

HEALTH SCIENCE

Health science is a multidisciplinary field that examines health and disease in human communities from various perspectives. Foundations in the basic sciences of chemistry, physics, mathematics and biology and broad knowledge in clinical, public, and population health are used to understand current health issues and the common approaches used to advance health and wellness.

Who Studies Health Science?

Successful health science students tend to be self-motivated, with a solid work ethic, and well-developed oral and written communications skills.

They also demonstrate empathy and concern for those around them. Students should have a strong interest in life science and human biology and a desire to pursue a career within the broad range of options that exist in the field of health.

Career Opportunities

Careers in the Health Science field include, but are not limited to:

- Health policy
- Health research
- Health management
- Health education or promotion
- Health product or pharmaceutical sales and distribution

Students may decide to continue their education into a field such as:

- Medicine
- Nursing
- Dentistry
- Pharmacy
- Physiotherapy
- Occupational therapy
- Speech language pathology
- Naturopathy or Holistic Medicine
- Public health, Basic Science, or Applied Science

Programs

- Bachelor of Science (Honours), Major in Health Science (<https://calendar.kpu.ca/programs-az/science-horticulture/health-science/health-science-bsh/>)
- Bachelor of Science, Major in Health Science (<https://calendar.kpu.ca/programs-az/science-horticulture/health-science/health-science-bs/>)
- Minor in Health Science (<https://calendar.kpu.ca/programs-az/science-horticulture/health-science/health-science-minor/>)

Courses

Registration in some course sections is restricted to students in particular programs. See Timetables - [kpu.ca/registration/timetables/](http://www.kpu.ca/registration/timetables/) (<http://www.kpu.ca/registration/timetables/>) - for current section information.

Visit the BC Transfer Guide - [bctransferguide.ca](https://www.bctransferguide.ca) (<https://www.bctransferguide.ca>) - for information about course transfer in B.C.

HSCI 1115 3 credits

Introduction to Health Science

Students will be introduced to the multifaceted field of health science and the foundations of promoting health and wellness. They will explore concepts of health science from a variety of perspectives including biological, clinical, cultural, environmental, political and socioeconomic. Students will examine the Canadian health system and strategies that promote health and wellness in the community.

Level: UG

Prerequisite(s): Level D1 as defined in the Math Alternatives Table (<https://calendar.kpu.ca/course-information/mathematics-alternatives-table/>).

Attributes: ASTR (<https://calendar.kpu.ca/courses-az/#astrtext>), SCIH (<https://calendar.kpu.ca/courses-az/#courseattributestext>)

HSCI 1220 3 credits

Health Science Writing

Students will learn how to analyze audience and context in order to communicate effectively in the field of health science. They will learn basic research strategies, document conventions, teamwork strategies, health science proposal and report creation, conflict resolution approaches, and health science language usage. Students will develop their written and oral communication skills, as well as critical thinking and research skills. They will learn the principles, theories, techniques, and common formats required for writing and communicating scientific research, proposals, reports, and reviews.

Level: UG

Prerequisite(s): BIOL 1110, ENGL 1100, and HSCI 1115.

Attributes: ASTR (<https://calendar.kpu.ca/courses-az/#astrtext>), SCIH (<https://calendar.kpu.ca/courses-az/#courseattributestext>)

HSCI 2220 3 credits

Medical Terminology

Students will learn the basic Greek and Latin constructs upon which science and medical language is based. Students will learn to identify, articulate, and spell classic nouns, prefixes, and suffixes. They will learn how to translate non-science language into biomedical terminology and how to deconstruct biomedical terminology into clear and accurate non-science language.

Level: UG

Prerequisite(s): ENGL 1100 and one of: BIOL 1110 or BIOL 1160.

Attribute: SCIH (<https://calendar.kpu.ca/courses-az/#courseattributestext>)

HSCI 3110 3 credits

Applications of Health Science

Students will use assessment tools to explore their aptitudes and career interests to help them choose and apply for practicum placements in various fields of health sciences. Students will prepare a resume and submit job applications for selected practicum placements. Students will actively engage in a practicum experience over 6 weeks and document their experiences.

Level: UG

Prerequisite(s): Permission of the Instructor and a minimum 60 credits at the 1100 level or higher including HSCI 1115

Attributes: F2A3 (<https://calendar.kpu.ca/courses-az/#courseattributestext>), SCIH (<https://calendar.kpu.ca/courses-az/#courseattributestext>)

HSCI 3215 3 credits

Complementary Medicine

Students will learn to undertake an evidence-based evaluation of complementary, alternative and integrated approaches to medicine. They will examine various modalities that include the full scope of naturopathic modalities, Indigenous philosophies, and body and mind therapies.

Level: UG

Prerequisite(s): 75 credits at the 1100 level or higher including, ENGL 1100 (B) and one of: (a) BIOL 1110 and BIOL 1210, or (b) BIOL 1160 and BIOL 1260

Attribute: SCIH (<https://calendar.kpu.ca/courses-az/#courseattributestext>)

HSCI 3225 3 credits

Nutrition

Students will learn the fundamentals of the macronutrients (i.e., carbohydrates, lipids, and protein), fluids, fiber, alcohol, vitamins, and minerals including their integration, regulation, and roles in promoting health. Students will review nutritional requirements and dietary patterns of healthy individuals throughout the life span, and evidence-based examination of the role of nutrition in the prevention of chronic disease will be discussed. Students will also review topical issues in the field of nutrition will be explored.

Level: UG

Prerequisite(s): BIOL 2421

Attribute: SCIH (<https://calendar.kpu.ca/courses-az/#courseattributestext>)

HSCI 4110 3 credits

Health Program Planning and Evaluation

Students will understand the processes for developing, implementing, and evaluating community or public health programs. Grounded in theory and practice, students will gain the skills necessary to create change in health behaviour or outcomes by developing a program and/or evaluation plan. By the course completion, students will have practiced teamwork skills to accomplish both individual and group objectives. In addition, they will have been exposed to various tools and resources that can enable them to design health programs that will meet the needs of relevant diverse groups.

Level: UG

Prerequisite(s): 60 credits at the 1100 level or higher including both (a) 9 credits at the 3000 level or higher and (b) HSCI 1115

Attribute: SCIH (<https://calendar.kpu.ca/courses-az/#courseattributestext>)

HSCI 4130 3 credits

Pharmacology

Students will investigate the principles of pharmacodynamics and pharmacokinetics as the foundational concepts in pharmacology and pharmacotherapy. They will explore the steps from drug discovery to clinical use. They will examine the therapeutic use of common classes of drugs in several body systems for efficacy, adverse effects, and the potential for abuse. They will research and interpret drug monographs.

Level: UG

Prerequisite(s): 60 credits at the 1100 level or higher, including BIOL 2421

Attributes: F2A3 (<https://calendar.kpu.ca/courses-az/#courseattributestext>), SCIH (<https://calendar.kpu.ca/courses-az/#courseattributestext>)

HSCI 4140 3 credits

Health and Aging

Students will review age-related physiological changes and key health issues that occur throughout the adult human life span. Students will also explore interdisciplinary perspectives on human development and the complex interaction of physical, psychosocial, and environmental issues that influence health and well-being. Students will examine factors in healthy aging in relation to the design of the current health care system, major challenges, and capacity- building options. Using personal reflections and community service learning, students will learn through civic engagement.

Level: UG

Prerequisite(s): 60 credits at the 1100 level or higher including all of: (a) 9 credits at the 3000 level or higher, (b) BIOL 1110 or BIOL 1160, and (c) HSCI 1115 or SOCI 2280

Attribute: SCIH (<https://calendar.kpu.ca/courses-az/#courseattributestext>)

HSCI 4170 3 credits

Human Pathology

Students will learn the principles and general patterns of human cell, tissue and organ damage associated with disease. Students will learn risk factors, etiologies, and global patterns of common disease categories. Students will learn to recognize and explain the mechanisms of pathologic changes specific to major organ systems. Students will examine current global pathological issues related to course content.

Level: UG

Prerequisite(s): A minimum of 60 credits at the 1100 level or higher including all of (a) BIOL 2320 (b) BIOL 2330 and (c) BIOL 3130

Attribute: SCIH (<https://calendar.kpu.ca/courses-az/#courseattributestext>)

HSCI 4199 3 credits

Research Project 1

Students will use the knowledge and skills gained in BIOL 3180 to develop a research proposal that can be conducted in the field or laboratory setting. Students will prepare a budget for the proposed research.

Level: UG

Prerequisite(s): BIOL 3180 and 6 additional credits in BIOL or HSCI at the 3000 level or higher, and permission of the instructor.

Attribute: SCIH (<https://calendar.kpu.ca/courses-az/#courseattributestext>)

HSCI 4245 3 credits

Populations and Policy

Students will examine the processes of developing, implementing, and evaluating health policy. Students will study the various participants in the health policy process, the different arenas where health policy is created, and the various policy instruments that are used. They will review key topics that include the organization, financing, and delivery of health care, as well as current health policy issues in both British Columbia and Canada. Students will compare Canada's health system and policies with those of other nations with specific attention to the United States and Europe.

Level: UG

Prerequisite(s): 60 credits at the 1100 level or higher including both (a) 9 credits at the 3000 level or higher and (b) HSCI 1115.

Attribute: SCIH (<https://calendar.kpu.ca/courses-az/#courseattributestext>)

HSCI 4250 3 credits**Health Business**

Students will learn fundamental business principles, survey potential career paths, and acquire professional, intrapreneurial and entrepreneurial knowledge and skills that are in demand in health science. They will learn private and public sector health business models along with relevant regulatory, legal, financial, and market force considerations. Through practical opportunities, students will propose an original health venture idea and realistically assess the potential of their venture idea, and the feasibility of establishing a business.

Level: UG

Prerequisite(s): 60 credits from courses at the 1100 level or higher

Attribute: SCIH (<https://calendar.kpu.ca/courses-az/#courseattributestext>)

HSCI 4299 3 credits**Research Project 2**

Students will carry out the research project identified in HSCI 4199 (Research Project 1). Students will reflect upon their experimental outcomes and make suggestions for future direction.

Level: UG

Prerequisite(s): HSCI 4199

Attribute: SCIH (<https://calendar.kpu.ca/courses-az/#courseattributestext>)

HSCI 4380 3 credits**Critical Evaluation**

Students will learn to critically evaluate scientific literature and apply it to evidence-based decision making and best practice principles. They will develop advanced literature search, retrieval, and synthesis skills. Students will examine various types and levels of evidence such as systematic reviews, meta-analyses, and realist syntheses and translate the research findings to evidence-based health care, and informed decision making.

Level: UG

Prerequisite(s): 90 credits of undergraduate level courses including all of: (a) HSCI 1115, (b) SOCI 2280, and (c) BIOL 3180

Attributes: ASTR (<https://calendar.kpu.ca/courses-az/#astrtext>), SCIH (<https://calendar.kpu.ca/courses-az/#courseattributestext>)

HSCI 4950 3 credits**Senior Seminar**

Students will use primary research literature to study a variety of current and relevant topics in biological and health science research. Students will explore how modern research techniques, research design and data analysis are advancing human health and wellbeing. Seminars will include engaging research article presentations by faculty and students, followed by focused discussion and critique of the presented research. NOTE: Students may take this course a maximum of two times for further credit on different topics. The topic in a given semester will be determined in advance. Please check with the department for the current topic.

Level: UG

Prerequisite(s): 4 courses in BIOL or HSCI at the 3000 level or higher including BIOL 3180, or permission of instructor.

Attribute: SCIH (<https://calendar.kpu.ca/courses-az/#courseattributestext>)

HSCI 4990 4 credits**Honours Thesis Project I**

Students registered in the honours option will design and propose a research project that will be conducted in HSCI 4995 under the supervision of a KPU faculty member with expertise relating to the research topic. Students will learn to organize an advisory committee, develop and present a full research proposal for approval, conduct pilot work as needed, obtain ethics approval where relevant, and prepare a knowledge dissemination plan. Students will also review and provide feedback on research proposals of their colleagues. Note: This course is available to Honours Program students only.

Level: UG

Prerequisite(s): 60 credits from courses at the 1100 level or higher including all of the following: (a) HSCI 1115, (b) BIOL 2421, (c) BIOL 3160 or BIOL 3130 and (d) BIOL 3180

Attribute: SCIH (<https://calendar.kpu.ca/courses-az/#courseattributestext>)

HSCI 4995 4 credits**Honours Thesis Project 2**

Honours candidates will perform a research project designed in HSCI 4990. Under the direct supervision of a KPU faculty member, students will apply scientific principles and methodology in a creative hands-on research experience. Upon completion of the research project, students will construct and present a research formal report and presentation. Opportunity will be given for students to disseminate findings of their research project. Note: This course is available to Honours Program students only.

Level: UG

Prerequisite(s): HSCI 4990

Attribute: SCIH (<https://calendar.kpu.ca/courses-az/#courseattributestext>)