

Virginia Polytechnic Institute and State University
Department of Civil and Environmental Engineering
CEE 5324 – Advanced Hydrology
Fall 2008

Instructor:

Dr. Glenn E. Moglen
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Office Hours: MWF, 2:00 pm – 3:00 pm
Th, 6:00 pm – 7:00 pm
(or by appointment)

Class times:

Lecture: Thursday, 7:00 pm – 9:45pm, (NVC - 323)

Web Page:

ADVANCED HYDROLOGY -FALL2008 (CEE_5324_97566_200809) (at Blackboard)

Video Streaming:

http://www.vbs.vt.edu/content/classes/display_class.php?course_ID=975662008

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. (or any solid hydrology text that covers flood frequency analysis.)
- ESRI. *Getting to Know ArcGIS Desktop, Second Edition: Basics of ArcView, ArcEditor, and ArcInfo Updated for ArcGIS 9*. 2004. (1-58948-083-X)
- Matlab – Student Version. The Mathworks, Inc. (any version number is fine).

Tentative Class Schedule:

<u>Date</u>	<u>Topic</u>	<u>Homework Due</u>
August	28 Course introduction, flood frequency analysis history, basics	
September 4	Use of PeakFQ program, handling outliers, historical values	Hwk. 1
	11 Development of peak flow regression equations: basic concepts. Introduction to GIS use.	Hwk. 2
	18 Continued development of peak flow regression equations.	Hwk. 3

<u>Date</u>	<u>Topic</u>	<u>Homework Due</u>
September 25	Issues of non-stationarity in flood flows	Hwk. 4
October 2	Exam 1 (Hwks 1-4), begin basics of drought frequency.	
	9 Drought frequency, regional drought regression equations.	Hwk. 5
	16 Droughts and urbanization	Hwk. 6
	23 Instantaneous unit hydrographs: using GIS to determine the GIUH.	Hwk. 7
	30 Variations in the characterization of the GIUH	Hwk. 8
November 6	Exam 2 (Hwks 5-8), begin stream gaging	
	13 Continue stream gaging: rating tables, hydraulic geometry,	Hwk. 9
	20 USGS discharge data and low flow artifacts in the gage record	Hwk. 10
	27 Thanksgiving Holiday	
December 4	Journal article presentations, course summary and review	Review/Presentations

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.

Final Exam: Wednesday, December 17, 2008, 7:00pm – 9:00pm

Grading Method:

Homework:	30%
Journal Presentation:	10%
Intermediate Exams (2):	30%
Final Exam:	30%

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 5324. 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.