

SEMESTER AT SEA COURSE SYLLABUS  
University of Virginia, Academic Sponsor

**Voyage:** Spring 2016  
**Discipline:** Science, Technology & Society  
**STS 2500-101:** Societies and the Sea  
**Division:** Lower  
**Faculty Name:** Stephanie Green  
**Credit Hours:** 3; Contact Hours: 38

**Pre-requisites:** None.

### **COURSE DESCRIPTION**

The oxygen in every second breath we take is produced in the ocean, and more than 3.5 billion people rely on marine animals as their primary source of protein. These are just some of the obvious links between our needs and ocean resources. Throughout this course we will explore how oceans have shaped human cultures, societies, and economies, and the ways in which human activities are affecting ocean ecosystems. Our investigations will draw on information from a range of disciplines—including biology, oceanography, anthropology, archeology, and economics—to study the reciprocal relationships between people and marine environments. In particular, we will look at why coastal areas are hotspots for human settlement, how ocean phenomena have influenced spiritual beliefs, the role of maritime travel in connecting and expanding societies, the importance of marine organisms as food and medicine, and the future of energy production in the ocean. Locations visited during the semester will serve as case studies. Using these topics as our backdrop, we will consider how rapid human population growth, urbanization, and technological development are leading to the degradation of marine ecosystems and resources. Finally, we will consider options for restoring and conserving marine environments and species (including our own).

### **COURSE OBJECTIVES**

1. Review biological and oceanographic concepts to understand marine ecosystems as habitat for Earth's biodiversity, including humans.
2. Apply basic concepts and methods from the disciplines of 'human ecology' and 'ethnoecology' to studying human-environment interactions; understand the links between these disciplines and the fields of biology, anthropology, archaeology, history, and economics.
4. Explore the different knowledge systems employed by human societies to understand ocean environments, including traditional knowledge and scientific knowledge.
5. Compare and contrast modes of marine transport, types of ocean resource extraction and use, and civilization development across our global voyage.

6. Examine the effects of resource use and urban development on ocean environments and biodiversity over time and across locations.

### REQUIRED TEXTBOOKS

AUTHOR: Gerald G. Marten  
 TITLE: Human Ecology: Basic Concepts for Sustainable Development  
 PUBLISHER: Earthscan Publishers Ltd.  
 ISBN # 185383-714-8  
 EDITION: 2001 (1<sup>st</sup>)

AUTHOR: Timothy Beatley  
 TITLE: Blue Urbanism: Exploring Connections between Cities and Oceans  
 PUBLISHER: Springer  
 ISBN # 978-1-61091-564-9  
 EDITION: 2014 (1<sup>st</sup>)

Additional required readings and multimedia files to be viewed ahead of each class are listed in the outline below. These sources will be made available to you through the ship's intranet.

### TOPICAL OUTLINE OF COURSE

Date	Topic/Activity	Reading/Videos
January 5:	Depart Ensanada	
A1- January 7:	Course overview; syllabus review & introductions Our ocean life support system: a global overview <i>In-class writing assignment: course interests and goals</i>	Rogers (2009) Planet Ocean
A2- January 9:	Basics of life in the sea: climate, current, depth	Blue Planet: Part 1. Ocean World
A3- January 11:	Ocean food webs & biodiversity	Marine Conservation Ecology (Ch3) Waves of resistance (Ch1)
January 12:	Honolulu	
A4- January 14:	Concepts and tools for human ecology and enthnocology	Human Ecology (Ch1&2) Nabham (2009)

A5- January 17:	Human knowledge systems Looking at the past to inform our future	Drew (2005)
January 19:	Study day	
A6- January 20:	Coastlines and human settlements <i>Quiz #1</i>	Bailey (2004) Human Ecology (Ch3)
A7- January 22:	Ocean highways: early transport and trade <i>In class: The Lost World of the Pacific</i>	The Kula Ring (Part 3) <i>in</i> Hunters of the South Seas
January 24-25: January 26: January 27-28:	Yokohama In-Transit Kobe	Field Lab (January 25)
A8- January 29:	Ocean highways to China: technology, globalization & trade across the seas	Blue Urbanism (Ch1)
January 31-Feb 1: February 2-3: February 4-5:	Shanghai In-Transit Hong Kong	
A9- February 6:	Marine ecosystem services	Human Ecology (Ch8) World Bank: Coastal protection in Vietnam
February 8-12:	Ho Chi Minh City	
A10- February 13:	Ocean origins: creation stories and spirituality	Nature Across Cultures (Ch13) Human Ecology (Ch9)
February 15:	Study day	
A11- February 16:	Feeding from the ocean: fishing and harvest I <i>Writing assignment #1 due</i>	Ono and Intoh (2011)
Feb 18-22:	Yangon	

A12- February 23:	Feeding from the ocean: fishing and harvesting II	Blue Urbanism (Ch3)
A13- February 25:	Marine species in traditional and science-based medicine <i>Quiz #2</i>	Pandey (2009)
Feb 27-March 3:	Cochin	
A14- March 4:	What lies beneath: deep sea mining and extraction in the Indian Ocean	Kabuburu (2014) Mahapatra & Chakravartty (2014)
March 6:	Study day	
A15- March 7:	Out of sight, out of mind? Waste management, sanitation, and the ocean <i>In class: Lost in Paradise: Thilafushi</i>	Eriksen et al. (2014)
March 9:	Port Louis	
A16- March 10:	Catching nemo: origins and future of the marine aquarium trade	Rhyne et al. (2012)\
March 12:	Study Day	
A17- March 13:	South Africa's Blue Economy <i>Writing assignment #2 due</i>	Human Ecology (Ch11) Blue Economy (2014) Dudman (2015)
March 15-20:	Cape Town	
A18- March 21:	The laws of the sea & tragedy of the commons	Human Ecology (Ch 12; p. 143-145)
A19- March 23:	Ocean livelihoods and social power	Walker (2002)
A20- March 25:	Sustainability & the footprint of our modern lives	Human ecology (Ch12)
March 27-28	Takoradi	
March 29-31	Tema	

A21- April 1:	Urban living, wellness, and the ocean	Blue Urbanism (Ch2&4)
A22- April 3:	Ocean sustainability and restoration: simple solutions or technology frontiers?	Sylvia Earle: My Wish
A23- April 5:	<i>Quiz #3</i> Check in: Group projects	
April 7-11:	Casablanca	
April 12:	Study Day	
A24- April 13:	<i>Final project presentations</i>	
April 16:	Disembarkation Day	

## FIELD WORK

Experiential course work on Semester at Sea is comprised of the required field lab led by your instructor and additional field assignments that span multiple ports.

### Field Labs

Field lab 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 lab.

Field Lab Location: Yokohama, Japan  
Field Lab Date: January 25

The relatively recent transformation of Yokohama from a small fishing village into an international port provides an excellent opportunity to explore how interactions between Japanese society and the ocean have changed over the past century, and how rapid development and resource extraction has in turn affected the ocean environment. This field trip will start with a visit to the Tsukiji Market, the largest wholesale fish and seafood market in the world, to observe the diversity of marine organisms traded there and the livelihoods supported by the seafood industry. Following lunch, we will tour the NYK Maritime Museum where we'll learn about the past and present of maritime trade in Japan. We will end the day with a boat tour of Tokyo Bay to view the Port of Yokohama, surrounding developments, and learn about ongoing marine habitat restoration and conservation activities.

## **METHODS OF EVALUATION**

### **Field Lab Assignment (20%)**

Through the locations visited on the field trip and discussion with local experts, you will investigate the changing relationship between Japanese society and ocean environments. In particular, pay attention for clues about the economic, social, and environmental costs and benefits of a change in lifestyle from small-scale fishing village to globalized trade center.

Make sure to record your observations and discussion from throughout the day through descriptive notes in their field notebooks, and make sure to take plenty of pictures! You will be evaluated based on:

- 1) Your participation in the field trip, including discussion with local people and experts encountered at our various stops.
- 2) You will be evaluated based on a journal or blog entry (*3-4 pages double spaced*) that synthesizes your observations about the economic, social and environmental connections between people and the ocean in Japan, and how these connections have changed from past to present.

### **Writing Assignments (20%)**

***In-class writing assignment (First day of class):*** At the end of our first meeting, you will write a brief essay on what piqued your interest in the subject ‘Societies and the sea’, and what your goals for the course are.

***Writing assignment #1 (Due February 16<sup>th</sup>):*** You will write an essay describing the ways in which you and your community are connected to the ocean (*4-6 pages, double spaced*). You may wish interview family or friends, in addition to background research (internet and library). Thought-provoking questions will be provided in class to help direct your writing.

***Writing assignment #2 (Due March 13<sup>th</sup>):*** You will find a current news article (i.e. within the last 6 months; and not one used in the course syllabus) on an ocean issue, and write an essay that provides a more in-depth analysis of the topic (*4-6 pages double spaced*). You should augment the content in your article with some additional research (internet and library) to provide sufficient context for the issue. Note: Please look for an article from sources based in the countries we are visiting during the semester.

### **Final Group Project (25%)**

In groups of 3-4, you will choose a topic covered in our course and conduct an in-depth investigation for a selection of the locations we are visiting on our voyage. Using a combination of interviews with local people, observations of the urban and marine environment, and background

research, you will describe the coupled human-environment relationships for your topic in one of two formats: 1) longitudinally (i.e. comparing the relationships over time) for two locations, or 2) in cross-section (i.e. between locations in the present time) for four or more locations.

Each group will produce a report (4-6 pages, double spaced) that summarizes their findings, and an oral presentation in which you will share your results to the rest of the class at the end of the semester. Your report and presentation should use visual aids, such as images and maps, to support your findings. I will work with you to select topics and identify opportunities for gathering information at ports-of-call in the first two weeks of class.

### **Quizzes (20%)**

Quizzes (January 20<sup>th</sup>, February 25<sup>th</sup>, April 5<sup>th</sup>) will cover material from class and in the assigned readings prior to the quiz date.

### **Class participation (10%)**

Participation includes active listening and contributions to class discussions and activities. Please note attendance and participation is required on Semester at Sea. Absences are only excused when accompanied by a note from the clinic.

### **GRADING RUBRIC**

<b>Grading:</b>	Class participation	10%
	Quizzes (3)	30%
	Field lab assignment	20%
	Writing assignments (3)	20%
	Final project	25%

**Grading scheme:** Based the cumulative percentage earned, your grade will be assigned as follows:

A+	90+
A	85-89
A-	80-84
B+	76-79
B	72-75
B-	68-71
C+	64-69
C	60-63
C-	55-59
D	50-54
F	0-49

## **RESERVE BOOKS AND FILMS FOR THE LIBRARY**

AUTHOR: Paul Robbins, John Hintz, Sarah A. Moore  
TITLE: Environment and Society: A Critical Introduction  
PUBLISHER: John Wiley & Sons, Ltd.  
ISBN 978-1-118-45156-4  
EDITION: 2013

AUTHOR: Callum Roberts  
TITLE: The Unnatural History of the Sea  
PUBLISHER: Island Press  
ISBN # 978-15-972-6161-6  
EDITION: 2007

AUTHOR: Helaine Selin (Ed.)  
TITLE: Nature Across Cultures  
PUBLISHER: Springer  
ISBN # 978-94-017-0149-5  
EDITION: 2003

AUTHOR: John Roff and Mark Zacharias  
TITLE: Marine Conservation Ecology  
PUBLISHER: Routledge  
ISBN # 978-18-440-7884-4  
EDITION: 2011

AUTHOR: John N. Kittinger, Loren McClenachan, Keryn B. Gedan, Louise K. Blight  
TITLE: Historical Marine Ecology in Conservation: Applying the Past to Manage the Future  
PUBLISHER: UC Press  
ISBN # 978-05-202-7694-9  
EDITION: 2014

## **ELECTRONIC COURSE MATERIALS**

Readings and videos listed are found on the ship's intranet.

## **ADDITIONAL RESOURCES**

None.

## **HONOR CODE**

Semester at Sea students enroll in an academic program administered by the University of



Virginia, and thus bind themselves to the University's honor code. The code prohibits all acts of lying, cheating, and stealing. Please consult the Voyager's Handbook for further explanation of what constitutes an honor offense.

Each written assignment for this course must be pledged by the student as follows: "On my honor as a student, I pledge that I have neither given nor received aid on this assignment." The pledge must be signed, or, in the case of an electronic file, signed "[signed]."