COURSE INFORMATION

Class Days: T-Th
Class Times: 9:30-10:45
Class Location: E-328
Professor: Jillian Maloney
Contact: jmaloney@mail.sdsu.edu, 619-594-6394

Office Hours (and by appointment): T 1-2 & W 11-12
Office Hours Location: GMCS-117

COURSE OVERVIEW

Movement of fresh water on earth. Hydrologic cycling of water from precipitation, runoff, infiltration, stream and groundwater flow to the ocean. Problems caused by over-use of water resources, urbanization, and water pollution examined with case studies.

The first half of the semester will focus on scientific concepts and theories related to water systems. We will then use our understanding of the science to study local and global water issues. This class will begin with the origin, distribution, and properties of water on earth. We will cover hydrologic cycling and storage of water including processes of the atmosphere, rivers, lakes, oceans, glaciers, and groundwater. The second half of the semester will focus on human uses of water and problems caused by use of water resources. We will cover global and local issues by examining case studies with a particular focus on California water landscape and management.

BROADER CONTEXT

This class is an upper-division General Education (GE) Explorations course, which builds upon the goals and skills gained from lower-division GE Foundations courses. GE Explorations courses involve greater interdisciplinary, more complex and in-depth theory, deeper investigation of local problems, and wider awareness of global challenges.

The GE Area Goals (AG) for Natural Sciences are:

AG1: Explain basic concepts and theories of the natural sciences
AG2: Use logic and scientific methods to analyze the natural world and solve problems
AG3: Argue from multiple perspectives about issues in natural science that have personal and global relevance
AG4: Use technology in laboratory and field situations to connect concepts and theories with real-world phenomena

Additionally, GE classes emphasize development of seven Essential Capacities (ECs) that should enhance your personal, intellectual, and professional lives:

EC1: Construct, analyze, and communicate arguments
EC2: Apply theoretical models to the real world
EC3: Contextualize phenomena
EC4: Negotiate differences
EC5: Integrate global and local perspectives
EC6: Illustrate relevance of concepts across boundaries
EC7: Evaluate consequences of actions
COURSE MATERIALS

Class readings, notes, and activities will be posted on the Blackboard (blackboard.sdsu.edu) for this class. There are some additional resources that may be of interest, but are not required:

- *Introduction to Water in California (California Natural History Guides)* by David Carle, 2009

LEARNING OUTCOMES

In addition to the broader goals of GE courses listed above, there are several course specific learning expectations for students that will guide the course content. The learning outcomes are listed below along with any associated AG or EC goals.

Overarching goals:
1. Students will identify where their water comes from, calculate how much they use, and assess ways to conserve water. (AG2, EC4,7)
2. Students will use global circulation patterns, climate patterns, and water cycle processes to evaluate water resources of different areas of the globe. (AG2, EC2)
3. Students will evaluate and critique human uses and impacts on water on both local and global scales (AG3, EC1,5,7)

Detailed Goals:

Students will be able to:
1. Explain the physical and chemical properties of water and how they make water unique (AG1, EC2,3)
2. Explain the history of water in earth’s formation and assess importance of water for evolution of life (AG1, EC3)
3. Describe and illustrate the water cycle and processes of water systems on earth (e.g., rivers, lakes, glaciers, etc…) (AG1, EC3)
4. Interpret stream gauge data (AG2,4)
5. Analyze water usage data and identify methods of reducing usage (AG2, EC7)
6. Assess the impact of humans on water systems (AG2,3; EC2,3,6,7)
7. Describe and critique the major water distribution systems in the western U.S. and water related problems facing Californians (AG2,3; EC1,3,7)
8. Critique myths related to water issues in California (AG2, EC1)
9. Identify solutions to global water issues (AG2, EC2,5,7)
10. Predict how climate trends will impact future water issues (AG2,3; EC1,2,5,6,7)

COURSE ASSESSMENT AND GRADING

The exams, quizzes, activities, and projects are designed to assess your mastery of the learning outcomes listed in this syllabus. There will not be any make-up exams and late assignments will not be accepted. I will drop the lowest exam grade. Due dates can be found in the course schedule in this syllabus and will be posted on Blackboard. You may work together on weekly assignments, but must submit your answers in your own words.

Exams: Best 2 of 3 (2 midterms and final) – 40%

*The exams will be a combination of multiple choice, multiple answer, matching, T/F, and short answer questions. If you are satisfied with your grade on the first two exams, you do not need to take the final.*

Quizzes/Activities (10) – 20%
Each quiz or activity will be due by 11:59pm on the Friday of the assigned week. Specific instructions for each activity will be posted on Blackboard and discussed in class. All activities will be completed and submitted through the class Blackboard site or emailed to the instructor.

Projects—35%

Written Op-Ed (Individual) (17.5%): The writing assignment will be in the form of an Op-Ed article relating to water issues. Detailed instructions can be found on the Blackboard site.

In Class Presentation (Group) (17.5%): The presentations will focus on case studies of particular water issues. Topics and instructions for the in-class presentation project are posted on the Blackboard site. Sign-up for groups will take place through Blackboard during the second half of the semester.

Participation/in-class activities – 5%

Attendance at class will be important for success on exams and quizzes. As an added incentive, your presence for periodic in-class activities will contribute 5% to your final grade.

COURSE SCHEDULE

**TABLE 1 - COURSE SCHEDULE WITH DATE, TOPIC, AND ASSIGNMENT**

<table>
<thead>
<tr>
<th>Week:</th>
<th>Tuesday 9:30-10:45</th>
<th>Thursday 9:30-10:45</th>
<th>Assignments/Activities</th>
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<tbody>
<tr>
<td>1. Jan 19</td>
<td>Introduction</td>
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<td>2. Jan 24 &amp; 26</td>
<td>Properties &amp; Origin of water in the Universe and on Earth</td>
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<td>4. Feb 7 &amp; 9</td>
<td>Water in the Atmosphere</td>
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<td>5. Feb 14 &amp; 16</td>
<td>Rivers, Streams, &amp; Deltas Midterm 1</td>
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<td>7. Feb 28 &amp; Mar 2</td>
<td>Lakes Groundwater Activity 5 due 11:59pm Mar. 3</td>
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<td>8. Mar 7 &amp; 9</td>
<td>Oceans Weather &amp; Climate: Short-term to decadal trends (ENSO/PDO) Activity 6 due 11:59pm Mar. 10</td>
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<td><strong>Spring Break March 27 - 31</strong></td>
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<td>11. Apr 4 &amp; 6</td>
<td>California Water Issues Activity 8 due 11:59pm Apr. 7</td>
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<td>12. Apr 11 &amp; 13</td>
<td>San Diego Water Issues Activity 9 due 11:59pm Apr. 14</td>
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<td>13. Apr 18 &amp; 20</td>
<td>Urbanization &amp; Irrigation Global Water Issues Activity 10 due 11:59pm Apr. 21</td>
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<td>15. May 2 &amp; 4</td>
<td>Class Presentations Class Presentations</td>
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<td>May 5-12</td>
<td>Final Exam: Thursday, May 11, 8:00am-10:00am</td>
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ACADEMIC HONESTY

The University adheres to a strict policy regarding cheating and plagiarism. These activities will not be tolerated in this class. Become familiar with the policy and what constitutes plagiarism (http://studentaffairs.sdsu.edu/srr/cheating-plagiarism.html). Any cheating or plagiarism will result in failing this class and a disciplinary review by the University. These actions may lead to probation, suspension, or expulsion.

Examples of Plagiarism include but are not limited to:
- Using sources verbatim or paraphrasing without giving proper attribution (this can include phrases, sentences, paragraphs and/or pages of work)
- Copying and pasting work from an online or offline source directly and calling it your own
- Using information you find from an online or offline source without giving the author credit
- Replacing words or phrases from another source and inserting your own words or phrases
- Submitting a piece of work you did for one class to another class

TURNITIN

Students agree that by taking this course all required papers may be subject to submission for textual similarity review to Turnitin.com for the detection of plagiarism. All submitted papers will be included as source documents in the Turnitin.com reference database solely for the purpose of detecting plagiarism of such papers. You may submit your papers in such a way that no identifying information about you is included. Another option is that you may request, in writing, that your papers not be submitted to www.turnitin.com. However, if you choose this option you will be required to provide documentation to substantiate that the papers are your original work and do not include any plagiarized material.

TECHNICAL SUPPORT FOR BLACKBOARD

Student support for Blackboard is provided by the Library Computing Hub, located on the 2nd floor of Love Library. They can be reached at 619-594-3189 or hub@mail.sdsu.edu

STUDENTS WITH DISABILITIES

If you are a student with a disability and believe you will need accommodations for this class, it is your responsibility to contact Student Disability Services at (619) 594-6473. You can also learn more about the services provided by visiting the Student Disability Services website.

To avoid any delay in the receipt of your accommodations, you should contact Student Disability Services as soon as possible. Please note that accommodations are not retroactive, and that accommodations based upon disability cannot be provided until you have presented your instructor with an accommodation letter from Student Disability Services. Your cooperation is appreciated.

STUDENT SERVICES:

A complete list of all academic support services is available on the Academic Success section of the SDSU Student Affairs website.

For help with improving your writing ability, the staff at the SDSU Writing Center is available in person and online.

Counseling and Psychological Services offers confidential counseling services by licensed psychologists, counselors, and social workers. More info can be found at their website or by contacting (619) 594-5220. You can also Live
Chat with a counselor [http://go.sdsu.edu/student_affairs/cps/therapist-consultation.aspx](http://go.sdsu.edu/student_affairs/cps/therapist-consultation.aspx) between 4:00pm and 10:00pm, or call San Diego Access and Crisis 24-hour Hotline at (888) 724-7240.

**DISCLAIMER**

I reserve the right to change parts of this syllabus throughout the semester. I will notify the class during lecture and on Blackboard of any updates.