

CEE 697x – Advanced Topics in Environmental Engineering  
Spring Semester 2012

**Course Descr: CEE 697x**      Advanced Topics in Environmental Engineering. Credit 1. Graduate level course on reading and analyzing current literature in the field of Environmental Engineering (water quality, water and wastewater treatment processes, etc.)

**Schedule:**      M 12:20      Kellogg Room      (Marston 15 is backup)

**Textbook:**      none

- References:**
1. Hofmann, Angelika H., Scientific Writing and Communication. Oxford University Press, 2010
  2. Gustavii, Bjorn, How to Write and Illustrate a Scientific Paper, Cambridge University Press, 2<sup>nd</sup> edition, 2008
  3. Cargill, Margaret & O'Connor, Patrick, Writing Scientific Research Articles: Strategy and Steps, Wiley-Blackwell, 2009.
  4. Coghill, Anne M. & Garson, Lorrin R., The ACS Style Guide: Effective Communication of Scientific Information, 3<sup>rd</sup> Edition, ACS, 2006
  5. Lester, James D., Writing Research Papers, Addison Wesley Longman, Inc., 9<sup>th</sup> ed. 1999.

**Instructor:**      David A. Reckhow, Professor of C.E.E.  
16c Marston, 545-5392, [reckhow@ecs.umass.edu](mailto:reckhow@ecs.umass.edu).  
Office hours: TuWTh 11:00 to 12:00; F 10:00-12:00

<b>Course Objectives:</b>	<ol style="list-style-type: none"> <li>1. To refine the student's ability to find relevant literature, read the literature, understand the full context of the research questions, prepare written summaries and critiques, and to propose followup research to fix weaknesses, to answer key questions posed by the research, or to take the next step in advancing the research theme.</li> <li>2. To reinforce the culture of regularly reading newly-published scientific literature, and maintaining a knowledge and awareness of the current state-of-the art</li> <li>3. To give the student a better understanding of how current environmental engineering research has been built upon numerous key research studies from the recent past.</li> <li>4. To lay the groundwork for planning and writing publishable papers based on the student's graduate research</li> </ol>
---------------------------	--

Grading Criteria: (attendance is required)

Class Participation	30%
Bibliography and Research Area descr.	20%
Presentation of Critiques to Class	50%
	100%

**Homework** in the form of literature critiques will be assigned, and students will also be asked to present their critiquetst to the class. Descriptive material on reasearch areas and bibliographies will also be collected

**Attendance:** Attendance is required. Notify the instructor prior to class if you have a conflict or cannot attend class for any other reason.

<b>General Expectations for the Critiques and Presentations</b>	<ol style="list-style-type: none"> <li>1. Select a paper from a well-regarded peer reviewed journal. You may consult your research advisor, as you will probably want to pick a paper that is related to your graduate research. Avoid review papers. Send the paper out to the class by the Friday before your presentation.</li> <li>2. Read the paper carefully, noting the need/justification for the work, the objectives, methods, data, data analysis and conclusion. Consider the "compelling" next research study in this area.</li> </ol>
---	---

	3. Plan your presentation to the class. Be creative in how you will engage the class in your analysis of the research paper. For example, you may want to ask leading questions of the class.
	4. Prepare annotated bibliography on your research area

Tentative Schedule

Date	Topic	Leader
Jan 25	Introduction & biblio managers	Dave Reckhow
Feb 1	Finding the literature you need	Library Staff, IS&EL
Feb 8	Critiques & Discussion	Students
Feb 15	Critiques & Discussion	Students
Feb 22	Critiques & Discussion	Students
Feb 29	Critiques & Discussion	Students
Mar 7	Critiques & Discussion	Students
Mar 14	Critiques & Discussion	Students
Mar 21	Spring Break	
Mar 28	Critiques & Discussion	Students
Apr 4	Critiques & Discussion	Students
Apr 11	Critiques & Discussion	Students
Apr 18	Critiques & Discussion	Students
Apr 25	Critiques & Discussion	Students