

# Biological Science 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.

## 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 a particular scientific discipline.

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

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

**BD4: Identify and explain contemporary problems in ecology, physiology, molecular biology, genetics, biochemistry and evolution.**

**BD5: Evaluate or analyze a biological problem using the methods and concepts from more than one biology sub discipline (biodiversity, health, molecular bioscience) through literature review, research project or practical application.**

## Scientific Technology & Techniques in a Particular Scientific Discipline

STT1: Apply contemporary research methods, skills and techniques to conduct independent inquiry in a particular scientific discipline.

**STT2: Apply contemporary approaches of integrative thinking and decision making to address contemporary biological problems facing society**