University of Manitoba
Clayton H. Riddell Faculty of Environment, Earth, and Resources
Department of Environment and Geography

Environmental Science II: Issues

ENVR 2000

Winter 2017

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COURSE DETAILS

Course Title & Number:	Environmental Science II: Issues, ENVR 2000
Number of Credit Hours:	3
Class Times & Days of Week:	January 18, 2017 – April 21, 2017 Mon/Wed/Fri 9:30-10:20pm
Location for classes/labs/tutorials:	223 Wallace Building
Pre-Requisites:	ENVR 1000 (128.100) (C) or BIOL 1340 (071.134) (C)

Instructor Contact Information

Instructor(s) Name:	Dr. Erin McCance
Preferred Form of Address:	Dr. McCance
Office Location:	250 Wallace Building
Office Hours or Availability:	Please email to schedule an appointment
Office Phone No.	204-232-2941 (no return calls made)
Email:	Erin.mccance@umanitoba.ca E-mails will be answered within 24 hours Mon-Fri.
Contact:	I look forward to meeting every student in person, and you can always see me after class. Some correspondence will require documentation and therefor is best done by e-mail (such as requesting special permission).

COURSE DESCRIPTION: This course will briefly review the major features of the structure and function of natural systems along with the degree to which these have been compromised. The main component of the course, however, will concentrate on the identification of the issues that underlie environmental degradation, while exploring alternative conditions that have the potential to reverse current trends and ultimately contribute to ecological sustainability.

General Course Information

This course is meant to engage students on issues of the environment and ultimately the well-being of humans and the natural world. We will explore issues from a foundation of understanding of the science behind the issue, the historical context, and technical and social solutions. Issues explored include long-term, systemic issues in addition to topics currently in the media.

Course Goal

The goal of this course is to explore the complexities of environmental issues, leading to a fuller understanding of the problems and multi-dimensional solutions available.

Intended Learning Outcomes

Students will be fluent in the basic terminology of the discipline, able to comment on complex environmental issues, have an in-depth understanding of environmental problems and potential solutions, be proficient in conducting a waste audit and have demonstrated experience working towards solutions to environmental problems locally or globally.

Using Copyrighted Material

Please respect copyright. We will use copyrighted content in this course. I have ensured that the content I use is appropriately acknowledged and is copied in accordance with copyright laws and University guidelines. Copyrighted works, including those created by me, are made available for private study and research and must not be distributed in any format without permission. Do not upload copyrighted works to a learning management system (such as UM Learn), or any website, unless an exception to the *Copyright Act* applies or written permission has been confirmed. For more information, see the University's Copyright Office website at http://umanitoba.ca/copyright/ or contact um_copyright@umanitoba.ca.

Recording Class Lectures

Erin McCance and/or Kristina Hunter the University of Manitoba hold copyright over the course materials, presentations and lectures which form part of this course. No audio or video recording of lectures or presentations is allowed in any format, openly or surreptitiously, in whole or in part without permission of Erin McCance and/or Kristina Hunter. Course materials (both paper and digital) are for the participant's private study and research.

Textbook, Readings, Materials

REQUIRED TEXT: Classic Edition Sources – Environmental Studies, 4th Edition
Thomas Easton, Editor, 2012, McGraw Hill
To purchase e-book: http://bookstore.umanitoba.ca/CourseMaterials.aspx

OPTIONAL TEXT: Berg, L.R., M.C. Hager, L.G. Goodman, and R.K. Baydack. 2010. Visualizing the Environment. Wiley, Toronto.

Course Technology

IN THE CLASSROOM: It is the general University of Manitoba policy that all technology resources are to be used in a responsible, efficient, ethical, and legal manner. The student can use all technology in classroom setting only for educational purposes approved by instructor and/or the University of Manitoba Disability Services. Student should not participate in personal direct electronic messaging / posting activities (e-mail, texting, video or voice chat, wikis, blogs, social networking (e.g. Facebook) online and offline "gaming" during scheduled class time. If student is on call (emergency) the student should switch his/her cell phone on vibrate mode and leave the classroom before using it. (©S Kondrashov. Used with permission)

COURSE RESOURCES: Course notes, detailed instruction on assignments and general course communications are posted on UM Learn. All assignments unless otherwise noted are submitted on UM Learn.

STUDENT RESOURCES: The Centre for Advancement of Teaching and Learning has instructional videos on accessing and contributing to wikis and blogs that may be useful. http://intranet.umanitoba.ca/academic_support/Centre for the Advancement of Teaching & Learning/resources/wikis_blogs.html.

Class Communication

The University requires all students to activate an official University email account. For full details of the Electronic Communication with Students please visit: http://umanitoba.ca/admin/governance/media/Electronic_Communication_with_Students_Policy_-_2014_06_05.pdf

Please note that all communication between myself and you as a student must comply with the electronic communication with student policy (http://umanitoba.ca/admin/governance/governing_documents/community/electronic_communication_with_students_policy.html). You are required to obtain and use your U of M email account for all communication between yourself and the university.

Expectations: Student

ATTEND CLASS: The class is intended to be not just one-way delivery of information but rather a facilitated dialogue around materials presented. For this reason, your attendance in class is

required so that you can be a part of the conversation and contribute your knowledge, experiences, and opinions. As such, you are expected to be in attendance both physically and mentally.

Students are expected to attend all classes and may be debarred from the course, resulting in a failing grade if more than 2 weeks (6 classes) are missed without adequate medical documentation or compassionate grounds. Students should refer to the General Academic Regulations and Requirements, Attendance at Class and Debarment, found in the University of Manitoba General Calendar. http://umanitoba.ca/student/records/leave_return/695.html

VOLUNTARY WITHDRAWL DATE: March 31st, 2017

ACT WITH PROFESSIONALISM: In the University setting, we are in professional relationships. These relationships are characterized by demonstrated respect between all parties, students and instructors, and students and other students. This includes professional and respectful language, tone of voice, and demeanour. This is an excellent time to practice the professionalism required in the workforce, especially in your e-mail and in-person communications.

ACADEMIC INTEGRITY: Please refer to "Schedule A" policies and resources for students as posted on UM Learn. In addition, please note that;

(i) group projects are subject to the rules of academic dishonesty;
(ii) group members must ensure that a group project adheres to the principles of academic integrity;
(iii) if a group member is not acting with academic integrity or not performing his or duties as agreed, please advise the Instructor as soon as possible to resolve any potential problems as early as possible;
(iv) collaboration between students is encouraged for understanding material, proof-reading a peer's work, making suggestions on approach, etc.; however,
(v) all work is to be completed independently unless otherwise specified.

Student Accessibility Services

Student Accessibility Services (SAS)
If you are a student with a disability, please contact SAS for academic accommodation supports and services such as note-taking, interpreting, assistive technology and exam accommodations. Students who have, or think they may have, a disability (e.g. mental illness, learning, medical, hearing, injury-related, visual) are invited to contact SAS to arrange a confidential consultation.

Student Accessibility Services http://umanitoba.ca/student/saa/accessibility/
520 University Centre 204-474-7423 Student_accessibility@umanitoba.ca

Expectations: Instructor

I approach teaching as a sharing of knowledge and strongly encourage critical thinking. Students learn and I learn as we proceed through the semester together.

You can expect classes with traditional lecture styles, the use of audio visual materials, and multiple methods of engaging students in the material, eliciting discussion, and provoking thought. Every contribution is valued, please bring yours. It is up to you to engage and participate to get the most out of your education.

Class Schedule

This schedule is subject to change at the discretion of the instructor but such changes are subject to Section 2.8 of the – ROASS- Procedure.

	Week	Theme	Readings	Assignment Due
1	Jan 18	Introduction		
2	Jan 20	Humans and the Environment	*Collapse: How Societies Choose to Fail or Succeed* (S 38)	
3	Jan 23	Humans and the Environment	*Human Ethics and the Environment*	
4	Jan 25	Humans and the Environment	*Human Ethics and the Environment- Animal Rights and Advocacy*	
5	Jan 27	Humans and the Environment	*Human Ethics and the Environment- Animal Rights and Advocacy*	
6	Jan 30	Humans and the Environment	*Going Home - Film*	
7	Feb 1	Sustainable Development	*Human Carrying Capacity*(S 35) & *Tragedy of the Commons* (S 7)	
8	Feb 3	Sustainable Development	*A Business Case for Sustainability*	
9	Feb 6	Sustainability	*Domestication and Consumption*	
10	Feb 8	Sustainability	*Protected Spaces*	
11	Feb 10	Sustainability	*Sustainable Cities*	

12	Feb 13	Wild Issues	*Urban Wildlife – Spatial Geography*	
13	Feb 15	Wild Issues	*Landscape Change*	
14	Feb 17	Wild Issues	*Impact of Invasive Species (Part 1)*	
NO CLASSES FEB 20-24 MID-TERM BREAK				
15	Feb 27	Wild Issues	*Impact of Invasive Species (Part 2)*	
16	March 1	In-Class Test		**Wed, March 1 In-Class Test 1**
17	March 3	Zoos	*Influence/Captive Breeding*	
18	March 6	Zoos	*Influence/Captive Breeding (Part 2)*	
19	March 8	Zoos	*Blackfish*	
20	March 10	Oil and Us	*Learning from the Exxon Valdez*	
21	March 13	Oil and Us	*Oil on Ice*	
22	March 15	Oil and Us	*Oil and Us (Part 1)*	
23	March 17	ANWR	Oil Drilling In Alaska	
24	March 20	Tar Sands	Tar Sands	
25	March 22	Oil and Us	The Power of Community	
26	March 24	Food Systems	*Food Systems and Waste*	**Friday March 24 Waste Audit Due**
27	March 27	Food Systems	*Northern Food & Contamination*	

28	March 29	Food Systems	Fresh, New Thinking about what We're Eating	
29	March 31	In-Class Test		**Fri. March 31 In-Class Test 2**
30	April 3	Chemical Contaminants	*Ecosystems and Human Well-being* (S 10)	
31	April 5	Affluenza	Ecosystems and Human Well-Being	
32	April 7	Waste Not	*Living Downstream* (S28) & *Our Stolen Future* (S29)	
33	April 10	Waste Not	*Living Downstream* (S28) & *Our Stolen Future* (S29)	
34	April 12	Climate Change	Weather Gone Wild	
NO CLASS APRIL 14 GOOD FRIDAY				
36	April 17	Climate Change	Weather Gone Wild	
37	April 19	Saving our Oceans	*Impacts of Biodiversity Loss on Ocean Ecosystem Services* (S 17)	
14	April 21 ***Last class***	**Final In-Class Cumulative Test**		**Final In-Class Cumulative Test**

Course Evaluation Methods

In many cases there is a grader-marker to assist with the marking load. In each case, you will receive a grade posted on UM Learn. The grade will also have constructive comments intended to assist you in your academic performance in this course. If you have any questions about the grading, please bring them to my attention and arrange a time to meet with me.

Students will be evaluated through the following assignments:

WASTE AUDIT: (15%)
IN-CLASS TEST 1 & 2: (2*25% = 50%)
FINAL IN-CLASS CUMULATIVE TEST: (1*35%)
TOTAL: 100%

Waste Audit Assignment Instructions (Due March 24, 2017)

Method: Collect the waste (garbage) of one household for a continuous seven-day period, representative of a typical week for the household. For this assignment, we are looking at typical behavior and only what you send to the landfill. Therefore, what you normally recycle or compost is NOT counted in this waste audit. We are doing this to look at potential for further waste diversion. Count only what your household normally puts in the trash.

It is suggested that the waste be collected in the designated categories for the period of time to avoid having to sort through any waste at the end of the study. This study will consider all solid waste generated in a household. It does not consider waste that is liquid such as grey-water or sewage. The study does include food waste that you may normally place in the garburator. The study does not include yard waste such as leaves, branches and grass clippings. Dog waste is not part of the study as it is generated outside (hopefully); however, cat litter is part of the waste if it is normally placed in the garbage (not if it is flushed). This study only considers waste that is sent to the landfill as garbage. If you already recycle or compost your solid waste, continue your usual behavior. Anything that you NORMALLY put in the recycling or compost is NOT part of this study. You will only count what you normally put in the garbage at home. If you generate waste elsewhere (at school or work) and would normally dispose of it there, continue to do so. This waste disposed of outside of the home is not part of the study.

Included in Waste Audit:
Food waste that you normally throw out.
Food waste that you normally put in the garburator.
Plastics, paper, metals that you normally throw out.
Cat litter from inside the household that you normally throw out.
Waste generated within the home that you normally throw out.

Excluded from Waste Audit:
Food waste that you normally compost.
Plastics, paper, metal that you normally recycle.
Cat litter from inside the household that you normally flush.
Waste generated outside of the home (yard waste, dog waste, waste generated at school, etc.)

*Please note that the audit is based on reporting normal behavior – not what you would LIKE to do, but what you actually do. There is no benefit to reporting false data.

You will need to discuss the study objectives and procedures with all members and possibly visitors of the household. If you live in residence, and are on a meal plan, you should try to partner with someone who is not. Use your partner's waste data, but do the calculations on your own. Each student must submit his or her own work. You are not allowed to share answers, only the raw data of the 7-day waste weights and volumes for each category.

All data must be entered in the MS Excel table provided. You must use formulae within the Excel file to calculate totals. Do not use a calculator. Use Excel for these calculations. If you are not familiar with this program, use an online tutorial.

Weight: You need to weigh and record the weight of each of the waste categories for the entire week. Weight should be recorded in grams rounded off to the gram (no decimal places required).

Volume: For volume, you will simply ESTIMATE the volume of the waste as it would normally be disposed. So, if you normally crush cans, continue to do so. You are not required to attempt to calculate volumes, just visually estimate. To estimate the volume of the waste by category you should tie up the bag of each waste category and compare it to an item of known volume such as a 4L milk jug or 1 L water bottle. Volume should be estimated to the 0.5 L.

Data Table: Fill out the MS Excel Data Table calculating the annual weight, volumes and per person weight and volumes. It is required that you use MS Excel for the calculations. Double check all of your calculations prior to proceeding. Annual weight and volumes must be greater than weekly. The use of basic spreadsheets is an important skill, and highly recommended for this assignment. Step back and look at your data – does it make sense? Has there been an error in calculating? The data table is worth 8 marks, so check it carefully. Ensure that you have correctly converted from grams to kilograms and from litres to metres cubed.

Data Analysis Form: Fill out the MS Word form answering each of the questions working through the data analysis. The analysis is based on your own data, as documented in the Data Table.

Materials: You may wish to use a series of small containers lined with plastic bags clearly labeled to hold the waste in the appropriate categories over the study period. If one of the containers fills before the end of the study you can seal the bag and take the measurements, then replace with a new bag and add the two results. You will require a small kitchen scale to weigh the waste. The kitchen scale must provide weights in grams. Either electronic or mechanical scales are fine. Inexpensive scales can be found in department or home stores for as low as $5 to $10. Alternatively, you can borrow one from your family members, neighbours or a friend. You require a computer with MS Excel and MS Word. The computers on campus have these programs, so you can always use the student computer labs if you have no other access.

What to hand in: Each student will submit 2 electronic files contained within one submission to the course learning platform, UM Learn. Students are required to submit both the MS Excel Data Table and the MS Word Data Analysis Form.

Grading

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Letter Grade	Percentage out of 100	
A+	90-100	Exceptional
A	80-89	Excellent
B+	75-79	Very Good
B	70-74	Good
C+	65-69	Satisfactory
C	60-64	Adequate
D	50-59	Marginal
F	0-49	Failure

Referencing Style

Any of the main referencing styles may be used in class, but in any case the reference must include an in-text citation (either numerical or author date) close to the idea, fact, image or quote being cited as well as a full citation at the end of the document. Students may choose to use APA, MLA, Chicago, CSE or other recognized referencing style.

Assignment Descriptions

All assignments are described along with the grading rubric in the Assignment Overview as posted on UM Learn.

Assignment Grading Times

Marks on graded assignments and tests will be available within 2 weeks after the submission date whenever possible. All materials submitted electronically on UM Learn will be graded and comments provided on UM Learn.

Assignment Extension and Late Submission Policy

The waste audit is due at the beginning of class (9:30 am). Late submissions may be accepted based on medical or compassionate grounds. Extensions are not normally granted unless there are extenuating circumstances.