

Topics in Toxicology (0.5) TOX*4200 Winter 2016**Course Coordinator:**

Richard Manderville, PhD, Department of Chemistry, Phone 53963,
rmanderv@uoguelph.ca, Office 3243 SC

Teaching Assistant:

Abigail Van Riesen, Department of Chemistry and Toxicology, avanries@uoguelph.ca

Calendar Description and Objectives:

To expose the student to and allow interaction with the broad areas of toxicology through the media of oral presentations and discussions, term papers, critical evaluation of the literature, and poster production. Students will be expected to improve their presentation and writing skills, become critical thinkers, and expand their knowledge and understanding of biomedical and environmental toxicology during the course.

Topics in Toxicology will include presentations by students, faculty members in the Graduate Toxicology Program. The emphasis will be on advanced concepts and techniques in toxicology research with particular relevance to mechanistic, molecular and interpretive toxicology

Course Requirements and Grading:

Student grades will be assigned in the following proportions. There is no final exam.

Critique (2 x 10%)	20%
Debate	30%
Term Paper	30%
Group Poster	20%

Lectures:

Class begins with a lecture by a faculty or guest covering an area of research or applied toxicology in which the speaker works. The lecturer will distribute (ideally before the lecture) a published paper or similar document on a topic relevant to the seminar. The paper(s) will be provided in an electronic PDF format and will be distributed on courselink.

Critique:

Students are required to write 2 critiques for papers that are assigned by guest lecturers. Each critique should be no more than 2 pages double spaced in length. Submit each critique in class one week after the guest lecturer.

Your Critiques will be evaluated using three criteria:

1. Did the student demonstrate a clear understanding of the paper (objectives, methods, conclusions, etc.)? This should be reflected in some form of review of the salient points and methods used in the critique. (50%)
2. Did the student offer some level of critical thinking (critique)? The focus of critical comments could be editorial (writing, format and organization), methodological, breadth, and depth of subject coverage, etc. Note: a critique may offer both positive and negative comments on a paper. (30%)
3. Writing. Was the critique well written, organized, and did it possess logical flow (organization)? (20%)
4. The maximum critique length is 2 pages double spaced (not including references), 12 pt font, 1.5 cm borders. Number pages and separate the critique using headings: i.e. Summary, Introduction, Critique, Conclusions, References.

Debate:

Many areas of toxicology are controversial and are ideally suited for a debate. Debates will be presented to the entire class and all students are expected to attend. The objective of the exercise is to gain experience in presentation skills and use of graphics to present a logical argument. Two students will participate in a debate, 1 student will be for a particular topic, while the other student will be opposed. Each student will present a 15 min powerpoint presentation on the topic, followed by a 5 min question period. Following the second 15 min presentation, and 5 min question period, each presenter has 5 min to conclude and reinforce their position, with both students fielding questions. Send an electronic copy of your presentation (either power point or PDF) to Abigail by 5pm prior to the day of your presentation so the PDF can be posted on courselink before class starts (**10% penalty if not sent in the day before or earlier**). The day of your presentation bring an electronic copy of your Power Point presentation to class on a data-stick to load into the computer for presentation. Power Point 2007 is the best program to use.

Poster:

The information covered in your poster must be different from that of any of the term papers.

These presentations are in the form of a poster to be presented and defended at the **Toxicology Symposium in March**. You will work in groups of two. This grouping was

done at random and will be listed on courselink. Groups must select a toxicological subject of general interest to toxicologists and the lay public alike **that is related to the theme of the Toxicology Symposium**. Groups must submit a poster topic by **Wednesday Feb 3** to Abigail. Topics **will be reviewed and finalized by Friday Feb 5th**. Approval is given on a first come basis and appropriateness of the topic. Posters should be composed using Power Point. Pictures of students must be on the poster at the top with the title. Posters should use the format similar to that used at a scientific meeting and does not have an abstract. **Abstracts are separate and are in the symposium program these are due to Abigail by February 24th**. Your group is allocated one sheet of paper, 36 wide by 48 inches high for the entire poster, portrait only. Printing will be printed at the Chemistry Department Poster Printing Facility. Posters must be **ready for printing on Wednesday March 2nd**. One student, selected by the poster group, will present a Power Point and oral summary of the poster in the special session at the Symposium. Prior to the Symposium, practice presentations will be given in-class during the week prior to the Symposium (Mon-Fri Feb. 29-March 4). The time allocated for this is 3 min per poster and a maximum of 5 slides is recommended. The posters will be uploaded to Courselink in PDF format for the class to review and for formal marking. Posters will be judged according to a format used in the student poster competitions at scientific conferences. It is expected that all students in the group will participate equally in the preparation of the poster.

Term Paper:

The student must submit a term paper on your debate topic two weeks following your debate.

Term Paper Format

This term paper should be written as a review of the debate topic chosen that includes your stance on the issue presented in the debate. The paper should demonstrate a critical review of the information and literature used while offering a concise argument for your stance on the debate topic. Students must demonstrate an up-to-date understanding of the topic using the most recent published articles as references. Term papers should be organized according to the following format using numerical headings:

Term Paper Length

The paper should not be longer than 5 pages double spaced excluding Figures and Tables, typed in 12-point font. Cover page should include clear title and author information. File name of electronic submission should include student name, e.g., <Doe J TOX4200 2016 term paper>.

Term Paper Introduction

This section should clearly state the importance of the topic and introduce the reader to the subject by way of general background.

Term Paper Literature Review and Discussion

A review of past work is required in the area of presented paper. The references should be as current as possible and the review should contain constructive criticism of the methodology or hypotheses where such criticism is appropriate.

Term Paper Content

Your review section must be scientific; a popular approach with unsupported statements is not acceptable.

You are strongly encouraged to use Tables and Figures. However, do not use pasted-in or scanned in Figures from the literature. Redraw them to illustrate the point you are trying to make. Tables and Figures should be used to improve clarity and reduce excessive description in the text. They must always be referred to in the text but information in Figures and Tables need not be fully repeated in the text. They must be appropriately captioned, labeled, and referenced to original source (redrawn from Doe et al. 2007).

Term Paper Sources of Reference

To find publications you may use books, review articles etc. available in the main library as well as the internet search engines, such as Google, and/or databases such as PubMed, CD ROMs (e.g., CCINFO Disk), Biological Abstracts, Chemical Abstracts, Weed Abstracts, Agricultural Abstracts, Pesticide Abstracts, Index Medicus, Science Citation Index, references in other papers, etc. Internet references should not be used a primary source of information unless they are a source of otherwise published papers or reports (e.g., US EPA WHO, or Health Canada reports). In addition, the 'quality' of your references will be considered in determining your final grade. Use of primary scientific articles would be preferable to review papers.

Term Paper Criteria of Evaluation

Neatness, spelling, grammar, layout, organization - 20%. Relevance of material to topic, logic of criticism, coverage of literature, references - 80%.

Term Paper References

All facts and data must be referenced either by number or author and date. The references should be typed on a separate page(s) and include the following: Author/s; Year of publication; Full title of article or book; Journal name in full; Volume number (underlined or in bold); Page numbers.

Example from text:

Peabody and Hollander (1997) showed that the half-life of polonium-210 in plaice was 37 hours, however, other workers have shown that the half-life is between 96 hours and 24 days (Djerassi 1998; Strangelove et al. 1994).

Example from bibliography:

Peabody WW, Hollander X. 1997. Polonium uptake in the plaice. American Journal of Freshwater Research 44:69-96.

Djerassi K. 1998. The fate of trans-uranium elements in the environment. Academic Press, Toronto, 1998, 193 p.

Strangelove A, Sellers P, Pickins S. 1994. Radioactive elements in the North Atlantic. In: Love S. (Ed.) Marine Ecotoxicology, Putrid Publications, Greenland Press, Gothab Greenland, 1994 pp 101-106.

Handing in Late

Papers are due **2 weeks after your debate date**. Papers may not be handed in late without appropriate medical or counselor certification. **Penalty** for handing in late is **5%** of the paper grade per day.

Academic Misconduct

It is the student's responsibility to read and to comply with the policies regarding academic misconduct at the University of Guelph. These are listed in the Undergraduate Calendar at http://www.uoguelph.ca/undergrad_calendar/index.shtml Of particular relevance to this course is honesty in written assignments, honesty with respect to medical excuses, and plagiarism. In fairness to you and to other students, academic misconduct will not be tolerated and will be dealt with firmly.

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