Semester at Sea, Course Syllabus
Colorado State University, Academic Sponsor

Voyage: Fall 2016
Discipline: International Education
Course Number and Title: IE 272 World Interdependence Current Global Issues (Section 1): Water and Civilization: Global Water Crises
Division: Lower
Faculty Name: Susan Bolton
Semester Credit Hours: 3

Prerequisites: None

COURSE DESCRIPTION

Course Overview: Water makes life as we know it possible. Every drop cycles continuously through air, land, and sea, to be used by someone (or something) else “downstream.” Not only is freshwater not uniformly distributed around the globe, but climate change and human population growth are increasing the pressures on water resources. Water is also at the core of civilization and sustainable development. Water resources, and the range of services they provide, underpin poverty reduction, economic growth and environmental sustainability. From food and energy security to human and environmental health, water contributes to improvements in social well-being and inclusive growth, affecting the livelihoods of billions. Port countries will provide a focus for understanding the range of issues faced in different geographic and cultural settings and provide an international awareness of the issues surrounding water. Through case studies, readings and lectures this class will investigate linkages between water, food, energy, and human and environmental health on a local to global scale both currently and historically.

LEARNING OBJECTIVES

- Understand the role of water through time in the development of civilization
- Understand the water-food energy nexus across a global to local scale,
- Appreciate the issues related to human health with respect to water and sanitation,
- Recognize the role of water in providing ecosystem services,
- Understand the concept of water footprints and virtual water
- Critique current media coverage of select water issues

REQUIRED TEXTBOOKS

DATE/Edition: 2012

AUTHOR: Black, Maggie Jannet King, Candida Lacey
Most readings will be from current journal and organization reports provided via the intranet

**TOPICAL OUTLINE OF COURSE**

Class will be a mix of lecture, instructor-guided and student-guided discussion on assigned readings and videos. Each student will also present findings on a research topic of their choice. Choices must be approved by instructor. Readings are to be completed as of the class period shown on the syllabus. Students will also be given topical news articles from Circle of Blue which reports on global water stories weekly. Prior to each port we will look at national water footprints for each country and students will make observations in port of water use.

Depart Hamburg—September 10

**B1—September 13:**

Who am I? Who are you? Syllabus overview. Class expectations

What do you know about water?

Why is water a key to so many issues?

Brief video ‘No Reason’ [https://www.youtube.com/watch?v=aJ0NfG8s4fl](https://www.youtube.com/watch?v=aJ0NfG8s4fl) 4 minutes

And intro to water cycle [https://www.youtube.com/watch?v=al-do-HGuIk](https://www.youtube.com/watch?v=al-do-HGuIk) 7 minutes

Lecture: Virtual water

Read
The water footprint of humanity Author(s): Arjen Y. Hoekstra and Mesfin M. Mekonnen Source: Proceedings of the National Academy of Sciences of the United States of America, Vol. 109, No. 9 (February 28, 2012), pp. 3232-3237

**B2—September 15:**

Lecture: What are the key physical and chemical traits of water?

Read provided pdf of Chapter 2 in Fishman: The Big Thirst. The secret life of water.

**B3—September 18:**
Read Solomon Water: the epic struggle for wealth, power, and civilization
Prologue and pp 1-23 (on reserve in library)

Video: History of Water: The Struggle
Followed by discussion

**Athens—September 19-23**

**B4—September 25:**
Read Black pp 18-29
Read


Guided discussion of assigned readings
Random port observations presentations

**Civitavecchia - September 26-28**

**Livorno – September 29-30**

**B5—October 2:**
Lecture: Water resources global distribution: What is water scarcity?
Read


Random port observations presentations

**Barcelona—October 3-7**

**B6—October 9:**
Video Journey through the History of Water: Energy
Discussion
Random port observations presentations

Casablanca—October 10-14

B7—October 16:
Water/energy nexus
Read UN Development report: Water and Energy. 2014 pp 1-53
Prior to class student teams will be assigned various portions of this reading and be responsible for leading class discussion
Random port observations presentations

B8—October 18:
Lecture: The water/energy nexus. It’s not enough to just look at carbon issues and energy, water is critical
Discussion

B9—October 20:
Water/Energy/ Food nexus
Lecture on agricultural water use and role of energy
Read UN Development report 2014 pp 54-62

Dakar—October 21-24

B10—October 26:
Mid-term – Outline and annotated bibliography of at least 5 sources for research paper is due

Random port observations presentations

No Classes—October 28

**B11—October 29:**

Lecture: Water and human health

Read your assigned readings from either Sedlak 2014 Water 4.0 Chapters 4 or 5 or Solomon 2010 Chapter 10.

Read the provided 4 part series on Water, Hygiene and Health


**B12—October 31:**

Lecture: Sanitation and Water

Read IANAS. 2015. Urban Water Challenges (Brazil) pp 84-111

**Salvador—November 1-6**

**B13—November 8:**

Water and Ecosystem Services

Read Black pp 30-43

Read Millennium ecosystem assessment. Ecosystems and Human Well-being: Wetlands and water

Prior to class student teams will be assigned various portions of this reading and be responsible for leading class discussion

Random port observations presentations

**B14—November 10:**
Lecture: The role of dams in causing and solving water issues

Read and present World Commission on Dams. 2000. Dams and Development. Chapters will be assigned and student will share information from their respective chapters.

**B15—November 12:**

Lecture: Who provides water? Is water a human right?

Read UN Human Right to Water Fact Sheet pp 7-43


*Port of Spain—November 13-14*

**B16—November 16:**

Film Blue Gold: World Water Wars

Discussion

Random port observations presentations

No Classes—November 18

**B17—November 19:**

Lecture: Water issues in Peru

Video Glacial Balance

Read IANAS. 2015. Urban Water Challenges (Peru) pp 474-503

**B18—November 21:**

Field class prep

Discussion of IANAS Peru Urban Water Challenges

*Callao—November 22-26*

Course Field Class Nov Tuesday November 22

**B19—November 28:**
Film: Water Wars When Drought, Flood and Greed Collide

Discussion

Field class discussion

**B20—November 30:**

Lecture: Is Water the next Oil?

Read Solomon Chapter 14

**Guayaquil—December 1-4**

**B21—December 6:**

Read UN 2015. Water for a Sustainable World

Teams of students will be assigned to each chapter for discussion lead and linkages to ports visited.

Read UN Sustainable Development Innovation Brief Issue 4, Oct 2007

Random port observations presentations

**B22—December 8:**

Class presentations of research project

Read Urban Water Challenges (Costa Rica) pp 202-225

**Puntarenas—December 9-13**

**B23—December 15:**

Class presentations of research project

Random port observations presentations

**B24—December 17:**

Class presentations of research project

Read Urban Water Challenges (US) pp 504-523

No Classes- Study day—December 18

**B25—December 20; B Day Finals**
FIELD WORK

Field Class attendance is mandatory for all students enrolled in this course. Do not book individual travel plans or a Semester at Sea sponsored trip on the day of your field class. Field Classes constitute at least 20% of the contact hours for each course, and will be developed and led by the instructor.

FIELD CLASS AND ASSIGNMENT

Participation is required in the field class which will take place in Peru on Tuesday, 22 November and constitutes 20% of your grade. Peru offers an ideal location to examine the interdependence of water, energy and food as well as ecosystem and human related water issues. Lima is a desert city of 9 million people (1/3 of whom live in slums) that receives less than 0.5 inches of rain a year. Its major rivers are fed by rapidly melting glaciers and a large proportion of the energy grid consists of hydropower. We will visit a coastal restoration site, meet with groups seeking to resurrect Incan canal infrastructure and visit a fog water collection site that supplements residents’ water supply.

Each student will write a 3-5 page paper highlighting how the field class fits into the topics covered during class.

INDEPENDENT FIELD ASSIGNMENTS

At each port students will be expected to identify a local water issue and prepare a half to one page summary of the issue. After each port students will share their discoveries orally. Not all students will present after each port but all must be prepared to do so. The written assignment will be turned in on the first class day after port.

METHODS OF EVALUATION / GRADING SCALE

Assessment | Percent of final grade
--- | ---
On-time attendance and class participation | 10
Port observations | 10
Midterm | 20
Final Exam | 20
Research paper (~ 10 pages) and presentation | 20
Field Class attendance and report | 20

The following Grading Scale is utilized for student evaluation. Pass/Fail is not an option for Semester at Sea coursework.

Grade | Percent
--- | ---
A+ | 97-100
A  93-96  Excellent
A-  90-92
B+  87-89
B   83-86  Good
B-  80-82
C+  77-79
C   70-76  Satisfactory
D   66-69  Poor, but passing
F   < 60   Failure

C-, D+ and D- grades are not assigned at CSU. Faculty use of +/- grading is optional. Course instructions should indicate on the course syllabus the grading system used in the course.

ATTENDANCE/ENGAGEMENT IN THE ACADEMIC PROGRAM

Attendance in all Semester at Sea classes is mandatory, but it is at the instructor's discretion to assign a grade to the participation and attendance requirement. Remember to include information concerning the evaluation of Field Assignments and the Field Classes, which must constitute at least 20% of the total grade in a course.

Students must inform their instructors prior to any unanticipated absence and take the initiative to make up missed work in a timely fashion. Instructors must make reasonable efforts to enable students to make up work which must be accomplished under the instructor's supervision (e.g., examinations, laboratories). In the event of a conflict in regard to this policy, individuals may appeal using established CSU procedures.

UNION SEMINARS

Faculty members on the Fall 2016 Voyage will present on various academic topics during the evening Union Seminars, held during sea days. These topics will present relevant cultural information in various disciplines, depending on the location on the itinerary. Students are encouraged to attend at least one of these sessions, relevant to the academic topic of this course. An appropriate assignment can be made at a time when the Union Seminar schedule has been finalized.

LEARNING ACCOMMODATIONS

Semester at Sea provides academic accommodations for students with diagnosed learning disabilities, in accordance with ADA guidelines. Students who will need accommodations in a class, should contact ISE to discuss their individual needs. Any accommodation must be discussed in a timely manner prior
to implementation. A memo from the student’s home institution verifying the accommodations received on their home campus is required before any accommodation is provided on the ship. Students must submit this verification of accommodations pre-voyage as soon as possible, but no later than July 19, 2016 to academic@isevoyages.org.

STUDENT CONDUCT CODE

The foundation of a university is truth and knowledge, each of which relies in a fundamental manner upon academic integrity and is diminished significantly by academic misconduct. Academic integrity is conceptualized as doing and taking credit for one’s own work. A pervasive attitude promoting academic integrity enhances the sense of community and adds value to the educational process. All within the University are affected by the cooperative commitment to academic integrity. All Semester at Sea courses adhere to this Academic Integrity Policy and Student Conduct Code.

Depending on the nature of the assignment or exam, the faculty member may require a written declaration of the following honor pledge: “I have not given, received, or used any unauthorized assistance on this exam/assignment.”

RESERVE BOOKS AND FILMS FOR THE LIBRARY

Films:

Journey through the History of “Water (owned by instructor)

Glacial Balance (owned by instructor)

Water Wars When Drought, Flood and Greed Collide (held by SAS)

Blue Gold (held by SAS)

Las call at the oasis. Directed by Jessica Yu; inspired by the book “The Ripple Effect” by Alex Prud’homme

Books:

AUTHOR: Sedlak, David (owned by instructor to be put on reserve)

TITLE: Water 4.0

PUBLISHER: Yale University

ISBN #: 978-0-300-21267-9

DATE/EDITION: 2014

AUTHOR: Fishman, Charles (owned by instructor to be put on reserve)
TITLE: The Big Thirst
PUBLISHER: Free Press
DATE/EDITION: 2011
AUTHOR: Solomon, Steven (owned by instructor to be put on reserve)
TITLE: Water: the epic struggle for wealth, power, and civilization
PUBLISHER: Harper
DATE/EDITION: 2010
AUTHOR: Rogers, P and S. Leal (owned by instructor to be put on reserve)
TITLE: Running out of water: The looming crisis and solutions to conserve our most precious resource
PUBLISHER: Palgrave Macmillan
DATE/EDITION: 2010
AUTHOR: Tvedt. T and R. Coopey (eds) (owned by instructor to be put on reserve)
TITLE: A history of water Series II, volume 2
PUBLISHER: I.B. Tauris
ISBN #: 978-1-84885-350-8
DATE/EDITION: 2010
AUTHOR: National Geographic (owned by author to be put on reserve)
TITLE: A Special Issue: Water: Our thirsty world
PUBLISHER: National Geographic
ISBN #: N/A
DATE/EDITION: April 2010
ELECTRONIC COURSE MATERIALS

The instructor will provide additional readings and materials in pdf form from the intranet including but not limited to:


Millennium ecosystem assessment. Ecosystems and Human Well-being: Wetlands and water


Selected news reports from Circle of Blue (http://www.circleofblue.org/waternews/) will be distributed throughout the voyage on topical issues for classroom discussions


UN Human Right to Water Fact sheet

UN Sustainable Development Innovation Briefs Issue 4, Oct 2007


ADDITIONAL RESOURCES

Students will be expected to use internet resources while in port to augment their port journals and observations