\_\_\_
- \_\_\_\_\_ 4. \_\_\_\_\_
- \_\_\_\_\_ 5. \_\_\_\_\_
- \_\_\_\_\_ 6. \_\_\_\_\_
- \_\_\_\_\_ 7. \_\_\_\_\_
- \_\_\_\_\_ 8. \_\_\_\_\_
- \_\_\_\_\_ 9. \_\_\_\_\_
- \_\_\_\_\_ 10. \_\_\_\_\_
- \_\_\_\_\_ 11. \_\_\_\_\_
- \_\_\_\_\_ 12. \_\_\_\_\_

A **minimum** of 15 courses (45.0 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, excluding Activity courses (labelled PHAC and MUSE). Out-of-faculty courses (i.e. labelled ACCT, ADCS, AGEM, CDEV, CRED, EDUC, FINC, GLBU, HLSC, HRLR, IGBM, INHL, MGT, MKTG, NURS, PUBH, and TREC) will not meet this requirement.

\_\_\_\_\_ **1.-15. Senior Course Requirement**

- \_\_\_\_\_ 1. \_\_\_\_\_
- \_\_\_\_\_ 2. \_\_\_\_\_
- \_\_\_\_\_ 3. \_\_\_\_\_
- \_\_\_\_\_ 4. \_\_\_\_\_
- \_\_\_\_\_ 5. \_\_\_\_\_
- \_\_\_\_\_ 6. \_\_\_\_\_
- \_\_\_\_\_ 7. \_\_\_\_\_
- \_\_\_\_\_ 8. \_\_\_\_\_
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- \_\_\_\_\_ 12. \_\_\_\_\_
- \_\_\_\_\_ 13. \_\_\_\_\_
- \_\_\_\_\_ 14. \_\_\_\_\_
- \_\_\_\_\_ 15. \_\_\_\_\_

### Optional Minor:

For information about minors see **Minors** in the 2025/2026 University of Lethbridge Calendar, [www.ulethbridge.ca/ross/academic-calendar](http://www.ulethbridge.ca/ross/academic-calendar). Consult with an Academic Advisor if you wish to add a minor to your program.

\_\_\_\_\_ **1.-6. Required Courses**

- \_\_\_\_\_ 1. \_\_\_\_\_
- \_\_\_\_\_ 2. \_\_\_\_\_
- \_\_\_\_\_ 3. \_\_\_\_\_
- \_\_\_\_\_ 4. \_\_\_\_\_
- \_\_\_\_\_ 5. \_\_\_\_\_
- \_\_\_\_\_ 6. \_\_\_\_\_



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Shown below is the recommended sequence of courses for your degree. Consult timetables for course offerings, prerequisites, and corequisites before registering each term as some courses may have limited offerings (ie. once a year, alternating years, or only offered in the Fall or Winter terms).

Consult with an Academic Advisor in your faculty if you wish to alter this sequence with regard to the specifically listed courses.

**Note that this sequence was prepared based on course scheduling at the time of publication and may change during your studies.**

### First Year

**Biology 1010**

**Biology 1020**

**Chemistry 1000**

**Chemistry 2000**

Psychology 1010

One of: English 1900 or Writing 1000

Mathematics requirement

Lib Ed Requirement course

Lib Ed Requirement course

Lib Ed Requirement course

### Second Year

**Biology 2000**

**Chemistry 2500**

Chemistry 2600

**Neuroscience 2610**

**Neuroscience 2620**

One of: Philosophy 2220 or Philosophy 3402

One of: Physics 1000 or Physics 1050

Statistics requirement

Lib Ed Requirement course

Lib Ed Requirement course (*Philosophy 1000 recommended*)

### Third Year

Neuroscience 3600

Psychology 2330

Psychology 2700

Neuroscience list course

Neuroscience list course

Lib Ed Requirement course 3000/4000 level

Elective 3000/4000 level

Elective 3000/4000 level

Elective 3000/4000 level

Elective

### Fourth Year

Neuroscience or Psychology 3000/4000 level (Science)

Neuroscience or Psychology 3000/4000 level (Science)

Neuroscience 4000-level list course

Neuroscience list course

Elective 3000/4000 level

Elective 3000/4000 level

Elective 3000/4000 level

Elective 3000/4000 level

Elective 3000/4000 level

Elective

**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.

The above sequence includes only courses from Stream b. Chemistry group. Plan accordingly if you are interested in completing the courses from Stream a. Chemistry group (see p. 3 of the Program Planning Guide).