

NTSC 3301: Environmental Health

3 credits, 3 hours lecture per week

Course description:

Many aspects of human health are affected by the environment, and many diseases can be initiated, promoted, sustained or stimulated by environmental factors. For that reason the interactions of people with their environment are an important component of public health. This course introduces students to the complexity of environmental health issues facing society today.

Instructor

Dr. Blaine Legaree

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Office Hours

Mon/Wednesdays 2:00–4:00 pm

Fridays 3:00–4:00 pm

Hours of Instruction

Mon/Wednesdays 10:00 – 11:20 am Rm S110

Required Resources

There is no required textbook for this course. Supplemental readings, notes and other resources will be supplied through the course Moodle site as required (<http://ilearn.keyano.ca>).

University Wide Learning Outcomes

Through all learning experiences, and continuing at successively higher levels across their university studies, Mount Royal University aims to provide students with the following:

- **Intellectual and practical skills** practiced extensively, across the curriculum, in the context of progressively more challenging problems, projects, and standards for performance
- **Integrative and applied learning** demonstrated through the application of knowledge, skills and responsibilities to new settings and complex problems
- **Knowledge of human cultures and the physical, natural and technological world** focused by engagement with relevant questions
- **Personal and social responsibility** anchored through active involvement with diverse communities and real-world challenges

Course Outcomes

Upon successful completion of this course, the student will be able to:

- Discuss the complexity of a variety of environmental health issues and problems.
- Describe some potential solutions to current environmental health issues and problems.
- Demonstrate the ability to research and think scientifically about environmental health issues.
- Demonstrate a deeper understanding of one particular environmental health issue through a term project.

Evaluation

Presentations and Assignments	25%	Will be detailed in class
Term Project	30%	Due Mar 30, 2020
Midterm	20%	Feb 26, 2020
Final Examination	25%	<i>Date to be set by the Registrar</i>

A grade of C- is required for progression or transfer.

Presentations and Assignments:

Most of these assignments will be oral presentations on self-selected topics during class times. Other assignments may include book reports, case studies, reading assignments or literature reviews. Assignments will be detailed in class.

Term Projects

The term project specifics will be handed out in the second week of classes and will include a topic proposal, research paper, oral presentation and summary sheet.

Examinations

For examination purposes, students will be responsible for all lecture and supplemental materials, whether or not they are included in the assigned readings or whether or not the material was explicitly covered in lecture. Any and all information presented by other students during their presentations will be considered as examinable. As much as 50% of the final exam questions may be drawn from these student project presentations.

Grading System

Descriptor	Alpha Grade	4.0 Scale	Percent	Rubric for Letter Grades
Excellent	A+	4.0	> 92.9	Work shows in-depth and critical analysis, well developed ideas, creativity, excellent writing, clarity and proper format.
	A	4.0	85 – 92.9	
	A-	3.7	80 – 84.9	
Good	B+	3.3	77 – 79.9	Work is generally of high quality, well developed, well written, has clarity, and uses proper format.
	B	3.0	74 – 76.9	
	B-	2.7	70 – 73.9	
Satisfactory Progression	C+	2.3	67 – 69.9	Work has some developed ideas but needs more attention to clarity, style and formatting.
	C	2.0	64 – 66.9	
	C-	1.7	60 – 63.9	
Poor	D+	1.3	55 – 59.9	Work is completed in a general way with minimal support, or is poorly written or did not use proper format.
Minimum Pass	D	1.0	50 – 54.9	
Failure	F	0.0	< 50	Responses fail to demonstrate appropriate understanding or are fundamentally incomplete.

Topic List (Tentative)

This course will cover some fundamental concepts related to environmental health, including:

- Toxicology
- Epidemiology
- Cancer and Carcinogens
- Allergies and Allergens

Additionally, this course is designed to discuss a variety of relevant and current environmental health issues. Since every person will have unique perspectives on what is relevant, the topics discussed will differ with each course offering. Every student is **strongly encouraged** to explore **NEW, CONTROVERSIAL, and PERSONALLY RELEVANT** topics that will be both interesting to learn about and suitable for stimulating in class discussions. The pace of the course and the details of the materials covered will be governed to some extent by the interest, level of preparation of the students, and current environmental events. The following are some of the topics that may be covered:

- Agriculture and manufacturing of foods: organic vs 'inorganic' gardening
- Air Pollution: Is it linked to dementia?
- Air Quality: internal and external environments. pollution, smog, and particulate materials
- Allergies: are humans getting less resistant to environmental triggers, or are there just more triggers?
- Alternative Therapies and Naturopathic treatments: environmental saviors or not?
- Alzheimer's disease – are our lifestyles to blame?
- Batteries: new ways to store energy, but what about the Lithium?
- Birth control pills and anti-depressants – how are they affecting our wildlife?
- Cancers: are environmental factors really leading to increased cancer development?
- Cell phone usage and mental health
- Children's Health and environmental hazards
- Chlorine: The Miracle Cure Debate

- Climate Change: what effects will it have on human health?
- Deforestation in Canada and human health issues
- Detox diets – do they have any health effects?
- Dietary supplements – are they causing more harm than good?
- Early Puberty: Are commonly used personal care products to blame?
- Electric and magnetic fields (EMFs): Basic Forces of the Known Universe that surround us
- Electrical Generation: Hydroelectric, nuclear, coal, and alternatives
- Electronics recycling – how is it affecting our health?
- Forest Fires...What hazards are present after the Fort McMurray fire?
- Fracking... are the environmental and health risks real or fictitious?
- Generic Pharmaceutical Industry: off shore manufacturing and quality assurance
- Genetically modified organism and their place in the food web.
- Household cleaning products: what happens when you combine them?
- Hyper-consumerism and its role in developing environmental disasters
- Indoor fragrances and air fresheners
- Infertility: are males becoming less fertile do to environmental factors?
- International food distribution: effects on 'nutrient cycles;?
- Light pollution and human health: visual problems and the effects on the Pineal gland
- Microplastics: how are they affecting the human food chain?
- Mine tailings: just a natural material from the Earth, so what is the big deal?
- Multiple Sclerosis – is it caused by a vitamin D deficiency?
- Nanotechnology and human health technologies
- Nitrates in meats and cancer: Is bacon really killing us?
- Noise Pollution: effects on the vestibule-cochlear apparatus and auditory sensory input
- Nuclear medicine: MRI vs CT vs PET scans...are they worth the risks?
- Pesticides and herbicides: can we support our populations without these chemicals?
- Polio virus: is it living in our sewers?
- POPs: Persistent Organic Pollutants and bioaccumulation
- Processing and reuse of human sewage
- Public toilet seats - can they make you sick?
- Recycling: is this really reducing the stress on our environmental and risks to human health?
- Respiratory system, health effects of environmental tobacco smoke: adults and children
- Risk Analysis: can statistical estimates accurately predict our safety?
- Superbugs – how our antibiotic use is creating our worst pathogens.
- Air pollution – does it affect our mental health?
- Toxic Waste Handling: from Chernobyl to the Tar Sands...what do we do with the waste?
- War... localized human conflicts or global environmental health concerns?
- Water fluoridation... to fluoridate or not.
- Water: so necessary for all life, yet so easy to abuse.
- Will West Nile virus or Lyme disease become a bigger problem due to climate change?

Performance Requirements

Student Responsibilities

It is your responsibility as a student to contact the Office of the Registrar to complete the forms for Withdrawal or Change of Registration, and any other forms. Please refer to the list of important dates as noted in the Academic Schedule in the Keyano College credit calendar.

More specific details are found in the Student Rights and Student Code of Conduct section of the Keyano College credit calendar. It is the responsibility of each student to be aware of the guidelines outlined in the Student Rights and Student Code of Conduct Policies.

Student Attendance

Class attendance is useful for two reasons. First, class attendance maximizes a student's learning experience. Second, attending class is a good way to keep informed of matters relating to the administration of the course (e.g., the timing of assignments and exams). Ultimately, you are responsible for your own learning and performance in this course.

It is the responsibility of each student to be prepared for all classes. Students who miss classes are responsible for the material covered in those classes and for ensuring that they are prepared for the next class, including the completion of any assignments and / or notes that may be due.

Academic Misconduct

Students are considered to be responsible adults and should adhere to principles of intellectual integrity. Intellectual dishonesty may take many forms, such as:

- Plagiarism or the submission of another person's work as one's own
- The use of unauthorized aids in assignments or examinations (cheating)
- Collusion or the unauthorized collaboration with others in preparing work
- The deliberate misrepresentation of qualifications
- The willful distortion of results or data
- Substitution in an examination by another person
- Handing in the same unchanged work as submitted for another assignment
- Breach of confidentiality.

The consequences for academic misconduct range from a verbal reprimand to expulsion from the College. More specific descriptions and details are found in the Student Rights and Student Code of Conduct section of the Keyano College credit calendar. It is the responsibility of each student to be aware of the guidelines outlined in the Student Rights and Student Code of Conduct Policies.

In order to ensure your understanding of the concept of plagiarism, you must successfully complete the online Plagiarism Certificate at ilearn.keyano.ca. Then print the certificate, sign it, and show it to each of your instructors. Your course work will not be graded until you show this signed certificate. If you completed this certification previously, show evidence to your instructor.

Specialized Supports

The Student Academic Support Services (SASS) department: Accessibility Services, Skill Centre, Wellness Services and Student Life Department work together to support student success at Keyano College.

Accessibility Services (CC167) supports student success through group and individualized instruction of learning, study and test taking strategies, and adaptive technologies. Students with documented disabilities, or who suspect a disability, can meet with the Learning Strategists to discuss accommodation of the learning barriers that they may be experiencing. Students who have accessed accommodations in the past are encouraged to visit our office at their earliest opportunity to discuss the availability of accommodations in their current courses. Individual appointments can be made by calling 780-791-8934.

Skill Centre (CC119) provides a learning space where students can gather to share ideas, collaborate on projects and get new perspectives on learning from our tutorial staff. Students visiting the centre have access to one-to-one or group tutoring, facilitated study groups, and assistance in academic writing. The Skill Centre's Peer Tutor program provides paid employment opportunities for students who have demonstrated academic success and want to share what they have learned. Tutoring is available free to any students registered at Keyano College on a drop in basis, from 8:30 am to 5:00 pm Monday through Friday. Additional evening hours are subject to tutor availability and are posted in the Skill Centre.

Wellness Services (CC260) offers a caring, inclusive, and respectful environment where students can access free group and individual support to meet academic and life challenges. Mental Health Coordinators offer a safe and confidential environment to seek help with personal concerns. The Mindfulness Room in CC260 is available as a quiet space for students to relax during regular office hours. Wellness Service welcomes students to participate in any of the group sessions offered throughout the academic year addressing such topics as Mindfulness and Test Anxiety. Individual appointments can be made by calling 780-791-8934.

Student Life Department (CC210) is a place for students to go when they don't know who else can answer their questions. The staff will help students navigate barriers to success and if they don't know the answer, they will find it out. Student success is directly affected by how connected a student feels to their college. The student life department is there to help students get connected.

Please watch your Keyano email for workshop announcements from our Student Academic Support Services team.