PA 571 Syllabus for Fall 2015

Management of Water and Energy Resources
Glen Allegranza, MPA

Thursdays, 4:10 – 6:50 pm
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INTRODUCTION
This course is a broad exploration of water and energy management. In the coming decades, humanity’s greatest challenges will stem from the fact that we take water and energy for granted. Few of us consider the sources of the water and energy we use and even fewer realize what it takes to deliver these resources to us.

No prior knowledge of water or energy management is required or expected. Through the course, students will come to understand the interdependent relationships between water, energy, population, agriculture, industry, economic development, and ecosystems. Students will also come to understand our dependence on water and energy; the systems developed to obtain, move, and deliver these resources; as well as the issues, challenges, regulatory systems, management structures, and opportunities related to their development and use.

LEARNING OBJECTIVES
By the end of the course, students will be able to:
1. Describe the physical sources, infrastructure, and consumers of water and how they interact at local, regional, state, interstate, and international levels.
2. Describe the administrative structures of water management and how they interact at local, regional, state, interstate, and international levels.
3. Explain the hydrologic cycle, climate, and weather in the context of water and energy management.
4. State the sources of municipal and agricultural water and explain how they are managed.
5. Describe the Imperial Valley’s agricultural water system.
6. Describe a typical municipal water system.
7. Explain what is meant by “water quality” and the challenges associated with water quality.
8. Name three Colorado River water use conflicts and explain how they arose.
9. Broadly discuss the economics of water.
10. State and explain five current or emerging water management issues.
11. State three concerns about the natural environment and how water management is or ought to be affecting them in a positive way.
12. Describe the physical sources, infrastructure, and consumers of energy and how they interact at local, regional, state, interstate, and international levels.
13. Describe the administrative structures of energy management and how they interact at local, regional, state, interstate, and international levels.
14. Name four traditional (non-renewable) energy sources and discuss their pros and cons.
15. Name and define four renewable energy sources in the Imperial Valley, including the local potential for each.
16. Broadly discuss the economics of energy.
17. State and describe five of the leading issues regarding energy management in the Southwestern United States.
18. Explain how concerns about the natural environment affect energy management.
19. Name and describe the three major components of traditional electrical energy infrastructure.
20. Contrast the advantages and disadvantages of non-renewable and renewable energy sources.
21. Discuss the potential for renewable energy production in the Western United States and the issues associated with these opportunities.

22. Discuss the interdependent relationships between: water, energy, population, agriculture, industry, economic development, and ecosystems.

INSTRUCTIONAL METHODS
Course objectives will be achieved through the use of several methods:
1. Required reading;
2. Discussion Questions;
3. Lectures, class discussions, and in-class workshops;
4. Videos on pertinent topics;
5. Exams;
6. A research paper.

COURSE GRADE
Each student’s course grade will be calculated on the basis of the following:

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<tr>
<th>Exam Part 1:</th>
<th>15%</th>
<th>Final Score</th>
<th>Final Grade</th>
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<tr>
<td>Exam Part 2:</td>
<td>15%</td>
<td>90-100%</td>
<td>A- to A</td>
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<td>Exam 3 (comprehensive Final):</td>
<td>30%</td>
<td>80-89%</td>
<td>B- to B+</td>
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<tr>
<td>Research Paper:</td>
<td>40%</td>
<td>70-79%</td>
<td>C- to C+</td>
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<td>100%</td>
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GRADUATE STUDENTS
Graduate students are required to complete an 8-10 page research paper/project that may include an in-class presentation. The research paper/project will be graded using a graduate level standard.

CELL PHONE, LAPTOPS AND ALL OTHER ELECTRONIC DEVICES
1. The use of cell phones and all other electronic devices during class is not allowed.
2. Laptops may be used with prior permission of instructor for class purposes only. Permission will be considered on an individual basis. If a student who has been given permission is found to be abusing this privilege, permission will be revoked and use of the laptop no longer allowed.
LATE WORK, MAKE-UPS, PLAGIARISM & CHEATING POLICIES
1. Late work will lose a letter grade for each day it is late; this includes the Research Paper assignments and take-home/online exams.
2. Each student will be given the opportunity to make-up only one missed in-class exam and 10% will be deducted from the final score on this one allowed in-class make-up exam for its being late. If a student misses more than one in-class exam, s/he will be able to make-up only one in-class exam (which will be selected by the instructor) and will receive a grade of zero for any other missed in-class exams. If a student who has missed an in-class exam does not take the one allowed make-up in-class exam on the date set by the instructor, s/he will receive a score of zero for that exam.
3. Plagiarism and cheating will not be tolerated. Those caught plagiarizing or cheating will be dealt with according to SDSU policies.
4. Exams and quizzes must be taken in class. Taking an exam or quiz anywhere else, unless expressly authorized in writing by the instructor, is cheating. Any such exam will receive a grade of zero and the student will be disciplined according to SDSU policy.
5. SDSU’s policies on plagiarism and cheating can include expulsion for up to two years.

REQUIRED TEXTBOOKS

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 Norma Aguilar at (760) 768-5637 or Student Affairs at (760) 768-5502. 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.