

Neuroscience Learning Outcomes

Problem Solving & Critical Thinking

PS1: Critically evaluate ideas and arguments by gathering and integrating relevant information, assessing its credibility, and synthesizing evidence to formulate a position.

PS2: Identify problems and independently propose solutions using creative approaches, acquired through interdisciplinary experiences, and a depth and breadth of knowledge/expertise.

PS3: Accurately interpret and use numerical information to evaluate and formulate a position.

Communication

C1: Accurately and effectively communicate ideas, arguments and analyses, to a range of audiences, in graphic, oral and written form.

Professional & Ethical Behaviour

PEB1: Demonstrate personal and professional integrity by respectfully considering diverse points of view and the intellectual contribution of others, and by demonstrating a commitment to honesty and equity, and awareness of sustainability, in scientific practice and society at large.

PEB2: Collaborate effectively as part of a team by demonstrating mutual respect, leadership, and an ability to set goals and manage tasks and timelines.

PEB3: Plan for professional growth and personal development within and beyond the undergraduate program, **including professional programs in health science, post-graduate work in neuroscience, and careers in pharmacy, biotechnology, public health, and education.**

PEB4: Critically appraise and debate applications of neuroscience in relation to the ethics of advancing human health and treatment of animals.

Scientific Method

SM1: Apply scientific methods and processes by formulating questions, designing investigations and synthesizing data to draw conclusions and make scientifically-based decisions.

SM2: Generate and interpret scientific data using quantitative, qualitative and analytical methodologies and techniques.

Breadth & Depth of Understanding in a Particular Scientific Discipline

BD1: Apply the core concepts of mathematics, physics, chemistry and biology to **the study of development, anatomy, physiology and pathology of the nervous system.**

BD2: Demonstrate knowledge of the ethical, economic, commercial and social implications of scientific discovery and technological innovation within the **neurosciences.**

BD3: Interpret current scientific concepts and gaps in knowledge (and methods) in light of the historical development in **neuroscience.**

BD4: Demonstrate the ability to integrate information across levels of biological organization (from atoms to behaviour) to explain nervous system function.

BD5: Interpret evolution of nervous systems from patterns of diversity and phylogenetic processes.

Scientific Technology & Techniques in a Particular Scientific Discipline

STT1: Apply contemporary research methods, skills and techniques to conduct independent inquiry in neuroscience

STT2: Perform and interpret basic neuron and neuron network computer modelling.

STT3: Identify the contribution of technical discoveries in histology, physiology, molecular biology and computer modelling to developments in neuroscience research and its practical applications.