

Bio-Medical Science (BSCH.BIOM)	Human Kinetics (BSCH.HK)	Nutritional and Nutraceutical Sciences (NANS)
<p><b>A. GENERAL SKILLS</b></p> <p><b>1. Problem Solving &amp; Critical Thinking</b></p> <ul style="list-style-type: none"> <li>Critically evaluate ideas and arguments by gathering and integrating relevant information, assessing its credibility, and synthesizing evidence to formulate a position.</li> <li>Identify problems and independently propose solutions using creative approaches, acquired through interdisciplinary experiences, and a depth and breadth of knowledge/expertise.</li> <li>Accurately interpret and use numerical information to evaluate and formulate a position.</li> </ul> <p><b>2. Communication</b></p> <ul style="list-style-type: none"> <li>Accurately and effectively communicate ideas, arguments and analyses, to a range of audiences, in graphic, oral and written form.</li> </ul> <p><b>3. Professional and Ethical Behaviour</b></p> <ul style="list-style-type: none"> <li>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.</li> <li>Collaborate effectively as part of a team by demonstrating mutual respect, leadership, and an ability to set goals and manage tasks and timelines.</li> <li>Plan for professional growth and personal development within and beyond the undergraduate program.</li> </ul> <p><b>B. DEGREE RELATED SKILLS &amp; KNOWLEDGE</b></p> <p><b>1. Scientific Method</b></p> <ul style="list-style-type: none"> <li>Apply scientific methods and processes by formulating questions, designing investigations and synthesizing data to draw conclusions and make scientifically-based decisions.</li> <li>Generate and interpret scientific data using quantitative, qualitative and analytical methodologies and techniques.</li> </ul>	<p><b>A. GENERAL SKILLS</b></p> <p><b>1. Problem Solving &amp; Critical Thinking</b></p> <ul style="list-style-type: none"> <li>Critically evaluate ideas and arguments by gathering and integrating relevant information, assessing its credibility, and synthesizing evidence to formulate a position.</li> <li>Identify problems and independently propose solutions using creative approaches, acquired through interdisciplinary experiences, and a depth and breadth of knowledge/expertise.</li> <li>Accurately interpret and use numerical information to evaluate and formulate a position.</li> </ul> <p><b>2. 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Bio-Medical Science (BSCH.BIOM) cont'd	Human Kinetics (BSCH.HK) cont'd	Nutritional and Nutraceutical Sciences (NANS) cont'd

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

- Apply the core concepts of mathematics, physics, chemistry and biology to **Bio-Medical Science**
- 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 **Bio-Medical Science**.
- Apply an integrated and broad foundation in life sciences to problems related to medicine
- Demonstrate knowledge of health and disease through the study of molecules, cells and whole organisms
- Understand the influence of evidence-based medicine, ethics, biases, medical technologies and the environment on health

## 3. Scientific Technology & Techniques in a Scientific Discipline

- Apply contemporary research methods, skills and techniques to conduct independent inquiry in **Bio-Medical Science**.
- Identify, review and advance our understanding of scientific endeavour through literature searches, research or other independent study in health science disciplines
- Critically analyze biomedical research and clinical practice literature and develop an appreciation for the limits of scientific knowledge
- Demonstrate an understanding of the application of research and medical technologies to disease prevention and treatment in every-day life

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

- Apply the core concepts of mathematics, physics, chemistry and biology to **Human Kinetics**.
- 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 **Human Kinetics**.
- Apply an integrated and broad foundation in life sciences to problems in human movement, physical activity, exercise and health.
- Demonstrate knowledge of the impact of human movement, physical activity and exercise on health and performance, and provide mechanistic explanations for associated biological events at the molecular, cellular and whole organism levels of organization.
- Demonstrate an understanding of the science of prospective health; the pivotal role of individual exergonomic and exer-epigenetic analyses and the critical role of evidence-based, lifestyle medicine in the effective application of the prospective health approach to healthcare.
- Define and analyze the interactions of nutrition and exercise on the metabolic control of health and disease.

## 3. Scientific Technology & Techniques in a Scientific Discipline

- Apply contemporary research methods, skills and techniques to conduct independent inquiry in **Human Kinetics**.
- Critically analyze experimental design, data analysis and interpretation in human movement, physical activity and exercise science research.
- Demonstrate an understanding of how to measure and record cardiorespiratory, kinematic, and neuromechanical data in humans.
- Design, execute, analyze and interpret results from a human clinical trial using physical activity or exercise as the experimental intervention.

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

- Apply the core concepts of mathematics, physics, chemistry and biology to **Nutritional and Nutraceutical Sciences**.
- 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 **Nutritional and Nutraceutical Sciences**.
- Apply an integrated and broad foundation in life sciences to problems in human nutrition, nutri-pharmacology, nutri-toxicology and health.
- Demonstrate knowledge of the impact of human nutrition, nutri-pharmacology and nutri-toxicology on health and performance, and provide mechanistic explanations for associated biological events at the molecular, cellular and whole organism levels of organization.
- Demonstrate an understanding of the science of prospective health; the pivotal role of individual nutrigenomic and nutri-epigenetic analyses and the critical role of evidence-based, lifestyle medicine in the effective application of this prospective health approach to healthcare.
- Define and analyze the interactions of nutrition and exercise on the metabolic control of health and disease.

## 3. Scientific Technology & Techniques in a Scientific Discipline

- Apply contemporary research methods, skills and techniques to conduct independent inquiry in **Nutritional and Nutraceutical Sciences**.
- Critically analyze experimental design, data analysis and interpretation in human nutrition, nutri-pharmacology and nutri-toxicology research.
- Formulate and develop a functional food or nutraceutical product.
- Design, execute, and analyze and interpret results from a human clinical trial using a functional food or nutraceutical as the experimental intervention

