

SOUTHEAST COMMUNITY COLLEGE
DIVISION OF ARTS AND SCIENCES
Social Science
Revision Date: 07-01-23

I. CATALOG DESCRIPTION

Course Number: GEOG 2810
Course Title: Introduction to Water Science
Prerequisite: GEOG 1500 or GEOL 1010 and either high school chemistry or one semester college chemistry; or permission.
Catalog Description: An introduction to water science, including historical perspectives, the hydrologic cycle, surface and groundwater hydrology, water quality, water and the biosphere, water management, and water resource issues. Focuses on understanding natural and social processes affecting water resources over space and time at a variety of scales.
Credit Hours: 3.0
Class Hours: 45
Lab Hours: 0
Total Contact Hours: 45

II. COURSE OBJECTIVES: *Course will:*

- A. Provide the knowledge base to allow students to understand the basic natural and social processes affecting water resources as well as the basic concepts and approaches of water science, and to understand water resource management and issues at a variety of scales.
- B. Instruct students in the use of basic water science analytical methods, and in the resources of the library system.

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES

- A. Student Learning Outcomes: *Student will be able to:*
 - 1. Demonstrate knowledge of the basic concepts and approaches of water science.
 - 2. Explain natural and social processes affecting water resources at a variety of scales.
 - 3. Make critical judgments concerning contemporary water resource management and issues.
- B. General Education Learning Outcomes
 - 1. GELO #3: Critical Thinking & Problem Solving
 - Outcome: Collect, identify, interpret and analyze data.
 - Outcome: Synthesize information to arrive at reasoned solutions to problems.
 - Outcome: Evaluate the validity of arguments, alternatives, data, outcomes, and/or impact of actions.
 - 2. GELO #5: Analytical, Quantitative, and Scientific Reasoning
 - Outcome: Apply mathematical and scientific methods to solve problems from an array of contexts and everyday situations.
 - Outcome: Develop strategies, algorithms, or experiments (or perform experiments) to describe the systems or solve problems.
 - Outcome: Manipulate formulas, data sets, graphs, tables, etc. in a way to produce a meaningful outcome.

IV. CONTENT/TOPICAL OUTLINE (*course outline may provide more detailed information*)

- A. Historical Perspective of Water Use and Development

- B. The Hydrologic Cycle
- C. Surface and Groundwater Hydrology
- D. Water Quality
- E. Water and the Biosphere
- F. Water Management
- G. Water Resource Issues

V. INSTRUCTIONAL MATERIALS

- A. Required text(s):
 - 1. Cech, Thomas V., *Principles of Water Resources: History, Development, Management, and Policy*, 4th Edition, Wiley, 2018. ISBN: 978-1-118-79029-8.

VI. METHODS OF PRESENTATION/INSTRUCTION

- A. Methods of presentation typically include some combination of the following:
 - 1. Lectures
 - 2. Class Discussion
 - 3. Individual/Group Projects
 - 4. Video Clips
 - 5. Student Presentations
 - 6. Guest Lecturers

VII. METHODS OF EVALUATION

- A. Methods of evaluation typically include some combination of the following:
 - 1. Written Examinations
 - 2. Quizzes
 - 3. Research Papers
 - 4. Book reviews
 - 5. Short papers based on readings
 - 6. Class discussion
 - 7. Student Presentations (Group and/or Individual)
 - 8. Other interactive activities
 - 9. Attendance

B. SCC STANDARD GRADING SCALE POLICY

A+	95-100	C+	75-79	F	59 or less
A	90-94	C	70-74		
B+	85-89	D+	65-69		
B	80-84	D	60-64		

VIII. SPECIFIC COURSE REQUIREMENTS

- A. In order to receive a passing grade in the course, students must complete the work assigned by the instructor in a satisfactory manner and within time frames allowed.
- B. Regular attendance, reading, examinations, written assignments, discussion, and respectful behavior are all required course components.
- C. In most cases, a minimum grade of C is required to transfer to four-year institutions. It is up to the student to be aware of academic issues such as this.