Current Questions in Mathematics and Sciences PSCD02H3

"Current Questions in Mathematics and Sciences" (PSCD02H3) is a rather unique course. It is intended to increase our overall scientific literacy through discussions, writings and presenting the materials on the current topics in mathematics and sciences. The discussions will be based on the lecture materials that will be delivered by the invited lecturers, the course instructor and of course–you!

Further particulars of the course requirements will be explained through the grading scheme which is as follows:

Attendance	10%
Participation in course discussions	15%
Tutorial short quizzes	5%
Overview of a paper (reading week)	5%
Critical Annotated Bibliography	15%
Paper (essay)	25%
Presentation	25%
Total	100%

The class and tutorial attendance is mandatory. For exchange, however, there are no tests in this course (i.e. no midterm or final exam - as you can see from the above table). Thus, just by attending each lecture and tutorial you earn 10% of your mark. You will **lose** 2 marks for each missed lecture and 1 mark for each missed tutorial. We are receiving guest lecturers and out of respect for their efforts, please: *arrive on time, turn off your cell-phones and do not eat or drink during the lectures*! We shall have a break between lectures and tutorials during which you can grab something to eat or drink!

You are expected to actively **participate in class discussions**: during the lectures, tutorials and after on the discussion board. In order to be an effective participant in the discussions you should do some research yourself on the lecture topics. (Preliminary list of

lecturers is provided below.) The tutorials are covering and discussing the materials presented during the guest lecture and/or any other relevant material.

What is expected of class discussions and what you are going to be evaluated on is: engagement, asking relevant questions, expanding the depth of the topics, providing answers to questions, maintaining class/tutorial/discussion board dynamics, timely participation (online discussion board), and comments/questions show topic understanding.

At the end of each tutorial you'll be **given a short quiz** on the topic discussed the week before. This extra week between the lecture and the quiz will give you time to prepare, discuss and digest the material. The tutorial quizzes will have two to three short questions only and they are designed to test your general understanding of the topics covered in the lectures – not any details.

Before the reading week you will be **assigned a non-technical paper** (i.e. something on the level you could find in Scientific American). Your task is to critically read the paper and very briefly state all scientific questions and issues given in the paper (***not*** in the bullet-point though!). You also will have to find areas where there are ethical issues relating to the possible solution to the scientific question(s) explained in the paper. This assignment should not be longer than 250 to 500 words. **It is due the first class after the reading week – February 24th**.

The main part of the course and the most work from your side lies in the following three components: critical annotated bibliography, review paper and presentation. These three components are connected. There will be more details provided on each component but the outline is as follows:

1. **Select a topic of your choice**. I am not limiting you with a list of topics, but there are some simple criteria your topic must meet. First, it must be a current question from mathematics or sciences, not something from the history of mathematics or sciences (i.e. not the Copernicus heliocentric system or similar). The second criterion is: the topic you choose should not be from your 'area of expertise' – in other words if you are a chemist your topic

should be from astronomy or physics or…. well in short – anything but chemistry. The aim is to take you out of your 'comfort zone' and see how you can handle any topic in science. And that's it! If you are unsure if your topic is acceptable, please do not hesitate to talk to me! You will write an annotated bibliography and a paper and give a 15 min presentation on your chosen topic (see below).

2. **The next step – you do research on your topic**. The sources you should use for your research should be a general science sources: books and general science journals. You should not go in technical depth (again the goal is not to make you an expert in high energy physics if you are a biologist but rather the goal is to make you research and understand a current issue in science). You'll be given more instructions on the sources soon.
3. **Write a critical annotated bibliography**. Your critical annotated bibliography is **due on February 3rd in class** (*5% of your mark will be deducted per day late!*). It should be typed and *about 1250 words in length*. The annotated bibliography should have about 250 words devoted to a short introduction to your topic. The introduction is followed by very short description for each source you are going to use for your final paper and presentation. Each source should be briefly described in about one paragraph. We shall talk about annotated bibliography more and you'll be given further instructions on how to write this component during one of our classes and tutorials. This assignment is the point where the quality of your topic and your sources are evaluated. It is also important that you demonstrate the ability to summarize your sources and evaluate its usefulness for your paper.
4. **Write the paper**. The paper should be about 2000 to 2500 words in length. Again, the details about the paper will be given in due time (format, evaluation criteria, submitting the paper etc.). The annotated bibliography serves as a good preparation for writing the paper. You will have to submit your final paper through turnitin.com and submit a hardcopy in class. Regarding TurnItIn service, please note the following:

Normally, students will be required to submit their course essays to Turnitin.com for a review of textual similarity and detection of possible plagiarism. In doing so, students will allow their essays to be included as source documents in the Turnitin.com reference

database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University's use of the Turnitin.com service are described on the Turnitin.com web site.

The paper is due electronically on turnitin.com by 11:59 pm on Tuesday March 8th. Identical paper copy must then be submitted on Wednesday March 9th in class. *Again, 5% of your mark will be deducted per day late!*

Some important parts for the evaluation of your paper are style, referencing, organization, grammar, topic coverage and meeting the length requirements.

5. **Prepare and deliver your presentation**. Finally, you have to give a **15 min presentation (strictly 15 minutes!!)** on your topic based on the paper you submitted. The Q&A session follows each presentation (about 5 min for this). You have to e-mail me your presentation slides, because the slides will be posted on the intranet for others to follow! Considering the time-constrains, your presentation does not have to cover all material form your paper: it can focus on one part of your topic.

   Your presentation will be judged based on, among other points: time, quality of oral skills, and quality of slides.

The Preliminary Course Content

Unfortunately, the schedule is not strictly fixed still and I am still waiting for the conformation from several invited speakers. It will be updated on a regular basis as the speakers (guest lecturers) confirm their participation.

Date	Lecture	Tutorial	Comments
Jan. 6th	• Introduction to the course and preliminary discussion • Movie night! (title TBA)	No tutorial	The first discussion board opens.
Jan. 13th	Junjian Wang *Topic*: Environmental Science *Lecture*: TBA	Discussion and quiz based on the Jan. 6th move night	Start thinking about your topic!
Jan. 20th	**Course requirements**: getting ready to write annotated bibliography, paper and presentation and meeting the expectations (topics, sources, formats, grading etc.)	Tutorial and quiz based on Jan. 13th lecture	n/a
Jan. 27th	TBA	No tutorial!	n/a
Feb. 3rd	TBA	Tutorial and quiz based on Jan. 27th lecture	Annotated bibliography due!!
Feb. 10th	Kristine Haynes, *Topic*: Environmnetal Chemistry *Title*: TBA	Discussion and quiz based on material from Feb. 3rd lecture.	Reading assignment for reading week posted.
Feb. 17th	**READING WEEK: NO LECTURES, NO TUTORIALS - READING ASSIGNMENT**		
Feb. 24th	TBA	Discussion and quiz based on material from Feb. 10th lecture.	Start finishing your paper already! And think about your
March 2nd – 30th	Your presentations! The schedule is going to be posted on the blackboard.	Discussion and quizzes on Feb. 24th lecture and your lectures.	Papers are due March, Wed. 9th in class (and on TurnItIn the night before)

Office hours and contact info

My office is located in the new environmental sciences and chemistry building (behind the Instructional Center), 5th floor, room EV564. **The office hours schedule will be posted on the Blackboard portal (under 'Contact')**. If you would like to see me outside the office hours (for any reason), please e-mail me and we'll schedule the time. You can pay me a visit before the semester starts and before announcement of the regular office hours.

I can also be reached via e-mail: ahadzovic@utsc.utoronto.ca.

Academic Integrity

Academic integrity is one of the cornerstones of the University of Toronto. It is critically important both to maintain our community which honors the values of honesty, trust, respect, fairness and responsibility. It also protects you, the student within our community as well as the value of the degree towards which you are all working so diligently. Detailed information about how to act with academic integrity, the Code of Behavior on Academic Matters, and the processes by which allegations of academic misconduct are resolved can be found online: http://www.artsci.utoronto.ca/osai/students and http://www.utsc.utoronto.ca/~vpdean/academic_integrity.html

Section B of the University of Toronto's Code of Behaviour on Academic Matters (http://www.governingcouncil.utoronto.ca/policies/behaveac.htm) lists actions that are considered academic offences. Some of the most common offences are:

- To use someone else's ideas or words in their own work without acknowledging that those ideas/words are not their own with a citation and quotation marks, i.e. to commit **plagiarism**.
- To include **false**, **misleading** or **concocted** citations in their work.
- To obtain **unauthorized** assistance on any assignment.
- To provide **unauthorized** assistance to another student. *This includes showing another student completed work*.
- To submit their own work for credit in **more than one course** without the permission of the instructor.

- To **falsify** or **alter** any documentation required by the University. This includes, but is not limited to, doctor's notes.
- To use or possess an unauthorized aid in any test or exam.

There are other offences covered under the Code, but these are by far the most common. Please respect these rules and the values which they protect. Offences against academic integrity will be dealt with according to the procedures outlined in the Code of Behavior on Academic Matters.

Accessibility

Students with diverse learning styles and needs are welcome in this course. In particular, if you have a disability/health consideration that may require accommodations, please feel free to approach me and/or the AccessAbility Services Office (ability@utsc.utoronto.ca) as soon as possible. I will work with you and AccessAbility Services to ensure you can achieve your learning goals in this course. Enquiries are confidential. The UTSC AccessAbility Services staff are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations. More details are available at: http://www.utsc.utoronto.ca/~ability/.