



EESA01 – Introduction to Environmental Science
Fall 2021

Instructor: Prof. Adam Martin (adam.martin@utoronto.ca), Room EV 464

Course TAs:

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Course Lectures: Online asynchronous, with video and PDF of slides posted on the course Quercus page. However, I will be broadcasting lectures on Mondays, 10am-12pm synchronously as well (with links provided through Quercus).

Course Practicals: This course has **four** hands-on laboratories to enhance your learning experience. **LABS BEGIN THE WEEK OF SEPTEMBER 20th** (see detailed schedule on Page 6 of this syllabus).

While the labs are entirely online, **each Lab/ Practical Section has a dedicated TA** that is your primary point of contact for questions related to the course.

Your TA will be presenting **scheduled in-person instruction sessions** related to lab assignments. Please note then you are responsible for adding a practical/ lab section through ROSI/ACORN. If you would like to switch lab sections, you are also responsible for dropping the previous one.

Course readings and texts:

1. Environment: The Science Behind the Stories, 3rd Canadian Edition (Pearson, Canada), J. Withgott, M Laposata, and B. Murck

* This book is required reading. We will not use the online “Mastering” package that comes with it, so no need to waste your money there.

2. EESA01 Laboratory Manual. This is a free pdf and mobile friendly file available here: https://bookdown.org/AndrewA/eesa01_lab_manual/

Course Synopsis:

This course will introduce students to the science behind processes occurring on the Earth and within its atmosphere. The course will look at relationships between environmental degradation and human activity, in terms of the physical, chemical, and biological processes operating at or near the Earth's surface. The environmental costs and consequences of human activity will also be examined, in an attempt to define balances between human living conditions and environmental integrity. **The course is science-based and intended for students interested in pursuing environmental issues from a scientific (physical, chemical, biological, and mathematical) perspective.**

The course’s primary intent is to provide a broad background for students pursuing an education in Environmental Science. That said, careers in Environmental Science are increasingly crossing traditional boundaries and thus, students in all disciplines are welcome to join in the course to improve their scientific literacy. This course forms an important entry point for all Environmental Science programs, and is also valuable as a science credit or for general interest of students in other programs.

Course Evaluation:

Course Item	Date	Percent
Lab assignments	1. Friday Oct. 1, 4pm 2. Friday, Oct. 22, 4pm 3. Friday, Nov. 5, 4pm 4. Friday, Nov. 19, 4pm	4 @ 15% = 60%
Mid-term exam (multiple choice)	• TBD (through Quercus)	15%
Final exam (multiple choice)	• TBD	25%

Accessibility Statement:

Students with diverse learning styles and needs are welcome in this course. If you have a disability/health consideration that may require accommodations, please feel free to contact me directly and/or the AccessAbility Services Office as soon as possible. I will work with you and AccessAbility Services to ensure you can achieve your learning goals in this course. All enquiries are confidential. The UTSC AccessAbility Services staff (located in S302) is available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations. (416) 287-7560 or ability@utsc.utoronto.ca.

Course Content and Schedule

Week Begins	Lecture topic	Reading	Happening this week
Sept. 13	Introduction to Environmental Science	Chapter 1 (pgs. 5-22) Chapter 2 (pgs. 28-32)	
Sept. 20	Matter, Energy, & the Systems Approach to Environmental Science	Chapter 2 (pgs. 32-42) Chapter 2 (pgs. 45-53) Chapter 3 (pgs. 60-65)	Lab 1 Online Sessions with your TA
Sept. 27	Earth Systems, Ecosystems and Global Biogeochemical Cycles	Chapter 2 (pgs. 42-43) Chapter 3 (pgs. 66-71) Chapter 3 (pgs. 76-87)	Lab 1 Due (Fri. Oct. 1, 4pm)
Oct. 4	The Global Water Cycle and Water Resources	Chapter 3 (pg. 78) Chapter 11 (pgs. 316-319) Chapter 11 (pgs. 333-335) Chapter 11 (pgs. 338-343)	Lab 2 Online Sessions with your TA
Oct. 11	THANKSGIVING AND FALL READING WEEK – NO CLASSES OR TUTORIALS		
Oct. 18	Global Energy Flows	Chapter 13 (pgs. 387-392) Chapter 14 (pgs. 422-429)	Lab 2 Due (Fri. Oct. 22, 4pm)
Oct. 25	Soils	Chapter 7 (pgs. 180-190) Chapter 7 (pgs. 192-196) Chapter 7 (pgs. 198-202)	Lab 3 Online Sessions with your TA *Mid-term Sat. Oct. 31
Nov. 1	Agriculture and Environmental Impacts	Chapter 8 (pgs. 210-218) Chapter 8 (pgs. 223-232) Chapter 8 (pgs. 234-238)	Lab 3 Due (Fri. Nov. 5, 4pm)
Nov. 8	Biodiversity and Conservation	Chapter 9 (pgs. 246-266) Chapter 9 (pgs. 270-278)	Online Sessions with your TA
Nov. 15	Global Climate Change and Atmospheric Pollution	Chapter 13 (pgs. 387-392) Chapter 14 (pgs. 422-454)	Lab 4 Due (Fri. Nov. 19, 4pm)
Nov. 22	Non-Renewable Energy Extraction and Impacts	Chapter 15 (pgs. 465-470) Chapter 15 (pgs. 483-484)	
Nov. 29	Energy Alternatives	Chapter 16 (pgs. 501-503)	
Dec. 6	Catch-up and Final Review		

I will follow this schedule as closely as possible, some of these topics may "overflow" over into other time slots and slight alterations to the schedule may occur.

Course Communications and Interactions:

For questions pertaining to the course and assignments, students should contact people **in this order**:

1. Attend TA Consultation sessions prepared with questions.
2. Post questions on the course **Quercus “Discussion Board”**. These are monitored by TAs daily at 4pm on Monday-Friday.
3. Email your TA directly.
4. Email the course instructor.

All questions that are not of a personal nature, are likely to be of interest to the entire class. Therefore your first approach to course questions should be to posted on the **EESA01 Quercus (Discussion Board module)** so that the entire class may benefit from the answer.

All students should check the Discussion page on Quercus at least weekly and please **check the Discussion Board to see if your question is already answered**. Often this is the case. Think of Discussion Board as an ever-evolving Frequently Asked Questions page, which is **actively monitored at 4pm daily from Monday-Friday**.

All emails should be sent via a “.utoronto.ca” or “mail.utoronto.ca” email address to ensure a response (most hotmail, gmail, etc. end up in my junkmail, never to be seen). **Please note that due to the extremely large number of students I teach during the fall term and the very large number of emails I get every day, I will only respond to emails from students in this course on Mondays and Thursdays between 4 and 5 pm. As such, there is no such thing as an “emergency” email.** I do not check my email constantly because I am too busy to do so. Thus, email is not a good form of communication when a quick response is desired. Note alternatively that I will have at least one TA (and/or myself) check the Quercus Discussion Board at least daily during weekdays throughout the term, meaning Blackboard is your best bet for a <24-hour response time.

Lecture slides and videos will be posted on Quercus, but little of what I may “say” will actually be on those slides so **it is important to note that the following is fair game for examination material: 1) what is on lecture slides; 2) what is in your readings (even if not expressly covered in a particular lecture!); and 3) EVERYTHING that I say in lecture.** Lecture slides are posted to facilitate your learning DURING lecture and for you to avoid having to copy large diagrams while you should be taking notes or listening. All lecture notes will be posted on Blackboard prior to each scheduled lecture. **My advice is that you annotate the posted lecture notes with your own notes during lecture.**

Laboratory/ Practical Details:

This course includes hands-on assignments directly related to the collected data. Due to current COVID-19 restrictions, the labs in EESA01 this year will focus on gaining a sound understanding of how to manage, manipulate, and analyse environmental data.

Our labs will be based on Microsoft Excel, and will make use of multiple real world environmental datasets collected in the UTSC labs, or by large international scientific organizations such as the Food and Agricultural Organization of the United Nations.

A freely available lab manual has been created that details lab safety, schedules, and assignments. The manual is available online ([see Page 2](#)). **Please read the following key points *and* the laboratory manual carefully:**

- There are too many students to fit labs every week, thus you will have a lab assignment due **every other week**.
- Although we cannot meet in person, each **lab section has a dedicated TA** who will provide instruction online (see TA schedule below).
- **These TA sessions will be held through BBCollaborate.**
- **Every practical group (denoted “PRA” in your time table), will have a dedicated BBCollaborate Session for each of the four labs.**
- In order to maintain organization of the course, **please consult with your TA/ practical group only.**
- If you do not submit a lab assignment on time, **you will receive a grade of 0 on that assignment.**
- Dr. Martin will only make accommodations for late labs with an acceptable medical excuse (see lab manual). **Do not assume** that you will be able to submit late assignments for any reason.

Laboratory/ Practical Details:

Practical	Day	Start	End
PRA0001	TH	09:00	11:00
PRA0002	TH	09:00	11:00
PRA0003	TH	09:00	11:00
PRA0004	TH	09:00	11:00
PRA0005	TH	11:00	13:00
PRA0006	TH	11:00	13:00
PRA0007	TH	11:00	13:00
PRA0008	TH	11:00	13:00
PRA0009	TH	13:00	15:00
PRA0010	TH	13:00	15:00
PRA0011	TH	13:00	15:00
PRA0012	TH	13:00	15:00
PRA0013	TH	15:00	17:00
PRA0014	TH	15:00	17:00
PRA0023	TH	15:00	17:00
PRA0024	TH	15:00	17:00
PRA0015	WE	09:00	11:00
PRA0016	WE	09:00	11:00
PRA0017	WE	11:00	13:00
PRA0018	WE	11:00	13:00
PRA0019	WE	13:00	15:00
PRA0020	WE	13:00	15:00
PRA0021	WE	15:00	17:00
PRA0022	WE	15:00	17:00
PRA0023	TH	15:00	17:00
PRA0024	TH	15:00	17:00

Practical Assignment Due Dates:

Practical assignment due dates are set for ~1.5 weeks following your online practical sessions (See Page 3 of the Syllabus). Unfortunately, it is next to impossible to keep track of the hundreds of students in this class and as such, **late assignments will not be accepted and will be given a mark of zero.** To ensure fairness to all students, this **rule will be followed very strictly.**

The only time a late assignment will be accepted is if a student suffers a medical issue that interferes with completing the assignment and is substantiated by a doctor's note (above a grade of "moderate"), given to your TA (who will forward to the Professor).

Take a pro-active approach and **consider handing in your assignment EARLY.**

Keep in mind that assignments are worth **15% each, for a total of 60% of your final grade**, so a zero on an assignment can be very, very detrimental to your final mark. **Students cannot submit assignments through e-mail.** These assignments are likely to be lost. Please note that student petitions to resubmit lost assignments allegedly submitted in this fashion are generally denied. We will strive for as short a turnaround in marking assignments as is possible so that you regularly know where you stand (~2 weeks).

Reminders of Key Points on Practicals:

1. Prepare for labs and make use of the TA consultation times. Our TAs are excellent and well trained scientists, and are here to make your life easier.
2. **Absolutely no late assignments will be accepted.**
3. Follow the rules because petitions for exemptions, late or misplaced assignments are likely to be denied.
4. ALL students, regardless of when you are officially entered into the class, are responsible for all aspects of the course.
5. **Plagiarism (cheating) will not be tolerated.** Do not let your friends "borrow" your assignment(s). Do not use a classmate's data because you missed the lab. Do not let your friends see your final answers. Working together through problems is ok, but there is a very fine line and specifically, the line is that **you are to be evaluated on your INDIVIDUAL work.**
6. Every year at least 12-24 students push this too far and end up with AT LEAST a zero on a particular assignment (which puts you down almost a full letter grade). **You will not be given a "first warning".** Depending on your past academic history, penalties CAN be harsher. You should also refer to the Student Code of Conduct near the end of this syllabus.

Important Mid-term Policies:

The 1.5-hour mid-term examination will be held during the mid-term period, on **TBD**. The mid-term exam will be entirely multiple choice and will be worth **15% of your final grade**. If you miss the mid-term for a verifiable reason (i.e. you have a Doctor's note or there is a religious observance), an attempt to organize ONE make-up mid-term day will be made. **If you simply "miss" the mid-term, you will receive a mark of zero.** Note that Professor Martin will assess the validity of your having missed the mid-term. Do not leave your marks to something subjective.

Interaction with the Professor:

Although I have listed a number of very strict sounding rules, I assure you that I care deeply for your success as a university student. I also do deeply regret we will not be interacting in the classroom, but I will do my best to make this as engaging a course as possible.

I (Professor Martin) very much enjoy speaking with students, especially about environmental science. You are welcome to discuss all facets of the course material with me immediately after class, during my office hours, or by appointment. I promise I am quite friendly and easy to talk with (honestly!).

Interaction with your Teaching Assistants:

Your TAs have dedicated consultation/ virtual office hours. You should take advantage of these for questions pertaining to your laboratory assignments. Note that the **TAs are not required to be intimately familiar with lecture material** (e.g. the material for your midterm test and final exam).

Quercus Information:**Logging in to your Quercus Course Website:**

Like many other courses, EESA01 uses Quercus for its course website. To access the EESA01 website, or any other Quercus-based course website, go to the UofT Quercus login page at <http://portal.utoronto.ca> and log in using your UTORid and password. Once you have logged on to Quercus using your UTORid and password, look for the **My Courses** module, where you'll find the link to the EESA01 course website along with links to all your other courses.

Activating your UTORid and Password:

If you need information on how to activate your UTORid and set your password for the first time, please go to <http://www.utorid.utoronto.ca>. Under the “First Time Users” area, click on “activate your UTORid” (if you are new to the university) or “create your UTORid” (if you are a returning student), then follow the instructions. New students who use the link to “activate your UTORid” will find reference to a “Secret Activation Key”. This was originally issued to you when you picked up your Tcard at the library. If you have lost your Secret Activation Key you can call 416-978-HELP or visit the Help Desk. The course instructor will not be able to help you with this.

Email Communication with the Course Instructor:

At times, the course Instructor may decide to send out important course information by email. To that end, all UofT students are required to have a valid UofT email address. You are responsible for ensuring that your UofT email address is set up AND properly entered in the ROSI/ACORN system.

You can check your UofT email account from:

1. The UofT home page <http://www.utoronto.ca>: From the Quick Links menu on the top right, choose “my.utoronto.ca”. Enter your UTORid and password, and when the Welcome page opens, click “WEBMAIL”.
2. Email software installed on your computer, for example Microsoft Outlook or Mozilla Thunderbird. Visit the Help Desk at the Information Commons or call 416-978-HELP for help with the set up.

Forwarding your utoronto.ca email to a Hotmail, Gmail, Yahoo or other type of email account is not advisable. In some cases, messages from utoronto.ca addresses sent to Hotmail, Gmail or Yahoo accounts are filtered as junk mail, which means that emails from your course instructor may end up in your spam or junk mail folder.

You are responsible for:

1. Ensuring you have a valid UofT email address that is properly entered in the ROSI/ACORN system.
2. Checking your UofT email account on a regular basis.

Some Final Words of Advice:

This course is moderately demanding and there are plenty of things that will be unfamiliar. I am not oblivious to the fact that most students will have little experience with Environmental Science, or possibly science in general. As long as you are willing to learn, I am willing to provide you with whatever resources you require to learn. It is difficult to "crash and burn" because of the large number of elements in the course. It is, however (and for the same reason), a considerable task to maintain a high standard. You cannot do really well if you do very poorly on any element, so be vigilant: a really bad mid-term, for example, can make a difference of at least a letter grade to your final mark.