

CWR 4306 – Urban Stormwater Systems Design

University of Florida Department of Civil and Coastal Engineering

- 1. Catalog Description:** (3 credits) Surface-water system design including: time of concentration, peak runoff rate, open-channel flow, gravity storm sewer, culvert, stormwater pumping, filtration systems, hydrograph generation, flood routing, site layout, site grading and permitting.
- 2. Pre-requisites and Co-requisites:** CWR 4202 Hydraulics.
- 3. Course Objectives:** Students will gain an in-depth understanding of the design, modeling, and permitting of urban stormwater systems.
- 4. Instructor:** Dr. Mark A. Newman
 - Office location: 575L Weil Hall
 - Telephone: 352-392-9537 ext. 1518
 - E-mail address: markn@ufl.edu
 - Web site: <http://www.ce.ufl.edu/~markn/>
 - Office hours: Monday, Wednesday, Friday – 8th Period (3:00PM-3:50PM)

Email communication is highly encouraged as it allows information to be shared more readily with the entire class. The class email list is automatically generated based upon the class roll maintained by the Registrars Office. As such students must have an active University GatorLink email address (typically of the form username@ufl.edu).

- 5. Grader:** Thomas Brauer
- 6. Meeting Times:** Monday, Wednesday & Friday 4th Period (10:40 AM – 11:30 AM)
- 7. Meeting Location:** Florida Gym Room 245
- 8. Course materials**

Lecture Packets are provided on the course website
<http://www.ce.ufl.edu/~markn/CWR4306>

Recommended Text

Haestad and Durrans. 2003. Stormwater Conveyance Modeling and Design. Waterbury, CT : Haestad Press.

Supplemental Text

Haested Methods. 2007. Computer Applications in Hydraulic Engineering.

Note: The software included in these textbooks will be used for the final project and some homework assignments. The supplemental textbook is also used in the prerequisite course CWR 4202 (Hydraulics).

Required permitting documents and technical publications (available online)

Applicant's Handbook: Regulation of Stormwater Management Systems

Available from St. Johns River Water Management District (SJRWMD) website

<http://www.sjrwmd.com/programs/regulation/handbooks/stormwaterhandbook.html>

Management and Storage of Surface Waters (MSSW) Handbook

Available from St. Johns River Water Management District (SJRWMD) website

<http://www.sjrwmd.com/programs/regulation/handbooks/msswhandbook.html>

St. Johns River Water Management District permitting website:

<https://permitting.sjrwmd.com/epermitting/>

Urban Hydrology for Small Watersheds, Technical Release 55 (TR-55):

Available from United States Department of Agriculture, Natural Resources Conservation Service (NRCS) website

http://www.wsi.nrcs.usda.gov/products/W2Q/H&H/Tools_Models/WinTR55.html

Additional textbooks referenced in course notes include the following

Gribbin. 2002. Introduction to hydraulics and hydrology with applications for stormwater management. Delmar. New York.

Wanielista and Yousef. 1993. Stormwater Management. Wiley. New York.

Wanielista, Kersten, and Eaglin. 1997. Hydrology Water Quantity and Quality Control. Wiley. New York.

9. Reading assignments: Reading assignments will be posted on the course website.

10. Course Outline:

Week 1	Course introduction and overview
Week 2	Precipitation/ Design Storms
Week 3	Site and basin delineation
Week 4	Rainfall and Runoff
Week 5	Estimating Peak Runoff/Unit hydrographs
Week 6	Stormwater conveyance and detention
Week 7	Stormwater routing
Week 8	Environmental Resource Permits
Week 9	Low Impact Development (LID)
Week 10	Design project
Week 11	Design project
Week 12	Design project
Week 13	Design project
Week 14	Design project
Week 15	Design project

11. Attendance and Expectations: There is no specific penalty for missing a class; however, students are responsible for the content of each lecture, which may or may not be contained in the course notes.

12. Grading:

Homework 20%
Midterm Exam 40%
Final Project 40%

13. Grading Scale:

90-100:	A
85-89:	B+
80-84:	B
75-79:	C+
70-74:	C
65-69:	D+
60-64:	D
< 60	E

14. Make-up Exam Policy: Make-up exams are to be scheduled with the instructor.

15. Honesty Policy: All students admitted to the University of Florida have signed a statement of academic honesty committing themselves to be honest in all academic work and understanding that failure to comply with this commitment will result in disciplinary action. This statement is a reminder to uphold your obligation as a UF student and to be honest in all work submitted and exams taken in this course and all others.

16. Accommodation for Students with Disabilities: Students requesting classroom accommodation must first register with the Dean of Students Office. That office will provide the student with documentation that he/she must provide to the course instructor when requesting accommodation.

17. UF Counseling Services: Resources are available on-campus for students having personal problems or lacking clear career and academic goals. The resources include:

- University Counseling Center, 301 Peabody Hall, 392-1575, Personal and Career Counseling.
- SHCC mental Health, Student Health Care Center, 392-1171, Personal and Counseling.
- Center for Sexual Assault/Abuse Recovery and Education (CARE), Student Health Care Center, 392-1161, sexual assault counseling.
- Career Resource Center, Reitz Union, 392-1601, career development assistance and counseling.

18. Software Use: All faculty, staff and student of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.