Florida Institute of Technology

ADDING A NEW COURSE TO THE CURRICULUM

This course is available for student registration only after the approval process has been completed.

Subject CVE (*Alpha Prefix (e.g., CSE)*) Course No. 4032 (*Number Choice (e.g., 1301)*) Credit Hours 3 Term to be added to the file Sp 03 (*e.g., Fall 2003*)

Class Hours _____ Lecture Hours _____ Lab Hours _____ Contact Hours (CEU only) _____

Department CVE ENGINEERING (*e.g., Computer Sciences*) Schedule Type _____ (*e.g., lecture, lab or special project*)

College/School (*Please check appropriate box*)
- ☑ College of Engineering-01
- ☐ College of Science and Liberal Arts (science)-20
- ☐ College of Science and Liberal Arts (liberal arts)-21
- ☐ School of Aeronautics-03
- ☐ School of Management-22
- ☐ School of Psychology-05
- ☐ SEGS-90

Computer Title (*restricted to 25 spaces, including blanks*) HYDRAULICS AND HYDROLOGY

Catalog Title HYDRAULICS AND HYDROLOGY

Catalog Description of Course (*limited to 350 characters, including spaces*)

Topics include steady flow in open channels; analysis of water surface profiles, channel design; measurements and estimation of components in the hydrologic cycle; unit hydrograph theory; statistical design methods; and hydrologic routing.

In addition, you may attach a course syllabus and/or more detailed description.

Restrictions
- ☒ Prerequisite CVE 3030 (*course number*) ☐ Corequisite _____ (*course number*)
- ☐ Prerequisite _____ (*course number*) ☐ Corequisite _____ (*course number*)
- ☐ Prerequisite _____ (*course number*) ☐ Corequisite _____ (*course number*)

Grades to be issued
- ☐ A, B, C, D, F
- ☐ S, U
- ☐ P, F
- ☐ Other _____

Additional Restriction _____ (*e.g., major, class level, department head approval*)

If this course replaces a course currently offered in BANNER, please indicate old course information

Subject *Alpha Prefix (e.g., CSE)* CVE Course No. *(e.g., 1301)* CVE 3032

APPROVALS

Upon completion of appropriate department approvals, submit form to Chair, Graduate Council, or Chair, Undergraduate Curriculum Committee for approval below and forward to Catalog Coordinator.

Originator	11/23/04 *Date*	*Chair, Graduate Council*	*Date*
Department Head/Program Chair	11/23/04	*OR*	
Dean or Associate Dean	1-26-04. *Date*	*Chair, Undergraduate Curriculum Committee*	*Date*

CATALOG COORDINATOR

Catalog Coordinator *Date*

REGISTRAR'S USE ONLY

SCACRSE _____ SCADETL _____ SCAPREQ _____ SCABASE _____
SCARRES _____ Operator Init _____ Date _____

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HYDRAULICS AND HYDROLOGY
CVE 3032-SPRING 2004
Instructor: Dr. A. Pandit, Office Hours: M,W: 10 to 11; T, Th: 11 to 12

Week	Day	Topic and Section	Homework
1	1/8	Introduction, Uniform Flows in Open Channels, **Project 1**	10.124, 130, 10.132
2	1/13	Uniform Flows in Open Channels, Estimation of Normal Depth	E10.21b,138
	1/15	Specific Energy Diagram (SED)	15.10
3	1/20	Estimation of Critical Depth	H, 15.4,8
	1/22	Channel Transitions	15.18.15.20
4	1/27	Channel Transitions	15.21,7.40P, 7.48P
	1/29	Channel Transitions (Cont.) Hydraulic Jump	15.28,30,H
5	2/2	Gradually Varying Flows	7.61P
	2/4	Combination Profiles	7.64P,7.66P,15.37
6	2/9	Computation of Profiles	H
	2/11	Introduction to Hydrology	1.1.4, 2.2.2
7	2/16	Exam 1 (20%)	
	2/18	Exam Review, Hyetographs & Hydrographs	2.3.2, 3.4.3,
8	2/23	Point and Areal Precipitation	3.4.5
		Evaporation (Mass Transfer Techniques)	3.2.1,3.2.3 H (pan)
	2/25	Evaporation	3.5.2
9		Spring Break	
10	3/8	Infiltration (Horton's Method)	4.2.1, 4.2.4 4.2.7, 5.3.1
		Base Flow Separation	7.4.3
	3/10	Base Flow Separation, Phi Index **Project 2**	5.3.1
11	3/15	Application of UH, Convolution & Deconvolution (cont.)	7.2.3 7.2.1, 7.5.4
	3/17	Convolution & Deconvolution (cont.)	

12	3/22	S-Curve and Lagging Methods	H, 7.8.3
	3/24	Exam 2 (20%)	
13	3/29	Exam 2 Review, Routing	
	3/31	Hydrologic Reservoir Routing	8.2.1
14	4/5	Hydrologic Reservoir & River Routing	8.2.2, 8.2.3,8.4.3
	4/7	Hydrologic River Routing	8.4.4, 8.4.5
15	4/12	Hydrologic Data Series, Estimation of a T-year Flood by Counting	H, 12.1.1, 12.1.2
	4/14	Estimation of a T-year Flood by Frequency Factors	12.3.4,12.3.5,12.3.6
16	4/19	Discrete Statistics, Course Review	12.1.3,12.1.4
	4/21	Guest Lecture	

TEXT 1: Introduction to Fluid Mechanics (7th Edition)
Authors: Crowe, Elger & Roberson

TEXT 2: Applied Hydrology
Authors: Chow et al.

REFERENCE: Fundamentals of Hydraulic Engineering
Author: Prasuhn

Final Exam (30%): Thursday, April 29, 8:00-10:00 AM

Five Quizzes (15%), Homework (10%), Projects 1 and 2 (5%); H: handout problems or problems given in class, P: problems from text book by Prasuhn

Other Comments

1. Make an appointment to see me if you cannot make it during office hours (ext. 7151)
2. Regular attendance is very important (crucial!)
3. Homework folder will be graded (approximately 7-8 times); solutions, or hints for completing solutions, for HW problems, can be obtained from Dr. Pandit if some work is presented.
4. **Bring your work** with you when you come to see me for help. This should include lecture notes and your complete or incomplete solution to the problem; solutions on **scratch paper are not accepted**.
5. A: 85% or above, B: 75% or above, C: 65% or above, D: 55% or above, or curve fitting in which case average is C (if average is less than 65%)
6. Everything that I write on the board should be in your notebooks; if you cannot write that fast, ask me to slow down.
7. Its OK to study from old exams.
8. Only 1 make-up quiz; the HW folder will serve as the make-up quiz and will also serve as the 10% HW grade.
9. Let Dr. Pandit know ahead of time if you plan to be absent due to a **religious holiday**