

## GEOGRAPHY 347 - WATER AS A RESOURCE Course Description - Fall, 2012

**Instructor:** Dr. Allan James, Room 206 Callcott Building. 777-6117. Ajames@sc.edu.

**Lectures:** Tuesdays and Thursdays 12:30 to 1:45 pm, Room 202 Callcott Bldg.

**Office Hours:** Tuesdays and Thursdays 10:50-11:50 pm or by appointment.

**Course website:** <http://people.cas.sc.edu/ajames/347/index.html>

**Textbook:** Watersheds and Water Resources; 2010. ©Allan James. This book will be available from a local copy shop to be announced in lecture.

**Course Description:** This is a survey course on concepts and tools of water resources management. It begins with the hydrologic cycle and proceeds to develop an understanding of the components of water systems, water quality, and water-related hazards. Types of water use for municipal, agricultural, industrial, and power-generation purposes are described, as well as global distributions of supply and demand. After establishing the physical basis of the resource, institutional controls on water use in the United States are described, including the economics of water, water rights law, and legislative controls such as the *Clean Water Act* and the *National Environmental Policy Act*.

The course develops a background in water resources from scientific and management perspectives. It provides training in physical and social science, management, and humanistic views of environmental stewardship. Examples range from local to global geographic scales. Several examples will be drawn from local processes and issues in the *Rocky Branch Watershed* (RBW). We will also follow activities of the *RBW Alliance* ([http://www.sustainablemidlands.org/?page\\_id=3247](http://www.sustainablemidlands.org/?page_id=3247)), a local community group engaged in reducing flood risks in Five Points, improving water quality, and developing management plans for the local community.

This general water resources management perspective is useful to a wide variety of fields including hydrology, geology, ecology, hazards, planning, environmental management, journalism, consulting, and engineering. As an introduction to a diverse field, there is an emphasis on the development of basic concepts and vocabulary. Most of the material comes from the book and is covered in lecture. Exercises and additional materials will be passed out in lecture, put on Blackboard (under “course documents”, or listed on the course website).

**Learning Outcomes:** Students will learn a wide variety of skills and concepts such as scientific literacy by studying hydrologic processes and water quality and information literacy by exposure to water resources, legal, and institutional data bases. They will learn concepts of global citizenship by understanding relationships between irrigation, food production, population growth, and sustainability, and how these issues are related to Earth stewardship and environmentalism.

**Means of Evaluation:** Grades will be based on two exams, exercises, and attendance.

	<u>Points</u>	<u>%Grade</u>	<u>Comments</u>
Midterm exam	100	33.3	Date to be announced in lecture
Final exam	100	33.3	In classroom
Exercises	80	26.7	Exercises will be distributed in class
Attendance	<u>20</u>	<u>6.7</u>	Based on spot-checks in lecture
Total	300	100	

\* **Final Exam:**  Friday, December 11 at  7:00 pm in Room 202 Callcott Building.