Health Sciences

This section presents the requirements for programs in:

- Health Sciences with Concentration B.H.Sc. Honours
- Concentration in Biomedical Sciences
- Concentration in Disability and Chronic Illness
- Concentration in Environment and Health
- Concentration in Global Health
- Concentration in Health Throughout the Lifespan
- Health Sciences B.H.Sc.
- Journalism with Concentration in Health Sciences B.J. Honours
- Minor in Health Sciences

Program Requirements

Students in the B.H.Sc. Honours program choose to follow one of five concentrations. The selection must take place at admission.

Health Sciences with Concentration B.H.Sc. Honours (20.0 credits)

A. Credits Included in the Major CGPA 10.5 credits)		
1. 4.5 credits in:		4.5
HLTH 1000 [0.5]	Fundamentals of Health	
HLTH 1002 [0.5]	Health Science Communication	
HLTH 2001 [0.5]	Health Research Methods and Skills	
HLTH 2002 [0.5]	Molecular and Cellular Pathology	
HLTH 2003 [0.5]	Social Determinants of Health	
HLTH 3101 [0.5]	Global Health	
HLTH 3201 [0.5]	Epidemiology	
HLTH 3302 [0.5]	Immunity and Immune-Related Disorders	
HLTH 3404 [0.5]	Psychosocial and Biological Interactions in Health	
2. 1.5 credits in:		1.5
a) Project/Field Placement pathway		
0.5 credit from:		
HLTH 3901 [0.5]	Emerging Issues in Health Sciences I	
HLTH 3902 [0.5]	Emerging Issues in Health Sciences II	
HLTH 3903 [0.5]	Emerging Issues in Health Sciences III	
HLTH 3904 [0.5]	Emerging Issues in Health Sciences IV	
HLTH 3905 [0.5]	Emerging Issues in Health Sciences V	
and		
1.0 credit from:		
HLTH 4907 [1.0]	Capstone Course – Group Research Project	
HLTH 4909 [1.0]	Capstone Course – Field Placement and Research Project	
HLTH 4910 [1.0]	Honours Individual Research Thesis	
OR		
b) Essay pathway		
0.5 credit in HLTH elective at the 3000 level or above		
and		
1.0 credit in:		
HLTH 4906 [1.0]	Capstone course – Research Essay	
3. 0.5 credit in HLTH at the 3000 level or above		0.5
4. 4.0 credits in concentration electives at the 3000 level or above		4.0
B. Credits Not Included in the Major CGPA (9.5 credits)		
5. 2.5 credits in:		2.5
BIOL 1103 [0.5]	Foundations of Biology I	
BIOL 1104 [0.5]	Foundations of Biology II	
CHEM 1001 [0.5]	General Chemistry I	
CHEM 1002 [0.5]	General Chemistry II	
MATH 1007 [0.5]	Elementary Calculus I	
6. 1.0 credit from:		1.0
ECON 1001 [0.5]	Introduction to Microeconomics	
ECON 1002 [0.5]	Introduction to Macroeconomics	
PSYC 1001 [0.5]	Introduction to Psychology I	
PSYC 1002 [0.5]	Introduction to Psychology II	
7. 1.0 credit in:		1.0
STAT 2507 [0.5]	Introduction to Statistical Modeling I	
STAT 2509 [0.5]	Introduction to Statistical Modeling II	
8. 1.0 credit in:		1.0
BIOL 2104 [0.5]	Introductory Genetics	
BIOL 2200 [0.5]	Cellular Biochemistry	
9. 0.5 credit in approved 2000-level concentration electives		0.5
10. 0.5 credit from:		0.5
PHIL 1550 [0.5]	Introduction to Ethics and Social Issues	
PHIL 2408 [0.5]	Bioethics	
11. 3.0 credits in free electives.		3.0
NOTE: The maximum allowed combined number of minors and concentrations for any student is two.		
Total Credits		**20.0**

Concentration in Biomedical Sciences (5.0 credits)

1. 0.5 credit from:		0.5
CHEM 2203 [0.5]	Organic Chemistry I	
FOOD 2001 [0.5]	Principles of Nutrition	
NEUR 2201 [0.5]	Cellular and Molecular Neuroscience	
PSYC 2301 [0.5]	Introduction to Health Psychology	
2. 2.5 credits in:		2.5
BIOL 3104 [0.5]	Molecular Genetics	
BIOL 3305 [0.5]	Human and Comparative Physiology	
or BIOL 3306 [0.5]	Human Anatomy and Physiology	
BIOL 3307 [0.5]	Advanced Human Anatomy and Physiology	
HLTH 2004 [0.5]	Microbiology and Virology	
HLTH 3303 [0.5]	Molecular and Cellular Pathology II	
3. 0.5 credit from:		0.5
HLTH 4201 [0.5]	Applied Health Statistics	

HLTH 4202 [0.5]	Health Program Evaluation Tools and Methods	
4. 1.0 credit from:		1.0
COMS 2500 [0.5]	Communication and Science	
HLTH 3401 [0.5]	Diseases of Childhood	
HLTH 3402 [0.5]	Diseases of Aging	
HLTH 3503 [0.5]	Disability and Chronic Health Conditions	
HLTH 4102 [0.5]	New Health Technologies	
HLTH 4301 [0.5]	Pandemics and Infectious Disease	
HLTH 4302 [0.5]	Inflammatory and Endocrine Factors in Diseases	
HLTH 4303 [0.5]	Fundamentals in Pharmacology and Toxicology	
HLTH 4401 [0.5]	Maternal and Perinatal Determinants of Health	
HLTH 4502 [0.5]	Disabilities and Disorders Related to Sensory Nervous System	
HLTH 4503 [0.5]	Trauma-related Disability and Impairments	
5. 0.5 credit from:		0.5
BIOL 3202 [0.5]	Principles of Developmental Biology	
BIOL 3501 [0.5]	Biomechanics	
BIOL 4202 [0.5]	Mutagenesis and DNA Repair	
COMS 3412 [0.5]	Communication and Health	
ECON 4460 [0.5]	Health Economics	
FOOD 3005 [0.5]	Food Microbiology	
FOOD 4201 [0.5]	Advanced Nutrition and Metabolism	
FOOD 4202 [0.5]	Micronutrients and Health	
GEOG 3206 [0.5]	Health, Environment, and Society	
HLTH 3102 [0.5]	Indigenous Health in a Global World	
HLTH 3103 [0.5]	Health Policy and Canada's Health Care System	
HLTH 3104 [0.5]	Regulatory Issues and Human Health	
HLTH 3403 [0.5]	Gender and Health	
HLTH 4101 [0.5]	Global Health Governance	
HLTH 4601 [0.5]	Environmental Pollution and Health	
HLTH 4701 [0.5]	Knowledge Translation	
HLTH 4901 [0.5]	Directed Studies in Health	
NEUR 3304 [0.5]	Hormones and Behaviour	
NEUR 3401 [0.5]	Environmental Toxins and Mental Health	
NEUR 3502 [0.5]	Neurodevelopmental Determinants of Mental Health	
Total Credits		**5.0**

Concentration in Disability and Chronic Illness (5.5 credits)

1. 0.5 credit in:		0.5
NEUR 2201 [0.5]	Cellular and Molecular Neuroscience	
2. 0.5 credit from:		0.5
BIOL 2303 [0.5]	Microbiology	
CHEM 2203 [0.5]	Organic Chemistry I	
FOOD 2001 [0.5]	Principles of Nutrition	
HLTH 2004 [0.5]	Microbiology and Virology	
NEUR 2202 [0.5]	Neurodevelopment and Plasticity	
PSYC 2301 [0.5]	Introduction to Health Psychology	
3. 2.5 credits in:		2.5
BIOL 3305 [0.5]	Human and Comparative Physiology	
or BIOL 3306 [0.5]	Human Anatomy and Physiology	
BIOL 3307 [0.5]	Advanced Human Anatomy and Physiology	
HLTH 3503 [0.5]	Disability and Chronic Health Conditions	
HLTH 4502 [0.5]	Disabilities and Disorders Related to Sensory Nervous System	
HLTH 4503 [0.5]	Trauma-related Disability and Impairments	
4. 0.5 credit from:		0.5
HLTH 4201 [0.5]	Applied Health Statistics	
HLTH 4202 [0.5]	Health Program Evaluation Tools and Methods	
5. 1.0 credit from:		1.0
BIOL 3501 [0.5]	Biomechanics	
COMS 2500 [0.5]	Communication and Science	
HLTH 3103 [0.5]	Health Policy and Canada's Health Care System	
HLTH 3104 [0.5]	Regulatory Issues and Human Health	
HLTH 3401 [0.5]	Diseases of Childhood	
HLTH 3402 [0.5]	Diseases of Aging	
HLTH 4302 [0.5]	Inflammatory and Endocrine Factors in Diseases	
NEUR 3501 [0.5]	Neurodegeneration and Aging	
6. 0.5 credit from:		0.5
BIOC 3008 [0.5]	Bioinformatics	
BIOL 3104 [0.5]	Molecular Genetics	
BIOL 3202 [0.5]	Principles of Developmental Biology	
COMS 3412 [0.5]	Communication and Health	
ECON 4460 [0.5]	Health Economics	
FOOD 3005 [0.5]	Food Microbiology	
FOOD 4103 [0.5]	Food Safety Risk Assessment	
FOOD 4201 [0.5]	Advanced Nutrition and Metabolism	
FOOD 4202 [0.5]	Micronutrients and Health	
GEOG 3206 [0.5]	Health, Environment, and Society	
HLTH 3102 [0.5]	Indigenous Health in a Global World	
HLTH 3303 [0.5]	Molecular and Cellular Pathology II	
HLTH 3403 [0.5]	Gender and Health	
HLTH 4101 [0.5]	Global Health Governance	
HLTH 4301 [0.5]	Pandemics and Infectious Disease	
HLTH 4303 [0.5]	Fundamentals in Pharmacology and Toxicology	
HLTH 4401 [0.5]	Maternal and Perinatal Determinants of Health	
HLTH 4601 [0.5]	Environmental Pollution and Health	
HLTH 4701 [0.5]	Knowledge Translation	
HLTH 4901 [0.5]	Directed Studies in Health	
NEUR 3304 [0.5]	Hormones and Behaviour	
NEUR 3401 [0.5]	Environmental Toxins and Mental Health	

NEUR 3502 [0.5]	Neurodevelopmental Determinants of Mental Health	
Total Credits		**5.5**

Concentration in Environment and Health (6.0 credits)

1. 1.0 credit in:		1.0
BIOL 3305 [0.5]	Human and Comparative Physiology	
or BIOL 3306 [0.5]	Human Anatomy and Physiology	
CHEM 2800 [0.5]	Foundations for Environmental Chemistry	
2. 0.5 credit from:		0.5
BIOL 2303 [0.5]	Microbiology	
FOOD 2001 [0.5]	Principles of Nutrition	
HLTH 2004 [0.5]	Microbiology and Virology	
NEUR 2201 [0.5]	Cellular and Molecular Neuroscience	
PSYC 2301 [0.5]	Introduction to Health Psychology	
3. 2.5 credits in:		2.5
CHEM 3800 [0.5]	The Chemistry of Environmental Pollutants	
HLTH 3104 [0.5]	Regulatory Issues and Human Health	
HLTH 3303 [0.5]	Molecular and Cellular Pathology II	
HLTH 4303 [0.5]	Fundamentals in Pharmacology and Toxicology	
HLTH 4601 [0.5]	Environmental Pollution and Health	
4. 0.5 credit from:		0.5
HLTH 4201 [0.5]	Applied Health Statistics	
HLTH 4202 [0.5]	Health Program Evaluation Tools and Methods	
5. 1.0 credit from:		1.0
BIOL 3307 [0.5]	Advanced Human Anatomy and Physiology	
BIOL 4202 [0.5]	Mutagenesis and DNA Repair	
CHEM 4800 [0.5]	Atmospheric Chemistry	
COMS 2500 [0.5]	Communication and Science	
ECON 3804 [0.5]	Environmental Economics	
GEOG 3206 [0.5]	Health, Environment, and Society	
HLTH 3401 [0.5]	Diseases of Childhood	
HLTH 3402 [0.5]	Diseases of Aging	
NEUR 3401 [0.5]	Environmental Toxins and Mental Health	
6. 0.5 credit from:		0.5
BIOC 3008 [0.5]	Bioinformatics	
BIOL 3104 [0.5]	Molecular Genetics	
BIOL 3202 [0.5]	Principles of Developmental Biology	
COMS 3412 [0.5]	Communication and Health	
ECON 4460 [0.5]	Health Economics	
FOOD 3005 [0.5]	Food Microbiology	
FOOD 4103 [0.5]	Food Safety Risk Assessment	
HLTH 3102 [0.5]	Indigenous Health in a Global World	
HLTH 3103 [0.5]	Health Policy and Canada's Health Care System	
HLTH 3403 [0.5]	Gender and Health	
HLTH 3503 [0.5]	Disability and Chronic Health Conditions	
HLTH 4101 [0.5]	Global Health Governance	
HLTH 4102 [0.5]	New Health Technologies	
HLTH 4301 [0.5]	Pandemics and Infectious Disease	
HLTH 4302 [0.5]	Inflammatory and Endocrine Factors in Diseases	
HLTH 4401 [0.5]	Maternal and Perinatal Determinants of Health	
HLTH 4502 [0.5]	Disabilities and Disorders Related to Sensory Nervous System	
HLTH 4503 [0.5]	Trauma-related Disability and Impairments	
HLTH 4701 [0.5]	Knowledge Translation	
HLTH 4901 [0.5]	Directed Studies in Health	
Total Credits		**6.0**

Concentration in Global Health (5.5 credits)

1. 0.5 credit in:		**0.5**
BIOL 3305 [0.5]	Human and Comparative Physiology	
or BIOL 3306 [0.5]	Human Anatomy and Physiology	
2. 0.5 credit from:		**0.5**
BIOL 3307 [0.5]	Advanced Human Anatomy and Physiology	
CHEM 2203 [0.5]	Organic Chemistry I	
FOOD 2001 [0.5]	Principles of Nutrition	
NEUR 2201 [0.5]	Cellular and Molecular Neuroscience	
PSYC 2301 [0.5]	Introduction to Health Psychology	
3. 2.5 credits in:		**2.5**
HLTH 2004 [0.5]	Microbiology and Virology	
HLTH 3102 [0.5]	Indigenous Health in a Global World	
HLTH 4101 [0.5]	Global Health Governance	
HLTH 4301 [0.5]	Pandemics and Infectious Disease	
HLTH 4401 [0.5]	Maternal and Perinatal Determinants of Health	
4. 0.5 credit from:		**0.5**
HLTH 4201 [0.5]	Applied Health Statistics	
HLTH 4202 [0.5]	Health Program Evaluation Tools and Methods	
5. 1.0 credit from:		**1.0**
COMS 2500 [0.5]	Communication and Science	
GEOG 3206 [0.5]	Health, Environment, and Society	
HLTH 3103 [0.5]	Health Policy and Canada's Health Care System	
HLTH 3104 [0.5]	Regulatory Issues and Human Health	
HLTH 3303 [0.5]	Molecular and Cellular Pathology II	
HLTH 3401 [0.5]	Diseases of Childhood	
HLTH 3402 [0.5]	Diseases of Aging	
HLTH 3403 [0.5]	Gender and Health	
HLTH 3503 [0.5]	Disability and Chronic Health Conditions	
HLTH 4102 [0.5]	New Health Technologies	
HLTH 4303 [0.5]	Fundamentals in Pharmacology and Toxicology	
HLTH 4601 [0.5]	Environmental Pollution and Health	

6. 0.5 credit from:		**0.5**
BIOC 3008 [0.5]	Bioinformatics	
BIOL 3104 [0.5]	Molecular Genetics	
COMS 3412 [0.5]	Communication and Health	
ECON 4460 [0.5]	Health Economics	
FOOD 3005 [0.5]	Food Microbiology	
FOOD 4103 [0.5]	Food Safety Risk Assessment	
FOOD 4201 [0.5]	Advanced Nutrition and Metabolism	
FOOD 4202 [0.5]	Micronutrients and Health	
HLTH 4302 [0.5]	Inflammatory and Endocrine Factors in Diseases	
HLTH 4502 [0.5]	Disabilities and Disorders Related to Sensory Nervous System	
HLTH 4503 [0.5]	Trauma-related Disability and Impairments	
HLTH 4701 [0.5]	Knowledge Translation	
HLTH 4901 [0.5]	Directed Studies in Health	
NEUR 3304 [0.5]	Hormones and Behaviour	
NEUR 3401 [0.5]	Environmental Toxins and Mental Health	
NEUR 3501 [0.5]	Neurodegeneration and Aging	
NEUR 3502 [0.5]	Neurodevelopmental Determinants of Mental Health	
Total Credits		**5.5**

Concentration in Health Throughout the Lifespan (5.5 credits)

1. 0.5 credit in:		0.5
NEUR 2201 [0.5]	Cellular and Molecular Neuroscience	
2. 0.5 credit from:		0.5
BIOL 2303 [0.5]	Microbiology	
CHEM 2203 [0.5]	Organic Chemistry I	
FOOD 2001 [0.5]	Principles of Nutrition	
HLTH 2004 [0.5]	Microbiology and Virology	
NEUR 2202 [0.5]	Neurodevelopment and Plasticity	
PSYC 2301 [0.5]	Introduction to Health Psychology	
3. 2.5 credits in:		2.5
BIOL 3305 [0.5]	Human and Comparative Physiology	
or BIOL 3306 [0.5]	Human Anatomy and Physiology	
BIOL 3307 [0.5]	Advanced Human Anatomy and Physiology	
HLTH 3401 [0.5]	Diseases of Childhood	
HLTH 3402 [0.5]	Diseases of Aging	
HLTH 4401 [0.5]	Maternal and Perinatal Determinants of Health	
4. 0.5 credit from:		0.5
HLTH 4201 [0.5]	Applied Health Statistics	
HLTH 4202 [0.5]	Health Program Evaluation Tools and Methods	
5. 1.0 credit from:		1.0
COMS 2500 [0.5]	Communication and Science	
HLTH 3103 [0.5]	Health Policy and Canada's Health Care System	
HLTH 3303 [0.5]	Molecular and Cellular Pathology II	
HLTH 3403 [0.5]	Gender and Health	
HLTH 3503 [0.5]	Disability and Chronic Health Conditions	
HLTH 4102 [0.5]	New Health Technologies	
HLTH 4302 [0.5]	Inflammatory and Endocrine Factors in Diseases	
HLTH 4303 [0.5]	Fundamentals in Pharmacology and Toxicology	
NEUR 3501 [0.5]	Neurodegeneration and Aging	
NEUR 3502 [0.5]	Neurodevelopmental Determinants of Mental Health	
6. 0.5 credit from:		0.5
BIOC 3008 [0.5]	Bioinformatics	
BIOL 3104 [0.5]	Molecular Genetics	
BIOL 3202 [0.5]	Principles of Developmental Biology	
BIOL 3501 [0.5]	Biomechanics	
COMS 3412 [0.5]	Communication and Health	
ECON 4460 [0.5]	Health Economics	
FOOD 3005 [0.5]	Food Microbiology	
FOOD 4103 [0.5]	Food Safety Risk Assessment	
FOOD 4201 [0.5]	Advanced Nutrition and Metabolism	
FOOD 4202 [0.5]	Micronutrients and Health	
GEOG 3206 [0.5]	Health, Environment, and Society	
HLTH 3102 [0.5]	Indigenous Health in a Global World	
HLTH 3104 [0.5]	Regulatory Issues and Human Health	
HLTH 4101 [0.5]	Global Health Governance	
HLTH 4301 [0.5]	Pandemics and Infectious Disease	
HLTH 4502 [0.5]	Disabilities and Disorders Related to Sensory Nervous System	
HLTH 4503 [0.5]	Trauma-related Disability and Impairments	
HLTH 4601 [0.5]	Environmental Pollution and Health	
HLTH 4701 [0.5]	Knowledge Translation	
HLTH 4901 [0.5]	Directed Studies in Health	
NEUR 3304 [0.5]	Hormones and Behaviour	
NEUR 3401 [0.5]	Environmental Toxins and Mental Health	
Total Credits		**5.5**

Health Sciences B.H.Sc. (15.0 credits)

A. Credits Included in the Major CGPA (7.0 credits)		
1. 2.5 credits in:		2.5
HLTH 1000 [0.5]	Fundamentals of Health	
HLTH 1002 [0.5]	Health Science Communication	
HLTH 2001 [0.5]	Health Research Methods and Skills	
HLTH 2002 [0.5]	Molecular and Cellular Pathology	
HLTH 2003 [0.5]	Social Determinants of Health	
2. 1.0 credit in:		1.0
STAT 2507 [0.5]	Introduction to Statistical Modeling I	
STAT 2509 [0.5]	Introduction to Statistical Modeling II	
3. 0.5 credit from:		0.5
BIOL 3305 [0.5]	Human and Comparative Physiology	
BIOL 3306 [0.5]	Human Anatomy and Physiology	
4. 0.5 credit from:		0.5
BIOL 2303 [0.5]	Microbiology	

CHEM 2203 [0.5]	Organic Chemistry I	
FOOD 2001 [0.5]	Principles of Nutrition	
NEUR 2201 [0.5]	Cellular and Molecular Neuroscience	
PSYC 2301 [0.5]	Introduction to Health Psychology	
5. 2.5 credits from:		2.5
HLTH 2004 [0.5]	Microbiology and Virology	
HLTH 3101 [0.5]	Global Health	
HLTH 3102 [0.5]	Indigenous Health in a Global World	
HLTH 3103 [0.5]	Health Policy and Canada's Health Care System	
HLTH 3104 [0.5]	Regulatory Issues and Human Health	
HLTH 3201 [0.5]	Epidemiology	
HLTH 3302 [0.5]	Immunity and Immune-Related Disorders	
HLTH 3401 [0.5]	Diseases of Childhood	
HLTH 3402 [0.5]	Diseases of Aging	
HLTH 3404 [0.5]	Psychosocial and Biological Interactions in Health	
HLTH 3503 [0.5]	Disability and Chronic Health Conditions	
B. Credits Not Included in the Major CGPA (8.0 credits)		
6. 2.5 credits in:		2.5
BIOL 1103 [0.5]	Foundations of Biology I	
BIOL 1104 [0.5]	Foundations of Biology II	
CHEM 1001 [0.5]	General Chemistry I	
CHEM 1002 [0.5]	General Chemistry II	
MATH 1007 [0.5]	Elementary Calculus I	
7. 1.0 credit from:		1.0
ECON 1001 [0.5]	Introduction to Microeconomics	
ECON 1002 [0.5]	Introduction to Macroeconomics	
PSYC 1001 [0.5]	Introduction to Psychology I	
PSYC 1002 [0.5]	Introduction to Psychology II	
8. 0.5 credit from:		0.5
PHIL 1550 [0.5]	Introduction to Ethics and Social Issues	
PHIL 2408 [0.5]	Bioethics	
9. 4.0 credits in free electives		4.0
Total Credits		**15.0**

Journalism with Concentration in Health Sciences
B.J. Honours (20.0 credits)

A. Credits Included in the Major CGPA (8.0 credits)		
1. 1.0 credit in:		**1.0**
JOUR 1001 [0.5]	Foundations: Journalism in Context	
JOUR 1002 [0.5]	Foundations: Practicing Journalism in a Diverse Society	
2. 2.0 credits in:		**2.0**
JOUR 2201 [1.0]	Fundamentals of Reporting	
JOUR 2202 [0.5]	Digital Journalism Toolkit	
JOUR 2501 [0.5]	Media Law	
3. 2.5 credits in:		**2.5**
JOUR 3207 [0.5]	Audio Journalism	
JOUR 3208 [0.5]	Video Journalism	
JOUR 3225 [0.5]	Reporting in Depth	
JOUR 3235 [0.5]	Digital Journalism	
JOUR 3300 [0.5]	Media Ethics in a Digital World	
4. 0.5 credit in:		**0.5**
JOUR 4001 [0.5]	Journalism Now - and Next	
5. 0.5 credit from - Journalism Publications:		**0.5**
JOUR 4003 [0.5]	The Digital Hub: Advanced Multimedia	
JOUR 4004 [0.5]	The Digital Hub: Advanced Audio	
JOUR 4005 [0.5]	The Digital Hub: Advanced Video	
6. 0.5 credit from - Specialized Journalism:		**0.5**
JOUR 4303 [0.5]	Specialized Journalism: Health and Science	
JOUR 4304 [0.5]	Specialized Journalism: Environment and Science	
7. 1.0 credit from - Professional Skills and/or Investigating Journalism:		**1.0**
Professional Skills		
JOUR 4400 [0.5]	Professional Skills: Special Topic	
JOUR 4401 [0.5]	Professional Skills: Data Storytelling	
JOUR 4402 [0.5]	Professional Skills: Longform Writing	
JOUR 4403 [0.5]	Professional Skills: Strategic Communication	
JOUR 4404 [0.5]	Professional Skills: Freelancing for Media Professionals	
Investigating Journalism		
JOUR 4500 [0.5]	Investigating Journalism: Special Topic	
JOUR 4501 [0.5]	Investigating Journalism: Gender, Identity and Inequality	
JOUR 4502 [0.5]	Investigating Journalism: Journalism and Conflict	
JOUR 4503 [0.5]	Investigating Journalism: Journalism, Indigenous Peoples and Canada	
JOUR 4504 [0.5]	Investigating Journalism: The Media and International Development	
JOUR 4505 [1.0]	Investigating Journalism: The Power and Politics of Government	
B. Credits Not Included in the Major CGPA (12.0 credits)		
8. 1.0 credit in:		**1.0**
BIOL 1103 [0.5]	Foundations of Biology I	
BIOL 1104 [0.5]	Foundations of Biology II	
9. 2.0 credits in Health Science courses:		**2.0**
HLTH 1001 [0.5]	Principles of Health I	
HLTH 2001 [0.5]	Health Research Methods and Skills	
HLTH 2002 [0.5]	Molecular and Cellular Pathology	
HLTH 2003 [0.5]	Social Determinants of Health	
10. 1.0 credit in a capstone course:		**1.0**
NSCI 4901 [1.0]	Science Journalism Independent Project	
11. 2.0 credit in electives in Health Sciences, including courses from Biology, Neuroscience and Psychology		**2.0**
12 a. 0.5 credit from:		**0.5**
HIST 1301 [0.5]	Conflict and Change in Early Canadian History	

HIST 1302 [0.5]	Rethinking Modern Canadian History	
HIST 2301 [0.5]	Canadian Political History	
HIST 2304 [1.0]	Social and Cultural History of Canada (See Item 13 below)	
HIST 2311 [0.5]	Environmental History of Canada	
b. 0.5 credit from:		**0.5**
INDG 1010 [0.5]	Introduction to Indigenous Peoplehood Studies	
INDG 1011 [0.5]	Introduction to Indigenous-Settler Encounters	
INDG 2011 [0.5]	Contemporary Indigenous Studies	
13. 5.0 credits in free electives. Students who take HIST 2304 to fulfill Item 12a will have 4.5 credits in free electives. Free elective credits may include JOUR courses in the 4300 series of courses, 4400 series of courses and 4500 series of courses, JOUR 4003, JOUR 4004 and JOUR 4005.		5.0
Total Credits		**20.0**

Minor in Health Sciences (4.0 credits)

This minor is open to all undergraduate degree students not in the Health Sciences program. Only students pursuing undergraduate programs requiring at least 20.0 credits to graduate and who have completed at least 4.0 credits towards their degree with a minimum Overall CGPA of 8.0 may be admitted to the Minor in Health Sciences.

Requirements:

1. 2.5 credits in:		2.5
HLTH 1001 [0.5]	Principles of Health I	
HLTH 2001 [0.5]	Health Research Methods and Skills	
HLTH 2002 [0.5]	Molecular and Cellular Pathology	
HLTH 2003 [0.5]	Social Determinants of Health	
HLTH 2020 [0.5]	Principles of Health II	
2. 1.5 credits in HLTH at the 3000-level or higher		1.5
3. The remaining requirements of the major discipline(s) and degree must be satisfied.		
Total Credits		**4.0**

Regulations

In addition to the program requirements described here, students must satisfy the University regulations (see the Academic Regulations of the University section of this Calendar).

Students should consult with the department when planning their program and selecting courses.

Admissions Information

Admission Requirements are for the 2021-22 year only, and are based on the Ontario High School System. Holding the minimum admission requirements only establishes eligibility for consideration. The cut-off averages for admission may be considerably higher than the minimum. See also the **General Admission and Procedures** section of this Calendar. An overall average of at least 70% is normally required to be considered for admission. Some programs may also require specific course prerequisites and prerequisite averages and/or supplementary admission portfolios. Higher averages are required for admission to programs for which the demand for places by qualified applicants exceeds the number of places available. The overall average required for admission is determined each year on a program by program basis. Consult admissions.carleton.ca for further details.

Note: Courses listed as *recommended* are not mandatory for admission. Students who do not follow the recommendations will not be disadvantaged in the admission process.

Degrees

- Bachelor of Health Sciences (Honours)
- Bachelor of Health Sciences

Admission Requirements

First Year

B.H.Sc. (Honours)

The Ontario Secondary School Diploma (OSSD) or equivalent including a minimum of six 4U or M courses. The six 4U or M courses must include Advanced Functions and two of Biology, Chemistry, Earth and Space Sciences or Physics. (Calculus and Vectors is strongly recommended). A 4U course in English is recommended.

B.H.Sc.

Access to the B.H.Sc. degree is limited to B.H.Sc. (Honours) students who apply to transfer.

Advanced Standing

The program maintains a number of places for students who wish to transfer from Carleton or elsewhere. Normally, offers are made to students with an overall CGPA of 9.00 (B+) or higher.

Health Sciences (HLTH) Courses

HLTH 1000 [0.5 credit]
Fundamentals of Health
Introduction to what comprises a healthy body and mind, and what leads to illness and disease. Biomedical, psychosocial, and epidemiological approaches to current issues in the field of health. Policy and cultural/environmental contexts.
Includes: Experiential Learning Activity
Precludes additional credit for HLTH 1001.
Lectures three hours a week and group one hour a week.

HLTH 1001 [0.5 credit]
Principles of Health I
Health and illness will be considered from an interdisciplinary perspective, including biomedical, cultural, psychosocial and environmental.
Precludes additional credit for HLTH 1000.
Lecture three hours a week.

HLTH 1002 [0.5 credit]
Health Science Communication
Introduction to using library, database and/or bioinformatics resources to develop informed verbal, non-verbal and written communication within the context of healthcare, public health and health research. Concepts in ethical scholarship, proper use of sources and plagiarism will be introduced.
Lecture three hours a week.

HLTH 2001 [0.5 credit]
Health Research Methods and Skills
An introduction to quantitative and qualitative methods and designs in health sciences research. Basic research skills will also be provided, including regulatory aspects of conducting research, information literacy skills, evaluating published research and other sources of evidence in the digital age.
Includes: Experiential Learning Activity
Prerequisite(s): HLTH 1000 or HLTH 1001.
Lecture three hours a week, lab/workshop two hours a week.

HLTH 2002 [0.5 credit]
Molecular and Cellular Pathology
Introduction to the causes, natural history, and pathophysiology of common human diseases of various organ systems. Diseases related to structural and functional changes at the molecular, cellular and organ level.
Includes: Experiential Learning Activity
Prerequisite(s): HLTH 1000 and BIOL 1103 or HLTH 2020.
Lecture three hours a week.

HLTH 2003 [0.5 credit]
Social Determinants of Health
Overview of the social determinants of health, ranging from early life experiences, poverty, social status, migration, and the physical environment. The relation between social determinants and environmental vulnerabilities, health behaviours, illness prevalence, treatment outcomes, and access to health care.
Prerequisite(s): HLTH 1000 or HLTH 1001.
Lecture three hours a week.

HLTH 2004 [0.5 credit]
Microbiology and Virology
Introduction to the pathogenic microorganisms, including fungal, bacterial, viral and prion. Biochemical, genetic, pathological and epidemiological aspects in the human context; their interaction with host defense systems and strategies for antibiotic and vaccine development.
Includes: Experiential Learning Activity
Precludes additional credit for HLTH 3301 (no longer offered).
Prerequisite(s): HLTH 1000 and BIOL 1103 or permission of the department.
Lecture three hours a week, and laboratory three hours a week.

HLTH 2020 [0.5 credit]
Principles of Health II
An overview of the history of medicine, its relationship to society, medical and health terminology, introduction to organ systems, diseases, illnesses and their diagnoses, current events in health and medicine.
Prerequisite(s): HLTH 1001 or permission of the department.
Lecture three hours a week.

HLTH 3101 [0.5 credit]
Global Health
Overview of issues in global health with focus on low- and middle-income countries. Key indicators and determinants of global health, implementation and evaluation of global programs, challenges of research and interventions in under served areas, and key players in addressing global health issues.
Prerequisite(s): HLTH 2001 and HLTH 2003, or permission of the department.
Lecture and seminar, three hours per week.

HLTH 3102 [0.5 credit]
Indigenous Health in a Global World
The health conditions of Indigenous peoples in different regions of the world; social and biological factors that contribute to greater risk and poor health; strategies of Indigenous peoples to restore health to their peoples.
Prerequisite(s): HLTH 2001 and HLTH 2003, or permission of the department.
Lecture and seminar three hours per week.

HLTH 3103 [0.5 credit]
Health Policy and Canada's Health Care System
The history of Canada’s health care system. The model of financing and intergovernmental responsibilities. Current and emerging policy debates facing our health care system, and the role of scientific evidence in decision-making and policy development.
Prerequisite(s): HLTH 1000 or HLTH 1001, or permission of the department.
Lecture and seminar three hours per week.

HLTH 3104 [0.5 credit]
Regulatory Issues and Human Health
The general principles of health regulatory policies in Canada. The role of scientific evidence in developing legislation and regulations at different levels, including probable levels of risk, standards of evidence, cost-benefit analysis, ethical considerations, psychosocial factors influencing risk management and compliance, and evolving technologies.
Prerequisite(s): HLTH 1000 or HLTH 1001, or permission of the department.
Lecture and seminar three hours a week.

HLTH 3201 [0.5 credit]
Epidemiology
Basic concepts of epidemiologic study designs and measures; inferences that are fundamental to the identification of causes and prevalence of diseases. Specialized issues within epidemiology including gene-environment interactions and the clustering of specific disease phenotypes.
Includes: Experiential Learning Activity
Prerequisite(s): STAT 2507 and HLTH 2001, or permission of the department.
Lecture three hours a week, lab/workshop two hours a week.

HLTH 3302 [0.5 credit]
Immunity and Immune-Related Disorders
Basic processes relevant to the immune system; the relationship between immune activity and functioning as related to the development of particular pathologies, such as virally-related illness, autoimmune disorders, inflammatory illnesses, and interactions with social and economic factors that promote immune-related disturbances.
Includes: Experiential Learning Activity
Prerequisite(s): HLTH 2002 and BIOL 2200 or permission of the department.
Lecture three hours a week, laboratory four hours a week. Labs require regular participation outside of the scheduled lab time.

HLTH 3303 [0.5 credit]
Molecular and Cellular Pathology II
Advanced concepts in cell signaling and function, cell injury and death, tissue structure and wound healing and repair. This course will integrate genetic, biochemical and physiological mechanisms that contribute to health and disease.
Includes: Experiential Learning Activity
Prerequisite(s): HLTH 2002.
Lecture three hours a week, lab four hours a week.

HLTH 3401 [0.5 credit]
Diseases of Childhood
Epidemiological, psychological and physiological basis for disease in childhood and adolescence. Topics will be discussed from a global and Canadian perspective and include the medicalization of these diseases.
Includes: Experiential Learning Activity
Prerequisite(s): HLTH 2002 and HLTH 2003 or permission of the department.
Lecture three hours a week.

HLTH 3402 [0.5 credit]
Diseases of Aging
Aging is accompanied by increased illness related to cardiovascular, immune and neurodegenerative processes. This course assesses the fundamental mechanisms that determine these pathological conditions. Molecular mechanisms and psychosocial determinants; intervention and therapeutic strategies.
Prerequisite(s): HLTH 2002 and HLTH 2003 or permission of department.
Lecture three hours a week.

HLTH 3403 [0.5 credit]
Gender and Health
The role of gender on psychosocial and biological mechanisms that alter the course of disease and treatment; health issues unique to women (e.g., reproductive and maternal health); the role of gender across cultures.
Prerequisite(s): HLTH 2002 and HLTH 2003, or permission of the department.
Lecture and seminar three hours a week.

HLTH 3404 [0.5 credit]
Psychosocial and Biological Interactions in Health
The psychosocial and biological mechanisms that interact to influence health outcomes. Cultural, political, socioeconomic, and psychological factors that can impact the biological mechanisms underlying both mental and physical health; epigenetic and genetic alterations; implications for psychosocial interventions.
Precludes additional credit for HLTH 4402 (no longer offered).
Prerequisite(s): HLTH 2002 and HLTH 2003 or permission of the department.
Lecture and seminar three hours a week.

HLTH 3503 [0.5 credit]
Disability and Chronic Health Conditions
An interdisciplinary view of disability and chronic health conditions, including risk factors, prevalence, and the trajectory of such conditions. Functional impact based on life stage. Strategies for health promotion, prevention, accommodations, treatment, and rehabilitation.
Prerequisite(s): HLTH 2002 and HLTH 2003 or permission of the department.
Lecture three hours a week.

HLTH 3901 [0.5 credit]
Emerging Issues in Health Sciences I
These courses enable students to develop an understanding of the current state of research and practice in Health Sciences. They provide the opportunity to bring together knowledge from other courses, and for skills development including teamwork, communication and critical thinking.
Includes: Experiential Learning Activity
Prerequisite(s): third-year standing and above in the BHSc program, an overall CGPA of at least 8.5 and permission of the Department of Health Sciences.
Seminars three hours a week.

HLTH 3902 [0.5 credit]
Emerging Issues in Health Sciences II
These courses enable students to develop an understanding of the current state of research and practice in Health Sciences. They provide the opportunity to bring together knowledge from other courses and for skills development, including teamwork, communication and critical thinking.
Includes: Experiential Learning Activity
Prerequisite(s): third-year standing and above in the BHSc program, an overall CGPA of at least 8.5 and permission of the Department of Health Sciences.
Seminars three hours a week.

HLTH 3903 [0.5 credit]
Emerging Issues in Health Sciences III
These courses enable students to develop an understanding of the current state of research and practice in Health Sciences. They provide the opportunity to bring together knowledge from other courses and for skills development, including teamwork, communication and critical thinking.
Includes: Experiential Learning Activity
Prerequisite(s): third-year standing and above in the BHSc program, an overall CGPA of at least 8.5 and permission of the Department of Health Sciences.
Seminars three hours a week.

HLTH 3904 [0.5 credit]
Emerging Issues in Health Sciences IV
These courses enable students to develop an understanding of the current state of research and practice in Health Sciences. They provide the opportunity to bring together knowledge from other courses and for skills development, including teamwork, communication and critical thinking.
Includes: Experiential Learning Activity
Prerequisite(s): third-year standing and above in the BHSc program, an overall CGPA of at least 8.5 and permission of the Department of Health Sciences.
Seminars three hours a week.

HLTH 3905 [0.5 credit]
Emerging Issues in Health Sciences V
These courses enable students to develop an understanding of the current state of research and practice in Health Sciences. They provide the opportunity to bring together knowledge from other courses and for skills development, including teamwork, communication and critical thinking.
Includes: Experiential Learning Activity
Prerequisite(s): third-year standing and above in the BHSc program, an overall CGPA of at least 8.5 and permission of the Department of Health Sciences.
Seminars three hours a week.

HLTH 4101 [0.5 credit]
Global Health Governance
Contemporary issues and debates in global health governance and effects on health monitoring and outcomes at individual and population levels. Historical patterns of global health, its regulatory framework, principal coordinating mechanisms and emerging challenges, and implications of globalization and international trade policies.
Prerequisite(s): HLTH 3101, or permission of the department.
Lecture and seminar three hours per week.

HLTH 4102 [0.5 credit]
New Health Technologies
Overview of new and emerging health technologies, including medical and assistive devices, diagnostics and screening, genetics, reproduction, tissue regeneration, imaging, and health informatics. Health technology assessment methods and issues. Regulatory, ethical and social implications; considerations in the developing world.
Prerequisite(s): HLTH 1000 or HLTH 1001 and third-year standing or higher, or permission of the department.
Also offered at the graduate level, with different requirements, as HLTH 5350, for which additional credit is precluded.
Lecture and seminar three hours a week.

HLTH 4201 [0.5 credit]
Applied Health Statistics
Statistics concepts and procedures used in the analysis of health data; techniques commonly used to analyze data collected from different types of epidemiological and experimental study designs; how to interpret and present statistical findings.
Includes: Experiential Learning Activity
Prerequisite(s): HLTH 3201 and STAT 2507 or permission of the department.
Lecture three hours a week, lab/workshop two hours a week.

HLTH 4202 [0.5 credit]
Health Program Evaluation Tools and Methods
Introduction to concepts, principles and processes of evaluating health care programs and interventions. Methodological tools including needs assessment, project management skills, use of health information management databases. Issues in communication with stakeholders, including change management and decision making.
Prerequisite(s): HLTH 2001 and STAT 2507 or permission of the department.
Lecture and seminar three hours a week.

HLTH 4301 [0.5 credit]
Pandemics and Infectious Disease
Factors that influence disease processes, including viruses, bacteria, protozoa, fungi and infectious agents, how these agents come to have the effects that they do in a given individual, how they spread within and how to limit their spread.
Prerequisite(s): HLTH 2004 and HLTH 3302 or permission of the department.
Lecture three hours a week.

HLTH 4302 [0.5 credit]
Inflammatory and Endocrine Factors in Diseases
Inflammatory and hormonal processes and their relevance to disease states. Immune-related disorders, heart disease and stroke, metabolic syndrome, diabetes, psychiatric conditions, and neurodegenerative disorders. The contribution of psychosocial and genetic factors to diseases.
Prerequisite(s): HLTH 3302 or BIOL 4200 or BIOC 4200 or permission of the department.
Lecture three hours a week.

HLTH 4303 [0.5 credit]
Fundamentals in Pharmacology and Toxicology
Introduction to pharmacological principles, xenobiotics and their interactions within living systems. Topics include biological mechanisms of action of xenobiotics on macromolecules, cells and their effects on various organ systems. Social, legal and governmental policies will be discussed.
Prerequisite(s): HLTH 3303 or permission of the department.
Lecture and seminar three hours a week.

HLTH 4304 [0.5 credit]
Host-Pathogen Interactions
Advanced cellular and molecular mechanisms governing host-pathogen interactions and their contribution to disease. Exploration of immune signaling and recognition, virulence factors, antimicrobial resistance and research techniques used in this field.
Prerequisite(s): HLTH 2004 and HLTH 3302 or permission of the department.
Also offered at the graduate level, with different requirements, as HLTH 5403, for which additional credit is precluded.
Seminar three hours per week.

HLTH 4401 [0.5 credit]
Maternal and Perinatal Determinants of Health
The integrated genetic, physiologic and environmental events occurring in early life that impact pregnancy, fetal/infant development and disease risk throughout the lifecourse, with a focus on the mechanisms driving these events.
Prerequisite(s): HLTH 2003 and HLTH 3302 or permission of the department.
Lecture three hours a week.

HLTH 4502 [0.5 credit]
Disabilities and Disorders Related to Sensory Nervous System
Congenital and acquired disabilities related to sensory organs and processes, including visual and hearing impairments, vestibular and balance disorders, reflex problems, and others. Interdisciplinary approach to causes, mechanisms, accessibility, accommodations and interventions.
Includes: Experiential Learning Activity
Precludes additional credit for HLTH 3501 (no longer offered).
Prerequisite(s): Either 1) HLTH 3503 and (BIOL 2005 or BIOL 3305 or BIOL 3306), or 2) NEUR 3206, or 3) permission of the department.
Lecture three hours a week, workshop two hours a week.

HLTH 4503 [0.5 credit]
Trauma-related Disability and Impairments
Biomedical and psychosocial factors associated with trauma-related illnesses, stressors, injuries and disabilities, including traumatic brain injury, spinal cord injury, fractures, amputations, burns, post-traumatic stress disorder, and others. Short- and long-term considerations for care and rehabilitation.
Precludes additional credit for HLTH 3502 (no longer offered).
Prerequisite(s): HLTH 3503 and (BIOL 2005 or BIOL 3305 or BIOL 3306) or permission of the department.
Lecture three hours a week.

HLTH 4601 [0.5 credit]
Environmental Pollution and Health
Introduction to environmental and occupational health; detection, assessment, management and mitigation of chemical, physical and biological hazards.
Prerequisite(s): HLTH 3104 or permission of the department.
Lecture and seminar three hours a week.

HLTH 4701 [0.5 credit]
Knowledge Translation
The application of knowledge translation in the formulation of policy and the development of skills required to maximize the impact of scientific findings through real world programs and policies and communication skills for diverse audiences.
Prerequisite(s): fourth-year standing and permission of the Department of Health Science and permission of the instructor.
Also offered at the graduate level, with different requirements, as HLTH 5300, for which additional credit is precluded.
Seminar three hours a week.

HLTH 4901 [0.5 credit]
Directed Studies in Health
Independent study, open to third- and fourth-year students to explore a particular health related topic, in consultation with a Faculty supervisor. May include directed reading, written assignments, tutorials, laboratory or field work.
Includes: Experiential Learning Activity
Prerequisite(s): third- or fourth-year standing in the B.H.Sc. program, in addition to permission of the Faculty supervisor and the Department of Health Sciences.

HLTH 4906 [1.0 credit]
Capstone course – Research Essay
Independent critical review and research proposal on a health- related topic, using library, database and/or bioinformatics resources, under the supervision of the course instructor. Seminar topics include identification and critical review of resources, development of scientific writing skills, and formulation of health science-related research.
Includes: Experiential Learning Activity
Precludes additional credit for HLTH 4907, HLTH 4908 (no longer offered), HLTH 4909, HLTH 4910.
Prerequisite(s): fourth-year standing in the B.H.Sc. Honours and permission of the Department of Health Sciences.
Lecture/seminar three hours a week.

HLTH 4907 [1.0 credit]
Capstone Course – Group Research Project
A collaborative project on a health related topic. Students, working together as a team, will complete a research project and develop communication and research skills under the supervision of the faculty supervisor. Evaluation will be based on a written report and oral presentation.
Includes: Experiential Learning Activity
Precludes additional credit for HLTH 4906, HLTH 4908 (no longer offered), HLTH 4909, HLTH 4910.
Prerequisite(s): fourth-year standing in the B.H.Sc. Honours program, one of HLTH 3901, HLTH 3902, HLTH 3903, HLTH 3904 or HLTH 3905, a major CGPA of at least 9.0, and permission of the Faculty supervisor and the Department of Health Sciences.
Seminars three hours a week as scheduled by the course instructor; other hours as arranged with the Faculty Adviser.

HLTH 4909 [1.0 credit]
Capstone Course – Field Placement and Research Project
Field placement providing practical experience in a health-related field. Placements may be in institutional or community settings, governmental or non-governmental organizations. Sites may vary each year. Evaluation based on a written report and an oral presentation.
Includes: Experiential Learning Activity
Precludes additional credit for HLTH 4906, HLTH 4907, HLTH 4908 (no longer offered), HLTH 4910.
Prerequisite(s): fourth-year standing in B.H.Sc. Honours, one of HLTH 3901, HLTH 3902, HLTH 3903, HLTH 3904 or HLTH 3905, a major CGPA of at least 9.0 and permission of the Department of Health Sciences.
Schedules may vary depending on the field placement site, but students are required to spend a minimum of eight hours per week on-site and attend required seminars as arranged by the course instructor.

HLTH 4910 [1.0 credit]
Honours Individual Research Thesis
An independent health related research project under the direct supervision of a faculty member. Evaluation will be based on a written thesis and oral poster presentation (oral or poster).
Includes: Experiential Learning Activity
Precludes additional credit for HLTH 4906, HLTH 4907, HLTH 4908, HLTH 4909.
Prerequisite(s): fourth-year standing in B.Sc. Honours Health Sciences, one of HLTH 3901, HLTH 3902, HLTH 3903, HLTH 3904 or HLTH 3905, a major CGPA of at least 10.0, and permission of the Faculty advisor and the Department of Health Sciences. Permission will depend, in part, on capacity, such that meeting the minimum requirements does not guarantee enrollment in this research thesis course.