Biodiversity (BSCH.BIOD)	Marine and Freshwater Biology (BSCH.MFB)	Wildlife Biology and Conservation (BSCH.WBC)
A. GENERAL SKILLS **1. Problem Solving & Critical Thinking** • Critically evaluate ideas and arguments by gathering and integrating relevant information, assessing its credibility, and synthesizing evidence to formulate a position. • Identify problems and independently propose solutions using creative approaches, acquired through interdisciplinary experiences, and a depth and breadth of knowledge/expertise. • Accurately interpret and use numerical information to evaluate and formulate a position. **2. Communication** • Accurately and effectively communicate ideas, arguments and analyses, to a range of audiences, in graphic, oral and written form. **3. Professional and Ethical Behaviour** • 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. • Collaborate effectively as part of a team by demonstrating mutual respect, leadership, and an ability to set goals and manage tasks and timelines. • Plan for professional growth and personal development within and beyond the undergraduate program. **B. DEGREE RELATED SKILLS & KNOWLEDGE** **1. Scientific Method** • Apply scientific methods and processes by formulating questions, designing investigations and synthesizing data to draw conclusions and make scientifically-based decisions. • Generate and interpret scientific data using quantitative, qualitative and analytical methodologies and techniques.	**A. GENERAL SKILLS** **1. Problem Solving & Critical Thinking** • Critically evaluate ideas and arguments by gathering and integrating relevant information, assessing its credibility, and synthesizing evidence to formulate a position. • Identify problems and independently propose solutions using creative approaches, acquired through interdisciplinary experiences, and a depth and breadth of knowledge/expertise. • Accurately interpret and use numerical information to evaluate and formulate a position. **2. Communication** • Accurately and effectively communicate ideas, arguments and analyses, to a range of audiences, in graphic, oral and written form. **3. Professional and Ethical Behaviour** • 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. • Collaborate effectively as part of a team by demonstrating mutual respect, leadership, and an ability to set goals and manage tasks and timelines. • Plan for professional growth and personal development within and beyond the undergraduate program. **B. DEGREE RELATED SKILLS & KNOWLEDGE** **1. Scientific Method** • Apply scientific methods and processes by formulating questions, designing investigations and synthesizing data to draw conclusions and make scientifically-based decisions. • Generate and interpret scientific data using quantitative, qualitative and analytical methodologies and techniques.	**A. GENERAL SKILLS** **1. Problem Solving & Critical Thinking** • Critically evaluate ideas and arguments by gathering and integrating relevant information, assessing its credibility, and synthesizing evidence to formulate a position. • Identify problems and independently propose solutions using creative approaches, acquired through interdisciplinary experiences, and a depth and breadth of knowledge/expertise. • Accurately interpret and use numerical information to evaluate and formulate a position. **2. Communication** • Accurately and effectively communicate ideas, arguments and analyses, to a range of audiences, in graphic, oral and written form. **3. Professional and Ethical Behaviour** • 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. • Collaborate effectively as part of a team by demonstrating mutual respect, leadership, and an ability to set goals and manage tasks and timelines. • Plan for professional growth and personal development within and beyond the undergraduate program. **B. DEGREE RELATED SKILLS & KNOWLEDGE** **1. Scientific Method** • Apply scientific methods and processes by formulating questions, designing investigations and synthesizing data to draw conclusions and make scientifically-based decisions. • Generate and interpret scientific data using quantitative, qualitative and analytical methodologies and techniques.

Biodiversity (BSCH.BIOD) *cont'd*	Marine and Freshwater Biology (BSCH.MFB) *cont'd*	Wildlife Biology and Conservation (BSCH.WBC) *cont'd*

2. Breadth & Depth of Understanding in a Particular Scientific Discipline

- Apply the core concepts of mathematics, physics, chemistry and biology to Biodiversity
- Demonstrate knowledge of the ethical, economic, commercial and social implications of scientific discovery and technological innovation.
- Interpret current scientific concepts and gaps in knowledge (and methods) in light of the historical development of Biodiversity.
- Evaluate the origin, distribution and challenges of biodiversity at various spatial and temporal scales.
- Summarize examples of how changes in biodiversity have economic and social impacts through the provision of ecosystem goods and services.
- Apply critical thinking, analysis, and independent inquiry skills to complex interdisciplinary issues in biodiversity recognizing the inherent complexity and uncertainty in its assessment.
- Synthesize knowledge and effectively communicate in both written and oral forms about a specific biodiversity issue in society.

3. Scientific Technology & Techniques in a Scientific Discipline

- Apply contemporary research methods, skills and techniques to conduct independent inquiry in Biodiversity.
- Quantify variation within and among taxa and implement sampling methods and analyses utilizing data from real collections or surveys in biodiversity research, including expertise in specific taxonomic groups of interest.
- Work collaboratively with peers in community-engaged research to propose, execute and report on a biodiversity issue.

2. Breadth & Depth of Understanding in a Particular Scientific Discipline

- Apply the core concepts of mathematics, physics, chemistry and biology to Marine and Freshwater Biology
- Demonstrate knowledge of the ethical, economic, commercial and social implications of scientific discovery and technological innovation.
- Interpret current scientific concepts and gaps in knowledge (and methods) in light of the historical development of Marine and Freshwater Biology.
- Demonstrate an understanding of the structure, function and evolutionary relationships of the major taxonomic groups of (aquatic organisms).
- Characterize and integrate the diversity of biological, chemical and physical features that structure (marine and freshwater aquatic environments)
- Understand how natural and impacted (aquatic systems)function and interact with other systems.

3. Scientific Technology & Techniques in a Scientific Discipline

- Apply contemporary research methods, skills and techniques to conduct independent inquiry in Marine and Freshwater Biology.
- Collect and assemble biological data and apply mathematical and statistical methods to the interpretation of data to address questions in (aquatic) biology.
- Demonstrate an advanced understanding and appreciation of living (aquatic organisms and specimens) in field and/or laboratory settings through "hands on" experience including,
    - Identify and/or quantify the external and internal characteristics of organisms (e.g. microscopy, physiology)
    - collect and handle organisms (e.g. netting, trapping)
    - determine the taxonomic affiliation of organisms (e.g. using morphological keys and molecular tools)

2. Breadth & Depth of Understanding in a Particular Scientific Discipline

- Apply the core concepts of mathematics, physics, chemistry and biology to Wildlife Biology and Conservation.
- Demonstrate knowledge of the ethical, economic, commercial and social implications of scientific discovery and technological innovation.
- Interpret current scientific concepts and gaps in knowledge (and methods) in light of the historical development of Wildlife Biology and Conservation.
- Demonstrate a broad understanding of ecology, evolution and conservation biology.
- Recognize the origins and current methods of protection of plant and animal diversity.
- Develop detailed knowledge of ecological and evolutionary factors that influence the persistence of species and communities.
- Understand how to manage natural and impacted systems (e.g., invasive species, species at risk) and apply scientific approaches to adaptive management strategies in wildlife conservation.
- Assess the complex interplay between science, socio-economic factors and public opinion in the forging of public policy decisions and the value of interdisciplinary approaches to understanding complex problems in wildlife biology.

3. Scientific Technology & Techniques in a Scientific Discipline

- Apply contemporary research methods, skills and techniques to conduct independent inquiry in Wildlife Biology and Conservation.
- Gain "hands on" experience in the field working with plants and animals in a variety of ecosystems.
- Develop written and oral communication skills for a variety of stakeholders (e.g., public, private sector, policy makers, scientists).
- Assemble, analyze and evaluate biological data for development and execution of a research project that integrates methods from evolutionary biology, ecology, and conservation biology within wider global contexts.

Zoology (BSCH.ZOO)

A. GENERAL SKILLS

1. Problem Solving & Critical Thinking

- Critically evaluate ideas and arguments by gathering and integrating relevant information, assessing its credibility, and synthesizing evidence to formulate a position.
- Identify problems and independently propose solutions using creative approaches, acquired through interdisciplinary experiences, and a depth and breadth of knowledge/expertise.
- Accurately interpret and use numerical information to evaluate and formulate a position.

2. Communication

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

3. Professional and Ethical Behaviour

- 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.
- Collaborate effectively as part of a team by demonstrating mutual respect, leadership, and an ability to set goals and manage tasks and timelines.
- Plan for professional growth and personal development within and beyond the undergraduate program.

B. DEGREE RELATED SKILLS & KNOWLEDGE

1. Scientific Method

- Apply scientific methods and processes by formulating questions, designing investigations and synthesizing data to draw conclusions and make scientifically-based decisions.
- Generate and interpret scientific data using quantitative, qualitative and analytical methodologies and techniques.

Zoology (BSCH.ZOO) ***cont'd***

2. Breadth & Depth of Understanding in a Particular Scientific Discipline

- Apply the core concepts of mathematics, physics, chemistry and biology to Zoology
- Demonstrate knowledge of the ethical, economic, commercial and social implications of scientific discovery and technological innovation.
- Interpret current scientific concepts and gaps in knowledge (and methods) in light of the historical development of Zoology.
- Demonstrate a broad understanding of animal diversity, including knowledge of the scientific classification and evolutionary relationships of major groups of animals
- Recognize the relationships between structure and function at different levels of biological organization (e.g., molecules, cells, organs, organisms, populations, species) for the major groups of animals.
- Characterize the biological, chemical, and physical features of environments (e.g., terrestrial, freshwater, marine, host) that animals inhabit.
- Explain how animals function and interact with respect to biological, chemical, and physical processes in natural and impacted environments.

3. Scientific Technology & Techniques in a Scientific Discipline

- Apply contemporary research methods, skills and techniques to conduct independent inquiry in Zoology.
- Collect and assemble biological data and apply mathematical and statistical methods to the interpretation of data to address questions in zoology
- Demonstrate an advanced understanding and appreciation of living animals and specimens in field and/or laboratory settings through "hands on" experience including,
    - identify and/or quantify the external and internal characteristics of animals (e.g. microscopy, physiology)
    - collect and handle animals (e.g. netting, trapping)
- determine the taxonomic affiliation of animals (e.g. using morphological keys and molecular tools).