

W&FCON 697R ADVANCE WATERSHED SCIENCE

Spring 2008

Meeting: Wednesday 10:10 to 1:30 in Rm. 306 Holdsworth

Course teacher: Dr. Timothy Randhir, Department of Natural Resources Conservation

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Course website: <http://spark.oit.umass.edu/>

Course Objectives: (i) to study advance topics in watershed science; and (ii) to specialize in a selected topics through in-depth review and publishable reporting.

<i>Week</i>	<i>Topic</i>	<i>Remarks (Leader)</i>
Jan 30	Course Plan and Introduction	
Feb 6	Subsurface/Vadoze hydrology/VSAC/Ecohydrology	Meagan
Feb 13	Urban hydrology/Smart growth / low-impact development	Roland
Feb 20	Climate Change	Kary
Feb 27	Wetland System dynamics	Roland
March 5	Riparian zone management	Meagan
March 12	Coastal Zone Management	Kary
March 26	Temporal and spatial modeling	Roland
April 2	Land use impacts and approaches	Meagan
April 9	Contaminated sediment - management	Kary
April 16	Risk Assessment	Roland
April 23	Managing migratory species and restoration	Kary
April 30	Watershed Restoration	Kary
May 7	Water Law/ privatization/ water management	Meagan

Evaluation:

The final grades will be calculated based on preparation and presentation of the weekly topic (40%) and a review paper (60%).

Procedure for discussing weekly topics:

Each student will research the topic and bring it to the class: (i) one page of highlights on the current topic based on their research. For this, a bulleted list of ideas and concepts will suffice; (ii) One-page summary of a journal article that is interesting and deals at an advance level (bulleted list); and (iii) Copies of the article.

Each student will be given 10 minutes to cover their highlights. The leader (listed above)

will take notes and prepare a master list of concepts as a Word document). The leader will also collect material (above three items) from each student and prepare a master report on each topic after the class. The leader is expected to update the summaries and files on the website. Anyone missing preparation will be reduced 10% of the course grade for each missed topic.

Procedure for Review Paper:

Student will work individually or in groups to identify and develop a review paper on a major watershed topic that is not researched well in literature. Students are encouraged to discuss with the professor on the process. A typical review paper involves classifying major areas and presenting it well into a publishable quality. See examples of review papers in major journals. This involves extensive work on compiling large amounts of literature. Each week the group needs to report on the progress. A draft for publication is due on the last day of class. The paper should be in acceptable form for submission to a journal.

Lack of progress in any week will result in reduction of 5% of the grade each week. Student not contributing to the group will be assessed reduced points.

Policy:

Incompletes or postponement of tasks will not be encouraged. These will result in automatic reduction of points earned.