



Program information pulled from 22/23 Undergrad Calendar. See next page for Course Sequencing chart.

This four-year Honours program will prepare our future leaders for the complex challenges at the confluence of human, animal and environmental health, including critical analysis of complex systems, problem solving across disciplinary boundaries, mobilizing knowledge, and informing policy.

The One Health degree offers students the opportunity to explore animal, environmental, and human health from both the scientific and socio-cultural perspective. One Health is an approach to research and problem-solving that brings together different knowledge systems and perspectives in order to find solutions that ensure people, animals, and our environment stay healthy.

The One Health degree offers four areas of emphasis. Students must declare and complete all requirements for one of the areas of emphasis to graduate with the degree. The areas of emphasis include:

- Disease, Complexity, and Health (DCH)
- Environment, Food, and Health (EFH)
- Policy, Economics, and Health (PEH)
- Culture, Society, and Health (CSH)

Learning Outcomes:

Problem Solving and Critical Thinking

- Critically evaluate ideas and arguments by gathering and integrating relevant information, assessing its credibility, recognizing context and assumptions, and synthesizing evidence (information) to formulate a position to draw conclusions.
- Identify and articulate problems and independently research, propose, evaluate, and plan solutions that consider the interconnections between human, animal and environmental health, and their sociocultural and scientific determinant.

Communication

- Accurately and effectively communicate complex issues, ideas, arguments, and analyses to a range of audiences, using graphic, oral, and written forms and a variety of media.
- Establish and facilitate interactions among partners and stakeholders associated with One Health challenges.

Professional and Ethical Behaviour

- Demonstrate integrity by respectfully considering diverse points of view, intellectual contributions of others, and different knowledge systems, and by demonstrating a commitment to honesty, ethical standards, confidentiality, equity, diversity, and inclusion.
- Demonstrate mastery of key professional behaviours including adaptability, active listening, ethical reasoning, and leadership, when working individually or with others.



Methodologies and Techniques

- Apply quantitative and qualitative analytical methods to interpret data and critically evaluate evidence to make informed conclusions and decisions.
- Effectively devise and implement a project management plan by setting goals, managing tasks and information, and meeting timelines.
- Apply a systems-based approach to complex health challenges including: identifying key factors and determining their interactions (balancing, synergistic, antagonistic) with each other and contributions to health; identifying key areas of vulnerability and limiting factors; and developing strategies to manage or mitigate them.
- Apply contemporary methods such as risk assessment, population modelling, and decision-making tools to evaluate competing priorities, identify potential risks, and identify management strategies in One Health.

Breadth and Depth of Understanding

- Develop a holistic philosophy of health that includes human, animal, and environmental systems, and identifies the role of socio-cultural, economic, political and scientific determinants on sustainable and resilient health systems.
- Describe the major abiotic, biotic and social components of the environment, either managed or unmanaged, and evaluate evidence for major risks and current trends in environmental change facilitated by human activity.
- Critically evaluate and apply an understanding of the sources of sociocultural and biological (physiological and evolutionary) diversity and its potential impacts on health to multiple societal challenges.
- Describe the function and regulation of organismal health (animals, plants, humans) from the perspective of individuals and population.
- Describe relationships between environment change and ecosystem, human and animal health, and their importance to complex societal challenges such as climate change, food security, social change and policy development, conservation, and infectious diseases, at local and global scales.

Co-op Learning Outcomes:

- Develop and apply key employability skills such as problem solving, critical thinking, information management, quantitative analysis, communication, and personal and time management in the workplace environment.
- Develop and apply discipline related techniques and methodologies, learned in the classroom, within a workplace. For example, system-based thinking would be one such method.
- Develop and apply discipline related concepts and knowledge in a workplace environment.
- Reflect on the development of personal and professional skills, knowledge and attitudes, and compare the development of these skills within the classroom and workplace.
- Reflect on personal and professional growth in a workplace and how this development informs curricular, co-curricular, and career planning.

Bachelor of One Health Course Sequencing

YEAR	FALL (SEPT-DEC)	WINTER (JAN-APRIL)	SUMMER (MAY-AUG)
ONE	<ul style="list-style-type: none"> BIOLOGICAL ANTHROPOLOGY BIOLOGICAL CONCEPTS OF HEALTH INTRODUCTION TO MOLECULAR AND CELLULAR BIOLOGY HUMAN IMPACT ON THE ENVIRONMENT FOR DCH AND EFH: GENERAL CHEMISTRY I FOR PEH AND CSH: INTRODUCTORY MICROECONOMICS OR INTRODUCTION TO PSYCHOLOGY 	<ul style="list-style-type: none"> INTRODUCTION TO ANTHROPOLOGY INTRODUCTION TO MOLECULAR AND CELLULAR BIOLOGY INTRODUCTION TO ONE HEALTH ONE OF: ELEMENTS OF CALCULUS I OR AN ELECTIVE FOR DCH AND EFH: GENERAL CHEMISTRY II FOR PEH AND CSH: INTRODUCTORY MICROECONOMICS OR INTRODUCTION TO PSYCHOLOGY 	OFF
TWO	<ul style="list-style-type: none"> EVOLUTION CASE STUDIES IN ONE HEALTH SOCIETY, KNOWLEDGE SYSTEMS AND ENVIRONMENT 1 ELECTIVE OR 1 AOE RESTRICTED ELECTIVE FOR DCH AND EFH: 1 AOE ELECTIVE FOR PEH AND CSH: REGIONAL ETHNOGRAPHY OR SOCIAL PSYCHOLOGY 	<ul style="list-style-type: none"> ECOLOGY ONE OF: INTRODUCTORY METHODS OR STATISTICS I OR BIostatISTICS FOR INTEGRATIVE BIOLOGY FOR DCH AND EFH: INTRODUCTION TO BIOCHEMISTRY FOUNDATIONS IN MOLECULAR BIOLOGY AND GENETICS 1 ELECTIVE OR AOE RESTRICTED ELECTIVE FOR PEH AND CSH: COMPARATIVE POLITICS OR PUBLIC POLICY 2 ELECTIVES OR AOE RESTRICTED ELECTIVES 	OFF
THREE	<ul style="list-style-type: none"> EPIDEMIOLOGY GLOBAL ENVIRONMENTAL CHANGE OR CLIMATE CHANGE BIOLOGY 2 ELECTIVES OR AOE RESTRICTED ELECTIVES ONE OF: CONCEPTS IN HUMAN PHYSIOLOGY OR BIOMEDICAL PHYSIOLOGY OR LIFE STRATEGIES OF PLANTS OR HUMAN PHYSIOLOGY I - CONCEPTS AND PRINCIPLES OR COMPARATIVE ANIMAL PHYSIOLOGY I 	<ul style="list-style-type: none"> TOPICS IN ONE HEALTH QUALITATIVE AND OBSERVATIONAL METHODS POPULATIONS, COMMUNITIES AND ECOSYSTEMS OR CONTEMPORARY ISSUES IN CULTURE SOCIETY, NATURE 2 ELECTIVES OR AOE ELECTIVES 	WORK TERM ONE
FOUR	WORK TERM TWO	WORK TERM THREE	OFF
FIVE	<ul style="list-style-type: none"> APPLICATIONS OF ONE HEALTH UP TO 5 ELECTIVES OR AOE RESTRICTED ELECTIVES 	<ul style="list-style-type: none"> APPLICATIONS OF ONE HEALTH UP TO 5 ELECTIVES OR AOE RESTRICTED ELECTIVES 	

STUDENTS ARE REQUIRED TO DECLARE AN AREA OF EMPHASIS BY THE END OF FIRST YEAR. STUDENTS MUST COMPLETE AN AREA OF EMPHASIS TO GRADUATE WITH THE DEGREE. THE REQUIREMENTS FOR EACH AREA OF EMPHASIS INCLUDES A COMBINATION OF REQUIRED AND RESTRICTED ELECTIVE COURSES ORGANIZED TO ENSURE STUDENTS DEVELOP STRENGTH IN AREAS OF CONTEXT AND APPLICATION. THE AREAS OF EMPHASIS INCLUDE:

- DISEASE, COMPLEXITY AND HEALTH (DCH)
- ENVIRONMENT, FOOD AND HEALTH (EFH)
- POLICY, ECONOMICS AND HEALTH (PEH)
- CULTURE, SOCIETY AND HEALTH (CSH)

PLEASE SEE THE CURRENT UNDERGRADUATE CALENDAR FOR MORE INFORMATION

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BASED ON THE 2022/23 UNDERGRADUATE CALENDAR