

CE 425 – Engineering Hydrology

Credit hours: 3, contact hours: 44

Instructor: Leslie Hopkinson, ESB 649, 304-293-9932, Leslie.Hopkinson@mail.wvu.edu

Office Hours: TBA, or by appointment

Required Text: Hydrology and Floodplain Analysis by Bedient, Huber, and Vieux, Pearson, Fifth Edition, 2008. ISBN 9780132567961

Course Description: Scientific basis of the hydrologic cycle and its engineering implications; rainfall-runoff processes, hydrographs, flood routing, and statistical methods.

Prerequisite: CE 321

Elective course for BSCE

Expected Learning Outcomes: Having successfully completed this course, the student will be able to:

	Student Outcomes
Describe and represent the components of the hydrologic cycle mathematically and discuss scientifically how the various components interact;	
Define and obtain values of soil physical properties for hydrologic calculations and engineering design;	
Define, calculate, and use the return period of a storm or other event in engineering design;	E
Estimate peak runoff rates and total runoff volumes from watersheds for use in water resources engineering design;	K
Route flood waves through channels and reservoirs; and,	K
Communicate a familiarity with the structure and functions of natural stream systems.	

Class Website: Use your MIX account to access the eCampus system at <http://ecampus.wvu.edu/>. Lecture notes, handouts, homework, additional material, and announcements will be posted there. Check your eCampus email account often.

Grading and Evaluation: Each student's grade in the course will be determined as follows:

In-class assignments and quizzes	10%
Homework assignments	20%
Two tests	45%
Final exam (cumulative)	25%

In-class Assignments and Quizzes: Attendance will not be recorded for grading purposes but is necessary to receive credit for in-class assignments and quizzes. **There will be no make-up quizzes or in-class assignments. Nonattendance grade is 0.0%.** I will drop the two lowest in-class assignment grades when calculating your final grade.

Homework Assignments: Homework must be prepared and presented in a professional manner. Due dates will be given on each assignment and will be posted on eCampus. Students are encouraged to work together on their homework, but it is not acceptable for you to submit homework that in whole or in part is the work of someone else. See the end of this document for guidelines for homework preparation. Homework (a paper copy) will be collected at the beginning of the lecture. You may submit one late homework during the semester without prior approval. The assignment must be submitted by 2:00 pm on the Monday directly following the due date to be graded. No other late homework assignment will be accepted without prior approval. All other homework submitted after the due date will earn a grade of 0.0%.

Tests and Final Exam: Tests will be closed book, closed notes. Only pens, pencils, and a calculator (with no internet access) will be permitted. **No make-up tests will be permitted without prior approval. Nonattendance grade is 0.0%.**

Final Grade Determination: The final numerical grade (based on the usual 0-100% range) will be calculated based on the grades earned by the student in exams, homework, quizzes and in-class assignments, using the grade weights listed above. The final letter grade assigned based on the following scale: 90.0-100%=A; 80.0-89.9%=B; 70.0-79.9%=C; 60.0-69.9%=D; and, 0-59.9%=F. The grade ranges may be lowered at the discretion of the instructor, but the minimums will not be raised.

Social Justice Statement: West Virginia University is committed to social justice. I concur with that commitment and expect to foster a nurturing learning environment based upon open communication, mutual respect, and non-discrimination. Our University does not discriminate on the basis of race, sex, age, disability, veteran status, religion, sexual orientation, color or national origin. Any suggestions as to how to further such a positive and open environment in this class will be appreciated and given serious consideration.

If you are a person with a disability and anticipate needing any type of accommodation in order to participate in this class, please advise me and make appropriate arrangements with Disability Services (293-6700).

Academic Honesty Statement: The integrity of the classes offered by any academic institution solidifies the foundation of its mission and cannot be sacrificed to expediency, ignorance, or blatant fraud. Therefore, I will enforce rigorous standards of academic integrity in all aspects and assignments of this course. For the detailed policy of West Virginia University regarding the definitions of acts considered to fall under academic dishonesty and possible ensuing sanctions, please see the Student Conduct Code:

http://studentlife.wvu.edu/office_of_student_conduct/student_conduct_code.

Should you have any questions about possibly improper research citations or references, or any other activity that may be interpreted as an attempt at academic dishonesty, please see me before the assignment is due to discuss the matter.

CE 425: Fall 2014 Tentative Course Schedule (The schedule of topics listed below is subject to change.)

wk	#		Date	Reading assignment (to be updated)	Assignments
1	1	M	Aug.18	Course Introduction/ Pre-test	
	2	W	20	1.1	
	3	F	22	1.2-1.3	
2	4	M	25	1.4	
	5	W	27	1.5	
	6	F	29	1.6	
3		M	Sep. 1	Labor Day Recess: University closed	No Class
	7	W	3	1.7-1.8	
	8	F	5	2	HW 1
4	9	M	8	2	
	10	W	10	2	
	11	F	12	2	HW 2
5	12	M	15	2	
	13	W	17	2	
	14	F	19	3	HW 3
6	15	M	22	3	
	16	W	24	3	
	17	F	26	3	HW4
7	18	M	29	3	
	19	W	Oct. 1	3	
	20	F	3	****Test 1****	****Test 1****
8	21	M	6	4	
	22	W	8	4	
	23	F	10	4	
9		M	13	Fall Break Recess	No Class
	24	W	15	4	
	25	F	17	4	HW 5
10	26	M	20	4	
	27	W	22	7	
	28	F	24	7	HW 6
11	29	M	27	7	
	30	W	29	7	
	31	F	31	7	HW 7
12	32	M	Nov. 3	7	
	33	W	5	7	
	34	F	7	****Test 2****	****Test 2****
13	35	M	10	8	
	36	W	12	8	
	37	F	14	8	
14	38	M	17	8	
	39	W	19	8	
	40	F	21	Stream processes	HW 8
				Nov. 24-28 Fall Recess	No Class
15	41	M	Dec. 1	Stream processes	
	42	W	3	Graduate Student Expert Lectures	
	43	F	3	Graduate Student Expert Lectures	
	44	M	8	Review	
****Final Exam: Wednesday December 17, 3:00 pm – 5:00 pm					

Supplemental Material

Class Policies:

- You are expected to turn in your own work—not work that has been copied from someone else. Turning in homework copied from someone else will result in a grade of 0.0% for all involved. Academic dishonesty will be reported.
- Class attendance and punctuality are expected.
- To preserve the privilege of obtaining individual help, each student must attend class regularly.
- A full-function hand-held calculator is essential.---Bring this to every class. We will be working complex problems in class and some will be graded.
- Do not sleep, read the paper, text, use electronic media, study for other classes, or talk to neighbors except when assigned to do so.
- **The use of cell phones, smart phones, or other mobile communication devices is disruptive, and is therefore prohibited during class. Except in emergencies, those using such devices must leave the classroom for the remainder of the class period.**
- Students are permitted to use computers/tablets during class for note-taking and class-related work only. Those using computers during class for work not related to that class must leave the classroom for the remainder of the class period.
- No video recording or photography of lectures without prior approval.

Guidelines for Preparations of Homework:

NOTE: Refer to these guidelines every time you prepare a homework assignment.

1. Neatness counts. If I can't read it, I can't grade it.
2. Present your work in an organized manner. Include the following:
 - a. List pertinent information from the problem, including numerical values (give units) and any other "clues"/assumptions you think will help you solve the problem.
 - b. Note the specific objective of the problem, what are you solving for?
 - c. Provide the guiding equation(s) or concept(s) that will allow you to solve the problem.
 - d. Carry units through calculations
 - e. Box your final answer and include units. Points will be taken off if you don't do this!!
3. When reporting numbers, use significant digits.
4. When providing a written answer, be organized and thoughtful. Write clearly in complete sentences and make sure to use correct spelling and grammar.