

**Virginia Polytechnic Institute and State University**  
**Department of Civil and Environmental Engineering**  
**CEE 5734 – Urban Hydrology and Stormwater Management**  
**Spring 2009**

**Catalog Entry:**

Development of methods and numerical models for computing surface runoff from developing watersheds; hydraulics of combined sewer systems; urban non-point source pollutant load calculations and best-management practices; control strategies for regional stormwater management; detention basin design for control of urban floods and non-point source pollutants.

**Instructor:**

Dr. Glenn E. Moglen  
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Office Hours: MWF, 3:00 pm – 4:00 pm  
(or by appointment)

**Class times:**

Lecture: Monday, 4:00 pm – 6:45pm, (NVC – 103 and 123A Burruss)

**Web Page:**

[URBAN HYDROLOGY -SPRING2009 \(CEE 5734 16816 200901\)](http://www.vbs.vt.edu/content/classes/display_class.php?course_ID=168162008) (at Blackboard)

**Video Streaming:**

[http://www.vbs.vt.edu/content/classes/display\\_class.php?course\\_ID=168162008](http://www.vbs.vt.edu/content/classes/display_class.php?course_ID=168162008)

**Texts:**

**Required:**

- *There is no required text for this class. Handouts will be distributed as the course progresses.*

**Recommended:**

- Chow, V.T., D.R. Maidment, and L.W. Mays. *Applied Hydrology*. McGraw-Hill. 1988. ISBN 0-07-010810-2.
- McCuen, R.H. *Hydrologic Analysis and Design* (3<sup>rd</sup> Edition). Pearson Prentice Hall. 2005. ISBN 0-13-142424-6.
- Federal Highway Administration, *Evaluation and Management of Highway Runoff Water Quality*, FHWA-PD-96-032, June 1996
- Matlab – Student Version. The Mathworks, Inc. (any version number is fine).

**Tentative Class Schedule:**

<u>Date</u>	<u>Topic</u>	<u>Homework Due</u>
January	26 Introduction, Significant Figures, Rational Method, Inlet and Pipe Design	
February	2 Natural Resources Conservation Service Methods	Hwk. 1
	9 NRCS Methods (continued)	Hwk. 2
	16 Overland Flow / Kinematic Wave Routing	Hwk. 3
	23 EPA SWMM	Hwk. 4
March	2 EPA SWMM (continued)	Hwk. 5
	9 Spring Break	
	16 Peak Flow BMP Design / Detention Basin Design	Hwk. 6
	23 Mid-term Exam	
	30 Flow BMP Design (continued)	Hwk. 7
April	6 Field Based Measurements of water quantity and quality	Hwk. 8
	13 Urbanization effects on water quality	
	20 HSPF Modeling of Water Quantity/Quality	Hwk. 9
	27 Water Quality BMPs	Hwk. 10
May	4 Low Impact Development (LID) as a BMP and Review	Hwk. 11?

*Scheduled topics may vary due to time or weather constraints. Due dates are tentative.*

**Homework Policy:** May be in the form of problem sets, computer programs, projects, or reports. Late homework may be accepted, but at greatly reduced value. **Unless otherwise stated, homework assignments are due by 3:00pm on Mondays following their assignment.**

**Final Exam: Monday, May 11, 2009, 7:45am – 9:45am**

**Grading Method:**

Homework:	55%
Mid-term Exam:	20%
Final Exam:	25%

**Academic Integrity:** Please review the University's Graduate Honor System (<http://ghs.grads.vt.edu/> and <http://www.honorsystem.vt.edu/>). This code applies to CEE 5734. I encourage group work in this class. However, I do not condone copying the work of others. If working as part of a group, I expect you to contribute your proportionate share to the group and to understand all elements of the work completed, not just your part. There will be times during the semester when assigned work is to be completed solely by the individual. During these times you are not to share any work with other students in the class.

**Special Needs:** If you have a disability that may affect your performance in this class, or if a problem arises during the semester, you should make me aware of this as soon as possible. I will make every effort to accommodate you.

**Religious Observances:** If your observance of a religious holiday will affect your ability to attend class or complete an assignment on time, please inform me of this with at least a week's advance notice.

**My role as a teacher:** I will try to lead clear, informative, and interesting discussions on the course topic. I will assign homework/labs/exams that exercise concepts discussed in class and grade/return all materials promptly. I will make every effort to be available to you outside of class during my office hours and by e-mail, however please try to avoid unscheduled visits during non-office hours times. I will treat everyone fairly and with respect.

**Your Role as a Student:** You are expected to complete and turn in **all** assignments on the date due. Read the relevant class notes **prior** to the class in which they are discussed. Come to class ready to **think**, not just take notes. If something is unclear, please ask questions (in class, by e-mail, during my office hours). **Above all, ask questions.**

If you are experiencing difficulties in keeping up with the academic demands of this course, contact the University Academic Advising Center (web site: <http://www.uaac.vt.edu/success/index.html>). Their educational counselors can help with time management, reading, note-taking, and exam preparation skills.