Environmental & Resource Science
TRENT UNIVERSITY

ERSC 2230H: Environmental Assessment: Sampling and Analysis
2010-11 WI
Peterborough

Instructor: Dr. Anurani Persaud		**Email:** adpersaud@trentu.ca
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Course Pre-requisites:

ERSC 1000Y (100), or 1010H (101H) and 1020H (102H), **AND** 2220H or CHEM 1000H and 1010H (100). Excludes ERSC 220, 2210H (221H)

Course Description:

This course provides a general introduction to environmental sampling and assessment. The lectures will first cover some general environmental chemistry followed by more applied environmental assessment. The aim is to provide you with an understanding of how one goes about assessing environmental impacts and of the techniques that you can apply in various situations. You should be able to determine the appropriate techniques necessary for assessment of various environmental impacts at the end of this course.

Course Format:

Type	Day	Time	Location
Lecture	Monday	17:00-17:50	GCS 114
	Thursday	9:00-10:50	CC307
Lab (3 hrs/week, every second week)	Monday	9:00-12:00	ESB A 202
	Monday	13:00-16:00	ESB A 202
	Tuesday	9:00-12:00	ESB A 202

Course Evaluation:

a) **Midterm Test and Final Written Exam**:

The Midterm and the Final Exam will be used to test your fundamental and applied understanding of the topics covered in the course. They will be based on the lecture materials and the content of the laboratory exercises. The midterm will be held the week before reading week. The final examination will be held during the regular examination periods at the end of the Winter Term.

b) **Laboratories**:

Attention: when working in a laboratory with chemical or biological agents, you must use adequate personal protection. This includes close-toed shoes, lab coats and safety glasses (if you don't already have safety glasses, they will be for sale from the Laboratory Coordinator for $ 7). Further instructions will be given in the lectures and labs. Your performance in the accompanying laboratory exercises will be evaluated in two ways. First, you will demonstrate that you have familiarized yourself with the theory and practice of each lab by answering some simple entry questions (answers are marked). These questions will be handed out at the beginning of each lab exercise and completed before the experiments are started.

Second, you will document, discuss and interpret the conducted experiments after you have completed the practical lab exercise. These reports will be graded on your comprehension of the exercise and your ability to organize, present and interpret your results. Throughout the term, there will be a total of five lab reports (two full reports and three calculations) to be submitted. All reports will be due before you conduct a new experiment. Reports submitted after their deadline will receive a marking penalty of –5 % per calendar day; deliverables submitted more than 9 days after their due date will not be accepted and marked as "0 %". If you know that you will be absent from a lab, please contact the instructor to make alternate arrangements. You may not change from your designated lab group to join another without prior consent from the instructor or lab coordinator. Absence from labs will not be penalized if a medical certificate is provided.

Please refer to the laboratory manual on webct for details on how to put together your laboratory reports. For additional information on reports visit Trent's Academic Skills website (http://www.trentu.ca/academicskills/science.php) and click on "Scientific Laboratory Report Writing: The Technical Details" link. **For all of your ERSC 2230H labs you are now required to include a title page as outlined in the "Scientific Laboratory Report Writing: The Technical Details" (see page 2).** Be sure to **sign** your title page in order to verify the academic integrity statement.

Allocation of Marks:

Course Assignment	fraction of total mark
Midterm	15 %
Final exam	35 %
2 full lab reports (15% each)	30 %
3 Lab calculations (5% each)	15 %
5 Prelab quizzes (1% each)	5 %
TOTAL	**100 %**

Week-by-week schedule:

Week	Week of Date	Lecture Schedule	Laboratory Schedule
1	1/10/2011	Course Organization The Analytical process	
2	1/17/2011	Quantification, Error and Variability	Lab 1: Iron Photochemistry
3	1/24/2011	Common analytical techniques and their applications	
4	1/31/2011	Chemistry of water Aqueous pollutants	Lab 2: Mass Balance
5	2/7/2011	Chemistry of air Atmospheric pollutants	
6	2/14/2011	Review & Mid-term exam	
7	2/21/2011	**Reading Week**	**Reading Week**
8	2/28/2011	Chemistry of soils and sediments Pollutants in soils and sediments	Lab 3: Air Pollution
9	3/7/2011	Indigenous environmental issues	
10	3/14/2011	Ecotoxicology	Lab 4: Soil Acidification
11	3/21/2011	Risk and site assessment	
12	3/28/2011	Environmental impact assessment	Lab 5: Ecotoxicology
13	4/4/2011	Environmental impact assessment Review	

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University Policies

Academic Integrity:

Academic dishonesty, which includes plagiarism and cheating, is an extremely serious academic offence and carries penalties varying from a 0 grade on an assignment to expulsion from the University. Definitions, penalties, and procedures for dealing with plagiarism and cheating are set out in Trent University's *Academic Integrity Policy*. You have a responsibility to educate yourself – unfamiliarity with the policy is not an excuse. You are strongly encouraged to visit Trent's Academic Integrity website to learn more: www.trentu.ca/academicintegrity.

Access to Instruction:
It is Trent University's intent to create an inclusive learning environment. If a student has a disability and/or health consideration and feels that he/she may need accommodations to succeed in this course, the student should contact the Disability Services Office (BL Suite 109, 748-1281, disabilityservices@trentu.ca) as soon as possible. Complete text can be found under Access to Instruction in the Academic Calendar.

Please see the Trent University academic calendar for University Diary dates, Academic Information and Regulations, and University and departmental degree requirements.

Last date to withdraw from Winter term half courses without academic penalty in 2010-11 is March 11, 2011.

MyLearningSystem:

All communication regarding the course will be through announcements in the lectures or through Trent's MyLearningSystem (WebCT). The instructors will attempt to post lecture notes on WebCT before each lecture. To access WebCT, students must be registered in the course, and have access to a computer (computer access is provided by various shared facilities throughout the university).