



UNIVERSITY OF CALGARY FACULTY OF SCIENCE

CURRICULUM REVIEW REPORT
BSC NEUROSCIENCE

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Curriculum Review Team

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Overview and Context of the Program

The brain and nervous system are the most complex products of evolution and natural selection. Neuroscience is a branch of biology that seeks to understand how the brain and nervous system, and their various components, function to produce behaviour. Additionally, neuroscience seeks to understand and rectify brain disorders.

Neuroscience is a rapidly expanding branch of the life sciences dealing with the form, function, development and evolution, disease and repair of nervous systems. Central to this is the desire to understand the molecular and cellular foundations of the behavioural processes that allow animals and humans to respond to challenges encountered in daily life. Advancing our knowledge of these topics is essential to meeting the challenges of various nervous system disorders threatening health and wellness.

The BSc Neuroscience is a vibrant, interdisciplinary program providing experiential learning, small class sizes, and opportunities for direct mentorship. Students learn to think critically, synthesize concepts across scientific disciplines and master a variety of scientific techniques through research in laboratory and field course settings. The program attracts some of the best students that attend the University of Calgary, and has the highest minimal admission high school average of all programs at the university (usually 92%, but as high as 95% for 2017). By the end of their program, students will have enjoyed a strong research-intensive experience founded on the principles of inquiry and experiential learning.

The BSc Neuroscience program began in September of 2008 following a

Commitments / Values

- Demonstrate understanding that people from ~~other~~ disciplines and backgrounds bring different skills, knowledge and tools to problem solving.
- Display ethical principles and a commitment to applying these principles in ~~decision~~ making and Scientific practice.
- Demonstrate a commitment to sustainability and understand the impact of scientific

Guiding Questions

These are the critical questions that will guide the curriculum review. You will include the guiding questions asked by the Faculty as a whole as well as the questions specific to your program (if faculty wide questions are included below)

Program Guiding Questions:

- Do you feel that students arriving in your class are either or Underprepared (missing prerequisite knowledge)?
 - In what way? And what improvements can be made?
- Does this course address any of the following topics? If so to what extent (Introductory/Developing/Advanced)?
 - Evolution
 - Neuroanatomy
 - Writing
 - Group work
 - Data Analysis and interpretation
 - Application of core principles
 - Dissemination of scientific information in graphical format
 - Dissemination of scientific information in written format

Faculty Wide Questions:

Based on the data from the National Survey of Student Engagement, the Faculty of Science is seeking additional information regarding High Impact Educational Practices. High Impact Practices (HIPs) share several traits: They generally demand considerable time and effort, facilitate learning outside of the classroom, require meaningful interactions between faculty and students, encourage collaboration with diverse others, and provide frequent and substantive feedback. Examples of HIPs include, but are not limited to:

- > Learning community or some other formal program where groups of students take two or more classes together
- > Courses that included a community based project (service learning)
- > Work with a faculty member on a research project
- > Internship, coop, field experience, student teaching, or clinical placement
- > Study abroad

Alignment with Faculty-Wide Questions

1. Are High Impact Practices being used regularly in this program?

The BSc Neuroscience Program was designed specifically to provide a High Impact Learning experience for our students. By its very nature, it creates a Learning community where students take the majority of their classes together starting with the first NEUR course in first year, progressing to their field course between 1st and 2nd year, and culminating in all their senior courses from 3rd and 4th year being together as a group.

The program is an honours only course, so all students work with a faculty member on a research project in their final year. Above and beyond this though, students are encouraged with financial support to work in neuroscience labs each summer of their degrees to broaden their research experience. We have created over 300 such summer research positions since the program began.

The BSc Neuroscience program, in partnership with the Hotchkiss Brain Institute and The Rebecca Hotchkiss International Scholar Exchange, has created four study positions each year.

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