GEOG-9119B
Monitoring of Riverine Systems

Instructor:
Dr. Adam G. Yates (adam.yates@uwo.ca)
Rm 2403 SSC, x85008

Course Schedule:
Tuesdays - 1pm to 4pm (first class Jan. 6)
Seminars: SSC 2240
Labs: Rm 1310

Course Description:
Contemporary riverine principles are explored in the context of the development and execution of riverine monitoring. Methods of monitoring the physical, chemical and ecological status of rivers will be discussed with labs providing opportunities for practical experience in popular monitoring techniques. A presentation and formal written report detailing the findings of a review of an ongoing riverine monitoring program of the student’s choice is expected.

Course Materials:
Course readings will draw upon a variety of sources from the primary and secondary literature and will be made available on 1 day reserve in the library. A full reading list will be provided in the first class of the term.

Methods of Evaluation:
Students will be evaluated on the basis of the quality of a report reviewing an existing riverine monitoring program. Reports will be due at the end of the term. Students will also be expected to present an overview and critique of the selected monitoring program to their peers during class near the end of the term. Evaluation of student participation during labs and discussions will also be evaluated.

Assignment Weights
Written Report (50%)
Oral Presentation (40% - includes peer evaluation)
Participation (10%)

Assignment Descriptions
Written Report: The report will describe the monitoring program, including its goals, scope, methods and end users. The report will also include a critique of the program assessing the strengths and weaknesses of the program and a
judgment on whether the program meets its stated goals and suggestions for how the program could be improved. The report will not exceed 10 pages double spaced (excluding references, tables and figures). Report grades will be based on the clarity, accuracy and quality of the program description and critique as well as the quality of the writing and formatting of the document. Reports will be due the final day of classes.

Oral Presentation: The presentation will provide an overview of the report covering both the program overview and critique. The presentation will be done in powerpoint and should be 20 minutes in length with a 10 min question period to follow. Presentations will be graded by both the instructor and other students with average peer-evaluation accounting for 50% of the presentation grade. Presentations will be evaluated based on the presenter’s knowledge of the topic, clarity, visual presentation quality, oral presentation skills and ability to answer questions. Presentations will occur the second last week of classes.

Participation: The participation grade will be assigned on the basis of attendance and engagement in class discussions and labs, as well as asking quality questions of the presenters.

Course Schedule:
Week 01: Seminar 1 – class organization & reading list
Week 02: Seminar 2 – riverine ecosystems
Week 03: Seminar 3 – riverine ecosystems in populated landscapes
Week 04: Seminar 4 – fundamentals of environmental monitoring
Week 05: Seminar 5 – monitoring of riverine systems
Week 06: Lab 1 – watershed description using ArcHydro
Week 07: no class - reading week
Week 08: Lab 2 – water chemistry, stream hydrology, and aquatic habitat sampling
Week 09: Lab 3 – stream metabolism sampling
Week 10: Lab 4 - benthic invertebrate sampling and processing
Week 11: Lab 5 – algae and fish sampling
Week 12: student presentations
Week 13: no class – reports due

Reading List

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<thead>
<tr>
<th>Week</th>
<th>Readings</th>
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<tr>
<td>Week 1</td>
<td>No Readings</td>
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  - Frissell et al (1986) A hierarchical framework for stream habitat classification: |

**Week 3**

Further Readings: 

**Week 4**


**Week 5**


**Week 6**


**Week 7**

Reading Week – No Readings 😊

**Week 8**


**Week 9**


**Week 10**


**Week 11**

Stanfield (2005) *Ontario Stream Assessment Protocol*. Ontario Ministry of Natural Resources (Section 3)

**Week 12**

No Readings

**Week 13**

No Readings

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**Statement on Academic Offences:**

The statement: “Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following Web site: [http://www.uwo.ca/univsec/handbook/appeals/scholastic_discipline_grad.pdf](http://www.uwo.ca/univsec/handbook/appeals/scholastic_discipline_grad.pdf)