

URP 6931 / SWS 6932

Fall 2016

**Floodplain Systems and the
Built Environment**

Instructors

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Class Period and Location

Wednesday 1:55-4:55
MCCA 3177

PREREQUISITES: None

COURSE DESCRIPTION AND STATEMENT OF GENERAL EDUCATION PURPOSE:

This course will begin with a broad overview of the physical processes that form and define floodplains in the landscape as well as their ecological structure and function. It will then focus on management of human infrastructure in existing floodplains and in those areas under threat of a changing climate and rising sea-level. The first part of the course will focus on watershed scale hydrologic processes that influence the formation of floodplains and specific features associated with soils, vegetation, habitat and ecosystems services. The later portion of the course will focus on the role of urban and regional planning, certified floodplain managers, and government (local, state, and federal) in managing the interaction of human development with the natural processes of flooding. This second part of the course will serve to acquaint students with the National Flood Insurance Program (NFIP), communities' roles in the NFIP, the bases for floodplain studies and maps in floodplain management, and federal regulatory standards. This part of the course will also explore the relationship of the NFIP to local development regulations, administering floodplain development regulations, and reducing flood losses in advance and in the aftermath of disaster events.

Successful completion of the course should prepare the student to complete the American Society of Floodplain Managers (ASFPM) exam to become a Certified Floodplain Manager (CFM)

COURSE OBJECTIVES:

- To familiarize the student with the formation, structure and function of floodplains.
- To acquaint the student with various biological, physical and chemical factors associated with floodplain ecosystem services.
- To acquaint the student with policy and regulatory issues related to floodplains.
- To acquaint the student with concepts of floodplain risk management and aspects of the National Flood Insurance Program (NFIP)
- To familiarize the student with the federal floodplain regulatory scheme and its implementation at the state and local governmental levels
- To prepare students to take the ASFPM Certified Floodplain Manager (CFM) Exam

STUDENT LEARNING OBJECTIVES:

- Understand the structure of floodplains including hydrology, biogeochemistry, soils and vegetation adaptations.
- Understand the function of floodplains and how they influence systems at the watershed scale.
- Comprehend and analyze the science and techniques being developed to evaluate floodplains.
- Understand the roles of the Federal Emergency Management Agency (FEMA), state, and local government in administering and implementing the National Flood Insurance Program (NFIP)
- Critically evaluate the present NFIP, and floodplain management programs generally, in the context of changing climate conditions and sea-level rise.

COURSE FORMAT: The course material will mainly be conveyed during a 3-hour period once a week using a lecture/discussion format. There will also be at least one field trip that will expose students to the project case study and or to visit a local floodplain to observe first hand various topics discussed during lecture.

TEXTBOOK: (required, can be downloaded from FEMA website)

Floodplain Management Requirements: A Study Guide and desk Reference for Local Officials
<http://www.fema.gov/floodplain-management-requirements>

GRADING: Overall grade will be determined based on a student's performance in all of the following categories:

Quizzes	20 %
Participation	10 %
Project	25 %
Midterm Exam	15 %
Final Exam	30 %

Quizzes –Weekly quizzes especially during the latter half of the course will be used to evaluate student comprehension.

Participation – Participation will be graded based on student involvement in class discussions, asking questions, and participation in field trip.

Project –The project will consist of a case study analysis that investigates various options associated with coastal retreat related to sea-level rise. A specific case study scenario will be provided that will require students to reflect on: 1) the environmental threshold at which retreat should occur, 2) legal and economic mechanisms/incentives for retreat, 3) mitigation mechanisms if any of the infrastructure is left behind, 4) restoration of the abandon area and 5) available funding mechanisms.

Exams – There will be two exams for the course, a midterm exam covering the first 1/3 of the course related to the biogeophysical aspects of floodplains and a final comprehensive exam covering all aspects of the course.

Final letter grade: The final letter grade for the course will be based on current UF policies that can be found at <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>. These are outlined below.

<u>Letter</u>	<u>Course Grade</u>	<u>Grade Point</u>
A	94-100	4.0
A-	90-93	3.67
B+	87-89	3.33
B	84-86	3.0
B-	80-83	2.67
C+	77-79	2.33
C	74-76	2.0
C-	70-73	1.67
D+	67-69	1.33
D	64-66	1.0
D-	60-63	0.67
E	< 60	0
WF		0
I		0
NG		0
S/U		0

Late assignments: All assignments are due by midnight on the date requested. Assignments that are late will result in an initial 5% reduction in grade with an additional 5% deduction per day the assignment is late.

ONLINE COURSE EVALUATION PROCESS:

Student assessment of the instructor and the course will be available at the end of the semester. Students are expected to provide feedback on the quality of instruction in the course using a standard set of university and college criteria. These evaluations are conducted online at <http://evaluations.ufl.edu>. Evaluations are typically open for students to complete during the last two or three weeks of the semester. You will be notified of the specific times when they are open

COURSE OUTLINE:

Week 1: Introduction and Course Overview

Week 2: Hydrologic Drivers and Morphology of River Basins and Coastal Systems

Week 3: Soils, Biogeochemistry and Water Quality

Week 4: Ecological Structure and Function

Week 5: Ecosystem Services

Week 6: Anthropogenic Alteration and Impacts to Floodplains

Week 7: Introduction to Floods, Floodplain Management, the National Flood Insurance Program (NFIP), and the American Society of Floodplain Managers (ASFPM)

Week 8: Flood Studies and Flood Mapping

Week 9: SPRING BREAK

Week 10: Using Flood Studies and Flood Maps

Week 11: The NFIP Floodplain Management Requirements

Week 12: Additional Regulatory Measures

Week 13: Ordinance Administration

Week 14: Substantial Improvement and Substantial Damage

Week 15: Flood Insurance and Floodplain Management

Week 16: Disaster Operations and Hazard Mitigation

UNIVERSITY POLICIES:

Academic Honesty:

As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: *"We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity."* You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied: *"On my honor, I have neither given nor received unauthorized aid in doing this assignment."*

It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: <http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code>.

Software Use:

All faculty, staff and students 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.

Services for Students with Disabilities:

The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues. Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation

0001 Reid Hall, 352-392-8565, www.dso.ufl.edu/drc/

Campus Helping Resources:

Students experiencing crises or personal problems that interfere with their general well-being are encouraged to utilize the university's counseling resources. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.

- University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575, www.counseling.ufl.edu/cwc/
Counseling Services
Groups and Workshops
Outreach and Consultation
Self-Help Library
Wellness Coaching
- *Career Resource Center*, First Floor JWRU, 392-1601, www.crc.ufl.edu/