Program Planning Guide

Department: Neuroscience
Calendar Year: 2019/2020
Name: ____________________________
ID: ______________________________

Faculty of Arts and Science Advising:
www.uleth.ca/artsci/advising
artsci.advising@uleth.ca
403-329-5106
M2102

Co-operative Education:
www.uleth.ca/artsci/coop

Major in Neuroscience:
www.uleth.ca/artsci/neuroscience

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

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.
Bachelor of Science - Neuroscience

Calendar Year - 2019/2020

Name: ____________________________________________  ID: ________________________

B.Sc. Neuroscience
Completion of at least 40 courses (120.0 credit hours) with a grade point average of at least 2.00.

Major Requirements (22 courses)

1. Biology 1010 - Cellular Basis of Life
2. Biology 1020 - Diversity of Life
4. Neuroscience 2600 - Brain and Behaviour
5. Neuroscience 3600 - Fundamental Neurobiology
6. Psychology 2330 - Learning and Cognition
7. Psychology 2700 - Behaviour and Evolution

8-9. Two of:
   - Biochemistry 2000 - Introductory Biochemistry
   - Biology 3000 - Gene Expression and Regulation
   - Biology 3105 - Signal Transduction
   - Biology 3310 - Developmental Biology
   - Biology 3400 - Principles of Microbiology
   - Neuroscience 3625 - Cellular and Molecular Neurobiology

10. One of:
    - Philosophy 2220 - Philosophy of Mind
    - Philosophy 2233 - Philosophy and the World View of Science: Earth and Life Sciences

11. One of:
    - Physics 1000 - Introduction to Physics I
    - Physics 1050 - Introduction to Biophysics

12. One of:
    - Neuroscience 4630 - Neuroscience (Series)
    - Neuroscience 4980 - Applied Studies
    - Neuroscience 4990 - Independent Study

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

14. One of:
    - Neuroscience 3690 - Introduction to Programming and Statistics in MATLAB
    - Psychology 2030 - Methods and Statistics
    - Statistics 1770 - Introduction to Probability and Statistics

One of the following groups (a or b):

a.

19. Chemistry 1110 - Chemistry for Life Sciences I
20. 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 the 2019/2020 Calendar, List III: Science Courses, p. 85)

b.

18. Chemistry 1000 - General Chemistry I
19. Chemistry 2000 - General Chemistry II
20. Chemistry 2500 - Organic Chemistry I
21. Chemistry 2600 - Organic Chemistry II

22. One of:
    - Mathematics 1410 - Elementary Linear Algebra
    - Mathematics 1560 - Calculus I
    - Mathematics 1565 - Accelerated Calculus I

Other Courses (minimum 18 courses)

1. __________________  10. ________________
2. __________________  11. ________________
3. __________________  12. ________________
4. __________________  13. ________________
5. __________________  14. ________________
6. __________________  15. ________________
7. __________________  16. ________________
8. __________________  17. ________________
9. __________________  18. ________________

Notes

1. Prerequisite required: One of Philosophy 1000 or a 2000-level course (3.0 credit hours) in Philosophy.

2. If Neuroscience 4995 (6.0 credit hours) is chosen, the requirement for three additional courses at the 3000/4000 level in Neuroscience or Psychology with a Science designation is reduced to two additional such courses.

It is strongly recommended that students who are planning to pursue graduate studies in the Neurosciences consider the Undergraduate Thesis option and include Neuroscience 3605 and Psychology 3400 in their program.

See also:
• Bachelor of Science - Psychology
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 (MGT) may be counted toward the Lib Ed Requirement.
See the 2019/2020 Calendar, p. 83, for more information.

LIST I: Fine Arts and Humanities Courses

1. ___________________
2. ___________________
3. ___________________
4. ___________________

LIST II: Social Science Courses

1. ___________________
2. ___________________
3. ___________________
4. ___________________

LIST III: 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. ___________________(max.)

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, ADCS, CDEV, CRED, EDUC, HLSC, MGT, NURS, PUBH, and TREC) will not meet this requirement.

1. ___________________
2. ___________________
3. ___________________
4. ___________________
5. ___________________
6. ___________________
7. ___________________
8. ___________________
9. ___________________
10. ___________________
11. ___________________
12. ___________________
13. ___________________
14. ___________________
15. ___________________(min.)

Minor (Optional):

See the 2019/2020 Calendar, p. 277, for more information.

1. ___________________
2. ___________________
3. ___________________
4. ___________________
5. ___________________
6. ___________________
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 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.

<table>
<thead>
<tr>
<th>Year 1, Fall</th>
<th>Year 1, Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology 1010 or Biology 1020</td>
<td>Biology 1020 or Biology 1010</td>
</tr>
<tr>
<td>Chemistry 1000</td>
<td>Chemistry 2000</td>
</tr>
<tr>
<td>Mathematics 1410, 1560, or 1565</td>
<td>Neuroscience 2600</td>
</tr>
<tr>
<td>Lib Ed Requirement course</td>
<td>English 1900 or Writing 1000</td>
</tr>
<tr>
<td>Lib Ed Requirement course</td>
<td>Lib Ed Requirement course</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Year 2, Fall</th>
<th>Year 2, Spring</th>
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<tbody>
<tr>
<td>Biology 2000</td>
<td>Chemistry 2600</td>
</tr>
<tr>
<td>Chemistry 2500</td>
<td>Physics 1000 or Physics 1050</td>
</tr>
<tr>
<td>Psychology 2330</td>
<td>Statistics requirement</td>
</tr>
<tr>
<td>Psychology 2700</td>
<td>Lib Ed Requirement course</td>
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<tr>
<td>Lib Ed Requirement course</td>
<td>Lib Ed Requirement course</td>
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</tbody>
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(Philosophy 1000 recommended)

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<thead>
<tr>
<th>Year 3, Fall</th>
<th>Year 3, Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neuroscience 3600</td>
<td>Philosophy requirement 2</td>
</tr>
<tr>
<td>One “Two of:” List requirement 1</td>
<td>One “Two of:” List requirement 1</td>
</tr>
<tr>
<td>Elective 3000/4000 level</td>
<td>Elective 3000/4000 level</td>
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<td>Elective</td>
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<table>
<thead>
<tr>
<th>Year 4, Fall</th>
<th>Year 4, Spring</th>
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</thead>
<tbody>
<tr>
<td>One of: Neuroscience 4630, 4980, 4990, or 4995 3</td>
<td>Neuroscience or Psychology 3000/4000 level (Science)</td>
</tr>
<tr>
<td>Neuroscience or Psychology 3000/4000 level (Science)</td>
<td>Neuroscience or Psychology 3000/4000 level (Science)</td>
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<tr>
<td>Elective 3000/4000 level</td>
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<tr>
<td>Elective</td>
<td>Elective 3000/4000 level</td>
</tr>
</tbody>
</table>

1 Students require Two of: Biochemistry 2000, Biology 3000, 3165, 3310, 3400; Neuroscience 3625. Term of offering for these courses may vary. Please check with the Departments of Biological Sciences, Chemistry and Biochemistry, or Neuroscience, respectively.

2 One of Philosophy 2220, 2233, 3270, or 3402 is required. Term of offering may vary.

3 Neuroscience 4995 is a 6.0 credit course.

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 electives courses within the major and plan accordingly. The above sequence includes only courses from the second Chemistry group. Plan accordingly if you are interested in completing the courses from the first Chemistry group (see p. 3 of the Program Planning Guide).

Terms Used

Lib Ed Requirement course: A course that could count toward the Liberal Education List Requirement. You may use courses in your major towards this 12-course requirement. See the 2019/2020 University of Lethbridge Calendar, School of Liberal Education for complete information.

The School of Liberal Education 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 2019/2020 University of Lethbridge Calendar, Course Catalogue). LBED 1000 and 2000 may be used toward satisfying the Lib Ed Requirement.

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 24 courses from any one discipline).