

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/Wed/Fridays 3:00–4:00 pm

Tues/Thursdays 9:30–10:30 am

Hours of Instruction

Tues/Thursdays 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
Midterm	20%	Mar 4, 2021
Term Project	30%	Due Apr 1, 2021
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](#). The Keyano College credit calendar also has information about Student Rights and Code of Conduct. It is the responsibility of each student to be aware of the guidelines outlined in the Student Rights and 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.

Specialized Supports

The Student Services department is committed to Keyano students and their academic success. There are a variety of student supports available at Keyano College. Due to the continuing situation with the COVID-19 pandemic, the offered support services will be implemented differently this semester by being provided mostly virtually. In-person service can be requested as needed. All Alberta Health Services guidelines will be followed for in-person appointments—wear a mask, maintain two meters of physical distance, use hand sanitizer, and stay home if you are unwell.

All student services are available during Keyano business hours: Monday to Friday, 8h30-16h30.

Accessibility Services: provides accommodations for students with disabilities. Students with documented disabilities, or who suspect a disability, can meet with a Learning Strategist to discuss their current learning barriers and possible accommodations. Students who have accessed accommodations in the past are encouraged to contact us to request them for the semester. Please note that requesting accommodations is a process and requires time to arrange. Contact us as soon as you know you may require accommodations. For accessibility services supports and to book a virtual appointment, please contact accessibility.services@keyano.ca.

Accessibility Services also provides individual and group learning strategy instruction for all students, as well as technology training and supports to enhance learning. Meet with a Learning Strategist to learn studying and test-taking strategies for online classes. Schedule an appointment with the Assistive Technology Specialist to explore technology tools for learning. Book an appointment today by emailing accessibility.services@keyano.ca

Wellness Services: 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. All individual appointments will continue virtually.

Wellness Services welcomes students to participate in any of the virtual group sessions offered throughout the academic year addressing topics including mindfulness and test anxiety.

Individual virtual appointments can be made by emailing wellness.services@keyano.ca.

Library Services: provides students with research and information supports as they engage in their studies. Library staff are available to support you both virtually and in person throughout the semester. For a detailed list of library supports and services, go to www.keyano.ca/library. For any inquiries, please email askthelibrary@keyano.ca.

Begin your research with the [Library's FIND page](#). Search for sources using OneSearch, the Library's Catalogue, or by searching in a specific database selected from the [A-Z Database List](#).

Individual support with the Information Librarian is available virtually. Appointments can be requested by using the [Book A Librarian online form](#).

Research and Subject Guides are helpful resources when beginning your research or addressing other information needs. To view a subject or course specific guide, go to the Subject Guide webpage [here](#).

To access additional research resources, including Citation Guides (APA, MLA, Chicago, or IEEE), go to the [Research Help Library page](#).

The Loanable Technology collection is available to support students in their online learning pursuits. Items available for borrowing include mobile projectors, webcams, noise cancelling headphones, Chromebooks, and laptops. For an up-to-date list of technology available for borrowing, go to the Library's [Loanable Technology webpage](#).

Skill Centre: provides academic support services to students registered in credit programs at Keyano College in the form of tutoring, assignment/lab support, writing support groups, facilitated study groups, workshops, and study space. This service is free and is available for all Math, Sciences, Humanities and Trades courses offered at Keyano.

While most courses are being offered online, the Skill Centre will be offering mostly virtual services and in-person sessions as requested. Please email Skill@keyano.ca to get in contact with our Academic Content Specialists. The Skill Centre is located in CC-119 at the Clearwater Campus.

For the most up to date information on how to book a session, please view the [Keyano Skill Centre homepage](#).

Academic Success Coaching: offers you support and access to resources for your academic success to help you to find the Keys to your Success. The Academic Success Coach will work with you to develop an academic success plan, develop your study and time management skills, and connect you with the right resources here at Keyano. Academic.success@keyano.ca is the best way to access resources during virtual service delivery. The Academic Success Coach is located in the Skill Centre in CC-119 at the Clearwater Campus.

E-Learning

Technology and internet will impact your online learning experience. It's important that you are able to watch an online video and other course materials, take online quizzes, and participant in a live class with your instructor and other students.

Keyano College operates in a Windows based environment and having the correct tools for online learning is important. Here's a list of recommended system requirements for Fall 2020.

Internet Speed

- Minimum Internet speeds of 5 Mbps.
- Recommended Internet speeds of 25 Mbps (especially if you are sharing your internet at home).
- Check your internet speed with Fast.com.

System requirements:

Microsoft Windows	Apple
<p>Minimum Requirements:</p> <p>A Windows 10 computer/laptop</p> <ul style="list-style-type: none"> • Minimum 4GB of RAM. • 10GB+ available hard drive storage. • Enough available hard drive space to install the Microsoft Office suite (approximately 3GB). Microsoft Office software is free to all Keyano students and employees. • Microphone, webcam and speakers. A headset with a microphone is recommended. • System updates must be regularly installed. • Anti-Virus / Anti-Malware software 	<p>Minimum Requirements:</p> <p>A Macintosh (V10.14 and above) computer/laptop</p> <ul style="list-style-type: none"> • Minimum 4GB of RAM. • 10GB+ available hard drive storage. • Enough available hard drive space to install the Microsoft Office suite (approximately 3GB). Microsoft Office software is free to all Keyano students and employees. • Microphone, webcam and speakers. A headset with a microphone is recommended. • System updates must be regularly installed. • Anti-Virus / Anti-Malware software
<p>Recommended Requirements</p> <ul style="list-style-type: none"> • 8GB of RAM • A method of backing up/synchronizing to local or cloud-based storage such as OneDrive is highly recommended. This is included if you complete the setup of KeyanoMail and download MS Office using your Keyano email for free. 	<p>Recommended Requirements</p> <ul style="list-style-type: none"> • 8GB of RAM • A method of backing up/synchronizing to local or cloud-based storage such as OneDrive is highly recommended. This is included if you complete the setup of KeyanoMail and download MS Office using your Keyano email for free.
<p>Chromebooks are not recommended as they are not compatible with testing lockdown browsers. A Microsoft Surface or iPad or iPad Pro may be possible alternatives in some program areas.</p>	

Specific department requirements:

- Business and OA programs require Windows 10.
- Other programs may utilize Windows based tools as well.

Computer Software

Students can access Microsoft Office 365 for free using Keyano Credentials by [clicking here](#).

Recording of lectures and Intellectual Property

Students may only record a lecture if explicit permission is provided by the instructor or by Accessibility Services. Even if students have permission to record a lecture or lecture materials, students may not share, distribute, or publish any of the lectures or lecture materials, this includes any recordings, slides, instructor notes, etc. on any platform. Thus no student is allowed to share, distribute, publish or sell course related content (instructor, or students) without permission. It is important to recognize that the Canadian Copyright Act contains provisions for intellectual property. The [Academic Integrity Policy](#) provides additional information on Keyano College's expectations from students as members of the intellectual community.

ITS Helpdesk

If you are having issues with your student account, you can contact the ITS Helpdesk by emailing its.helpdesk@keyano.ca or calling 780-791-4965.