

Health Science: Bachelor of Science Major

Faculty of Science and Horticulture	kpu.ca/science
Implementation Date	01-Sep-2013
Start Date(s)	September January May
Admission Type	Selective entry
Enrolment Type	Open enrolment
Program Type	Undergraduate
Credential Granted	Baccalaureate Degree
Offered At	Surrey
Format	Full-time Part-time
How to Apply	www.kpu.ca/admission

DESCRIPTION

The B.Sc. in Health Science program is designed to prepare students for public and private sector careers in health research, health practice, health product production and distribution, and health management. It also prepares students for entry into schools of health or graduate studies.

The objectives of the degree are as follows:

1. To provide students with a strong foundation in the basic sciences together with a broad knowledge of the various health professions involved in Canadian health care delivery.
2. To equip students with the skills and knowledge necessary for employment in health research, production and distribution of health products, and other health-related fields.
3. To provide students with the educational prerequisites necessary for entry into a) post graduate degrees in the sciences, and b) qualified health professional programs (e.g. medicine, physiotherapy, nuclear medicine, cardiology, pharmacy).
4. To provide students with the opportunity to integrate an understanding of complementary medicine (e.g., naturopathy, traditional Chinese medicine) with the basic sciences.

The B.Sc. in Health Science is designed around a core of required basic science and health science courses, complemented by health science and open electives that provide graduates with a solid science foundation but also with critical health research, communication, and management skills for future success.

Please note that the first and second year courses required in the program are normally available on both Richmond and Surrey campuses. However, the courses with the prefix "HSCI" will be offered on the Surrey campus only.

STUDENT PROFILE

This degree program will appeal to individuals with a strong interest in life sciences and human biology and who wish to pursue a career in the wide variety of health care fields.

Students who are successful in this program are likely to be self-motivated, have a strong work ethic and have well-developed oral and written communication skills.

PROGRAM ADMISSION REQUIREMENTS

In addition to KPU's General university admission requirements, including the undergraduate-level English Proficiency Requirement, the following program admission requirements apply:

- Minimum grade of 'B' in English 12 (or equivalent)
- Minimum grade of 'C+' in Chemistry 12 (or equivalent)
- Minimum grade of 'C+' in Pre-Calculus 12 (or equivalent)
- A passing grade in Physics 12 or PHYS 1100 (or equivalents)

Biology 11 and 12 are strongly recommended, but not required.

PROGRAM REQUIREMENTS

Please note, only Year 1 courses will be offered in the 2013-14 Academic Year.

General Requirements

All students must complete the following general requirements for a Bachelor of Science:

- A minimum of 120 credits and a minimum of 40 courses (at least 3 credits each) at the post-secondary level (numbered 1100 or higher).
- At least 45 of the credits (15 courses) must be at the 3000- or 4000-level; at least 9 of these credits must be at the 4000-level.
- A minimum of 18 credits of breadth electives (see Electives) including:
 - at least one 3000- or 4000-level course; and
 - at least 12 credits from fields or courses not regarded as science; and
 - a maximum of 6 credits may come from fields of science not already included in the Biology Major requirements.
- Completion of 6 credits of 4000-level Research or 6 credits of 4000-level Directed Studies in Year 4.
- A minimum of a passing grade (D or better) in all courses counting towards the BSc, with a cumulative GPA of 2.0.

To meet residency requirements, at least 50% of all courses for the BSc, and at least 66% of upper level courses for the BSc, must be completed at KPU.

Health Science Major

The following outlines the specific course requirements for the Health Science Major.

The Health Science Major requires the completion of a minimum of 136 credits.

YEAR 1

All of:

BIOL 1110	Introductory Biology I	4 credits
BIOL 1210	Introductory Biology II	4 credits
CHEM 1110	The Structure of Matter	4 credits
CHEM 1210	Chemical Energetics and Dynamics	4 credits

ENGL 1100	Introduction to University Writing	3 credits
HSCI 1110	Introduction to Health Science	3 credits
HSCI 1220	Health Science Writing	3 credits
MATH 1130	Calculus for Life Sciences I	3 credits
MATH 1230	Calculus for Life Sciences II	3 credits

And one of:

MATH 1135	Problems and Concepts	3 credits
PHIL 1145	Critical Thinking	3 credits
PHIL 1155	Introduction to Scientific Reasoning	3 credits

YEAR 2

All of:

BIOL 2321	Cell Biology	4 credits
BIOL 2421	Cellular Biochemistry	3 credits
CHEM 2320	Organic Chemistry I	4 credits
CHEM 2420	Organic Chemistry II	4 credits
HSCI 2220	Medical Terminology (under development)	3 credits
PHYS 1101	Physics for Life Sciences I	4 credits
PHYS 1102	Physics for Life Sciences II	4 credits
SOCI 2280	Sociology of Health and Illness	3 credits
Elective	(see Electives)	3 credits

And one of:

ANTH 1100	Social & Cultural Anthropology	3 credits
PSYC 1100	Introduction to Psychology: Basic Processes	3 credits

YEAR 3

All of:

BIOL 2320	Genetics	4 credits
BIOL 2330	Microbiology	4 credits
BIOL 3160	Human Anatomy and Physiology I (under development)	4 credits
BIOL 3180	Research Methodology (under development)	3 credits
BIOL 3321	Advanced Cell & Molecular Biology (under development)	4 credits
BIOL 4160	Human Anatomy and Physiology II (under development)	4 credits
MATH 2335	Statistics for Life Sciences	3 credits
PHIL 3010	Health Care Ethics	3 credits
PHYS 3202	Biophysics	3 credits

And one of:

CHEM 3320	Natural Products Chemistry (under development)	4 credits
HSCI 3205	Health Law (under development)	3 credits
HSCI 3215	Complementary Medicine (under development)	3 credits
HSCI 3225	Nutrition (under development)	3 credits

YEAR 4

All of:

BIOL 3421	Molecular Biochemistry (under development)	3 credits
BIOL 4260	Human Anatomy and Physiology III (under development)	4 credits
BIOL 4360	Human Anatomy and Physiology IV (under development)	4 credits
HSCI 4199	Senior Research Project I (under development)	4 credits
HSCI 4299	Senior Research Project II (under development)	4 credits
HSCI 4380	Critical Evaluation (under development)	3 credits
Elective	(see Electives)	3 credits

And one of:

BIOL 3330	Microbiology II (under development)	4 credits
BIOL 4420	Human Genetics (under development)	4 credits
CHEM 4320	Drug Discovery, Design and Development (under development)	4 credits
HSCI 4130	Pharmacology (under development)	3 credits
HSCI 4135	Herbal Medicines and Natural Health Products (under development)	3 credits
HSCI 4140	Gerontology (under development)	3 credits

And two of:

BIOL 4245	Developmental Biology (under development)	4 credits
BIOL 4255	Bioinformatics (under development)	3 credits
HSCI 4245	Populations and Policy (under development)	3 credits
HSCI 4250	Health Business (under development)	3 credits

Electives

Students are required to complete two elective courses (6 or more credits) through their program.

Courses with considerable content overlap may only be counted once towards degree completion. These include:

- BIOL 1112 or BIOL 1210
- ENVI 1106 or CHEM 1110
- ENVI 1206 or CHEM 1154 or CHEM 1210
- CHEM 2311 or CHEM 3310
- MATH 1120 or MATH 1130 or MATH 1140
- MATH 1220 or MATH 1230
- MATH 2335 or MATH 2341
- PHYS 1101 or PHYS 1120
- PHYS 1102 or PHYS 1220

BREADTH ELECTIVES

At least 12 credits must come from fields or courses not regarded as science courses. EDUC 4100 may be used as a breadth requirement.

Up to 6 credits of breadth may come from fields of science not prescribed in the specific requirements for that BSc Health Science. These may include:

- ASTR 1100
- ASTR 1105
- ASTR 3110
- ASTR 3111
- ENVI 3112
- ENVI 2405
- PHYS 1112

If MATH 1135 was chosen in Year 1, this course must be a breadth requirement course as outlined above. If either PHIL 1145 or PHIL 1155 was taken above, this course may be any course at the 1100-level or higher (excluding BIOL 1112, CHEM 1101, CHEM 1105, MATH 1112 or PHYS 1100).

CREDENTIAL AWARDED

Upon successful completion of the major program, students are eligible to receive a **Bachelor of Science, Major in Health Science**.