

COURSE SYLLABUS –GSC 303

Instructor: George W. Kipphut
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Semester: Spring 2015
Time and Place: Lecture: 11:30-12:20 MWF; Room 312 Blackburn Hall
Office Hours: 8:00-10:00 TR, or by appointment

DEPARTMENT: Geosciences

COURSE PREFIX: GSC

COURSE NUMBER: 303-01

CREDIT HOURS: 3

I. TITLE: Introduction to Water Science

II. COURSE DESCRIPTION AND PREREQUISITE(S): An introduction to the study of the marine and freshwater environments of the earth. Study of the oceans as the largest component of the earth's hydrosphere will emphasize geological forces which are shaping the ocean floor, ocean currents and tides, the origin of ocean salt, and life in the ocean. Study of freshwater components of the earth's hydrosphere will emphasize connections with the ocean and the special role of each component in the earth's hydrologic cycle.

Prerequisite(s): None

III. COURSE OBJECTIVES: As a result of participation in this course, the student should be able to:

- A. Identify the major components of the earth's hydrologic cycle and understand the interactions between them.
- B. Understand current theories of the origin of water on the earth.
- C. Understand the special role of the earth's freshwater resources in the hydrologic cycle.
- D. Understand the intersection between water science and public policy, particularly in the western United States.
- E. Identify current and future water resources issues
- G. Identify the major ocean currents and the physical forces from which they originate.
- I. Understand the forces that cause ocean tides.
- J. Understand why the sea is salty, and identify the major chemical components of sea salt.
- K. Achieve a preliminary understanding of the biological and chemical factors that control the abundance and distribution of life in the oceans.
- L. Identify human impacts on the world's oceans

IV. CONTENT OUTLINE:

- A. Introduction to the Hydrologic Cycle
- B. Physical Properties of freshwater and seawater
- C. Theories regarding the origin of the earth's water
- D. Earth's Freshwater resources - precipitation; lakes, rivers, and reservoirs; polar ice; groundwater
- E. Water Resources problems for the U.S and the world
- F. Water Quality Issues
- H. Geological processes important to oceanography
- I. Ocean Sediments
- J. Ocean Currents
- K. Waves and Tides
- L. Chemical composition of seawater
- M. Human Influences on the World oceans

V. INSTRUCTIONAL ACTIVITIES:

- A. Lecture, with reliance on outside material
- B. Videotape/DVD presentations
- C. Assigned Readings

VI. FIELD, CLINICAL, AND/OR LABORATORY EXPERIENCES:

A scheduled laboratory is not a formal part of the course curriculum. However, the computer facilities of the Department of Geosciences will be utilized during some classroom activities and homework assignments to access information concerning the earth's hydrosphere.

VII. TEXT(S) AND RESOURCES:

Text Book: No assigned text. A number of outside readings will be required.

VIII. EVALUATION AND GRADING PROCEDURES:

Assessment of student accomplishment will be keyed to the course purpose and objectives. Student accomplishment will be measured by performance in:

- A. Written classroom examinations, quizzes, and small group activities
- B. Homework Problems and Assignments
- C. Written/Oral Summaries of outside readings or other scientific sources

It is expected that the grade for this course will be determined as follows:

1. Three written examinations - worth 60 % of overall grade. The third exam will be given during the Final Exam period in May
2. Graded homework assignments, quizzes, and small group activities - worth 40% of overall grade.

A= >90% B= 80-90 C= 70-80 D= 60-70 E=<60; Any changes to grading procedure will be announced in class.

IX. ATTENDANCE POLICY:

Students are expected to adhere to the MSU Attendance Policy outlined in the current MSU Bulletins.

Regular attendance in GSC 303 is encouraged. A number of videos and demonstrations will be shown during class hours. **Students absent from more than 8 lecture sessions will receive reduced credit for their overall grade.**

NOTE: Individual make-up exams will not be given. If a student is absent from a scheduled lecture exam, the exam may be made up in a comprehensive exam offered during Final Exam week. Each student is permitted only one make-up exam.

X. ACADEMIC HONESTY POLICY:

Please refer to the MSU Policy on Academic Honesty which can be found in the current MSU Bulletin. The Policy is also posted on GSC 303 CANVAS Site: Cheating, plagiarism (submitting another person's material as one's own), or doing work for another person which will receive academic credit are all impermissible. This includes the use of unauthorized books, notebooks, or other sources in order to secure or give help during an examination, the unauthorized copying of examinations, assignments, reports, or term papers, or the presentation of unacknowledged material as if it were the student's own work. Disciplinary action may be taken beyond the academic discipline administered by the faculty member who teaches the course in which the cheating took place.

Note: Faculty reserve the right to invalidate any examination or other evaluative measures if substantial evidence exists that the integrity of the examination has been compromised.

Specific Policy for GSC 303: Cheating or plagiarism on classroom exams or other written assessments, or on homework assignments will result in a grade of zero being recorded for that exam or assignment. A second offense will result in a failing grade for the course.

XI. NON-DISCRIMINATION POLICY STATEMENT:

Murray State University endorses the intent of all federal and state laws created to prohibit discrimination. Murray State University does not discriminate on the basis of race, color, national origin, gender, sexual orientation, religion, age, veteran status, or disability in employment, admissions, or the provision of services and provides, upon request, reasonable accommodation including auxiliary aids and services necessary to afford individuals with disabilities equal access to participate in all programs and activities.

For more information, contact the Executive Director of Institutional Diversity, Equity and Access, 103 Wells Hall, (270) 809-3155 (voice), (270) 809-3361 (TDD).

XII. Other required Departmental or Collegiate Information: None