

SEMESTER AT SEA COURSE SYLLABUS

Discipline: Biology
Semester and Year: Fall 2007
Course Number and Title: **People, Pathology and World Medicine**
Faculty Name: Nancy Muleady-Mecham, Ph.D.

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Suggested Pre-requisites:

This course is suggested for juniors and seniors. A previous course in general biology or health care is helpful but not mandatory.

COURSE DESCRIPTION

Worldwide, people exist in a multitude of environments and cultures. At some time in their lives, all persons may become ill or injured. Entire communities may suffer from local health issues related to sanitation and nutrition. People can be exposed to epidemics, both preventable through vaccinations, and unforeseen, such as a new influenza strain. Mass casualty issues, such as earthquakes, tsunamis, or war-related trauma can effect and overwhelm a country. This course will prepare students to learn about the medical issues that effect people around the world and the differing cultural and community responses. A basic introduction to human anatomy and physiology will be combined with information on disease and trauma processes (pathology) to human systems, including discussion of historical pandemics and disasters. Students will discover that different cultures throughout the world will be facing different medical issues, i.e. heart disease and obesity-related Type II diabetes in the USA, versus stomach cancer in Japan. The core of the course will involve student field research and exposure to the great variety of people from country to country and their healthcare issues. How do individuals, communities, and countries respond to these needs? What are the available healthcare interventions in pre-hospital, clinics, and hospital settings? What alternatives are there to Western medicine? How are nutrition and sanitation issues addressed in rural and urban environments? The class work will concentrate on the anatomy and physiology of humans and the pathology of diseases that threaten populations around the world; while the fieldwork will bring students face-to-face with real-life health issues.

COURSE OBJECTIVES

- 1) Students will develop a foundation in human structure and function as well as disease and trauma pathologies.
- 2) Students will learn the historical patterns of pandemics, natural and manmade disasters, responses and outcomes, trends in morbidity and mortality, and cultural responses.
- 3) Students will conduct in-country interviews of individual persons to ascertain the interviewee's perception of health care issues and their communities' and country's responses.
- 4) Students will visit health care facilities, orphanages and other venues to learn about patient care in different countries as well as alternatives to Western medicine.

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TOPICAL OUTLINE OF COURSE and SCHEDULE:

<u>Session</u>	<u>Topic/ Activities</u>	<u>Reading Assignments</u>
1	Introduction/ Human Anatomy and Physiology Part I	COA / A&P**
2	Human Anatomy and Physiology Part II	COA / A&P** / WHD: 11-33
Honolulu, HI, USA - Sunday, September 2		
3	Cardiovascular Disease	WHD: 290-302/ A&P**
4	Diabetes	A&P**/ NODOC: 127
5	Historical Pandemics and Disasters; A History of Medical Interventions	WHD:/GGS: 195-214/ FGG: 10-17
6	Burns: Thermal, Chemical and Nuclear; War Injuries; Cancer (PPP)	WHD: 179-210
Yokohama and Kobe, Japan – Wednesday, September 12 – 16 (Sunday)		
7	Reactive Airway Disease: Asthma, Bronchitis; Chronic Obstructive Pulmonary Disease (PPP)	WHD: 213-222/ 235-246
Qingdao, China – Wednesday, September 19 – 20 (Thursday)		
No Classes – Friday, September 21 – 22 (Saturday)		
Hong Kong, China – Sunday, September 23 – 24 (Monday)		
8	Psychosocial Component of Diseases: Pathology of Mental Health (PPP)	WHD: 178-193
Ho Chi Minh City, Vietnam – Thursday, September 27 – October 1 (Monday)		
9	Nutrition, Sanitation and Pesticides: Rural and Urban	HO2/ HO3/ HO4
Bangkok, Thailand – Thursday October 4 – October 8 (Monday)		
10	Quiz I / Where There Is No Doctor: Rural Medical Intervention	NODOC: 14-89
11	Trauma: Pre-Hospital and Definitive Care (PPP)	NODOC: 75-106
12	Cholera and Dysentery – World Killers (PPP)	WHD: 36, 71, 121/ NODOC: 151-160
Chennai, India – Monday, October 15 – October 19 (Friday)		
13	Childbirth/ Sexually Transmitted Diseases/ Population Growth	WHD: 62-104/NODOC: 245-271
14	Bites, Stings, and Poisonous Contacts/ Allergic Reactions/ Epilepsy/ Diseases of the Skin	NODOC: 193-216

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<u>Session</u>	<u>Topic/ Activities</u>	<u>Reading Assignments</u>
15	Malaria, Yellow Fever, Dengue Fever, Ebola and More	WHD: 34-61
No Classes – Saturday, October 27		
16	Quiz II/ HIV, Hepatitis, Tuberculosis, and other Infectious Diseases (PPP)	WHD: 105-130/ HO1
Adabiya, Egypt – Tuesday, October 30 – November 1 (Thursday)		
No Classes – Transit Suez Canal – Friday, November 2		
Alexandria, Egypt - Saturday, November 3 – November 4 (Sunday)		
17	The Bubonic Plague: Then and Now (PPP)	WHD: 44,110
Istanbul, Turkey – Wednesday, November 7 – November 11 (Sunday)		
18	CHR Student Presentations (PPP)	
Dubrovnik, Croatia – Wednesday, November 14 – 18 (Sunday)		
19	CHR Student Presentations	WHD: 81-104
20	CHR Student Presentations (PPP)/ <u>AMP Due</u>	
Cadiz, Spain – Friday, November 23 – 27 (Tuesday)		
21	CHR Student Presentations	
22	CHR Student Presentations/ Review for Final Exam	
23	Final Exam	

WHD: World Health and Disease

NODOC: Where There Is No Doctor

A&P: Anatomy Reference Guide (Rapid Review) or equivalent Anatomy & Physiology Atlas

** A Human Anatomy Atlas is essential. However, you may use any source atlas you prefer. The atlas below is recommended, but can be substituted for any other you choose. Your Anatomy Atlas will serve as your source to learn human organs and systems, a crucial component of this course. Therefore, use it as each lecture topic is covered each session to learn and review.

GGS: Guns, Germs, and Steele

FGG: A Field Guide To Germs

COA: Clinically Oriented Anatomy is a supplement to your required reading. It is a resource for the student who would like a more in-depth look at the system under study. Correlate your reading with the topic under discussion, i.e. cardiovascular, look up heart and circulatory systems.

HOI-4: Optional Reserve Library Material (HIV, Sanitation, Pesticides, Water)

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FIELD COMPONENT:

Twenty percent of the contact hours for each course are provided by fieldwork. However, **50%** of the grade will be based on fieldwork and presentations. Students will conduct the following activities and prepare papers and presentations as indicated.

1) **Pre Port Presentation (PPP):** Within the first week of class, a student will pick an historical health-related epidemic, disaster (natural or manmade), or current medical issue, relating to any country to be visited on the voyage. The student will give an oral presentation of the issue or event **prior** to embarkation at that country's port. No more than **5** persons per port, so sign-ups will be on a first-come, first-served basis. The research must be on a known event, and the presentation will be no more than **5** minutes long. A **two-page** report (outline or essay) will be handed in at the time of the oral presentation. Include citations in your paper. **(10%)**

2) **Community Healthcare Research (CHR):** Students will pick any **four** sites at or reached by any port, to conduct in-depth interviews while visiting a healthcare facility, such as a clinic, hospital, rural aid-station, or alternative medical facility. If a country has an ambulance service, that can substitute for a facility. An orphanage or related facility can substitute for **two** traditional healthcare facilities. An evaluation of a community's sanitation system can substitute for any **one** site. Students will make an effort to interview healthcare providers at these facilities and include their thoughts in the report. Students will prepare oral presentations on their findings after their fourth selected port. These presentations will **compare** the different health care responses, level of care and availability, medical treatments, and sanitation conditions from country to country. In addition, students will pick any **four** persons anywhere in each of the **four** site countries. With the person's permission, after the student explains their purpose, the student will conduct a five to ten minute discussion with the person about their perception of healthcare in their life. Have they been ill or injured? What did they do? How were they healed? What facilities were in place to assist them? Oral presentations will take place in class. Students may sign up for a preferred date; otherwise the dates will be assigned. Presentations and will be no longer than **10** minutes, so evaluation and synopsis of your findings will be key. A **two-page** outline of contacts and findings will be due at the time of the oral presentation. Be prepared to share your log with the class. **(25%)**

3) **Alternative Medical Practice (AMP):** Students will research and prepare a paper on an alternative medical practice from any of the countries visited and **compare** it to Western medicine. This can be any practice, from folklore medicine, religious practices, and Eastern medicine, such as acupressure. Specific examples of these practices on individuals will be emphasized in the report as well as outcomes. Learning the Western medical practice will be a vital component. Literature citations are mandatory. This project is due **on or before Session 20**, and should be **two to three pages** in length. **(15%)**

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METHODS OF EVALUATION:

The course has two broad components. The field component will constitute **50%** of the grade. There are **four** field components that are detailed in the above section, Field Component. The other **50%** will be based on classroom exams, quizzes, and student involvement in discussion. Attendance to all class sessions is mandatory. Attendance will not add to the grade component, but absences can certainly take away from it. Respectful attention to peer presentations and active participation in discussions will be noted. There will be **two** quizzes (**15% each**) and a Final Exam (**20%**) based on the lectures and reading material.

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ORDER FORM FOR REQUIRED TEXTBOOKS

* Books ordered must be currently in print in the United States

AUTHOR: Gray, A. and P. Payne, Editors

TITLE: World Health and Disease

PUBLISHER: McGraw Hill

ISBN #: 033520838X

DATE/EDITION: 2001 / 3rd Edition

COST: \$43.95

[This book, while printed in the UK is currently available in the US and I have talked with McGraw Hill about making sure we have enough for this course.]

AUTHOR: Werner, David

TITLE: Where There Is No Doctor

PUBLISHER: Hesperian

ISBN #: 0-942364-15-5

DATE/EDITION: 2006 - English Edition

COST: \$22.00

** A Human Anatomy Atlas is essential. However, you may use any source atlas you prefer. The atlas below is recommended, but can be substituted for any other you choose. Your Anatomy Atlas will serve as your source to learn human organs and systems, a crucial component of this course. Therefore, use it as each lecture topic is covered to learn and review.

AUTHOR: Ochoa, L. W., Editor, et al

TITLE: Rapid Review Anatomy Reference Guide

PUBLISHER: Lippincott, Williams and Wilkins

ISBN #: 1-58779-931-6

DATE/EDITION: 2005 / 2nd Edition

COST: 39.95

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RESERVE LIBRARY LIST

You may suggest a maximum of four books per course for the Reserve Collection. Our librarian will consult the library collection to see if we already have these books.

If we do not have the books, the librarian will purchase them for the permanent collection.

If you are listing more than four books, please indicate those books to which you place top priority, and the librarian will do her best to acquire those. If those you indicate are not available, she will try to acquire additional books that are on your list.

You may also bring books and materials from your own collection to be placed on Reserve.

AUTHOR: Moore, Keith L. and Arthur F. Dalley

TITLE: Clinically Oriented Anatomy

PUBLISHER: Lippincott, Williams, & Wilkins

ISBN #: 0-7817-3639-0

DATE/EDITION: May 1, 2005 / 5th Ed

COST: \$74.95

On Reserve (Instructor Will Provide): These additional resources from the Instructor's personal collection are available for you as extra reading for those interested in rural community health. They are published by www.Hesperian.org, the publishers of your NODOC text. You will not be tested on these resources; they are there to help supplement your knowledge.

HO1: HIV, Health, and Your Community, 248 pp.

HO2: Sanitation and Cleanliness for a Healthy Environment, 48 pp.

HO3: Pesticides Are Poison, 36pp.

HO4: Water for Life, 48 pp.

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ELECTRONIC COURSE MATERIALS

In addition to course texts and reserve library materials, each faculty member will have an electronic course folder housed on the ship's intranet. The University of Virginia library will scan articles and chapters identified by the faculty member as needed supplementary materials for the courses they are teaching. These supplementary materials will be placed in the faculty member's intranet folder for students to access from their own computers or from the computer lab.

AUTHOR: Diamond, Jared

ARTICLE/CHAPTER TITLE: Chapter 11: Lethal Gift of Livestock

JOURNAL/BOOK TITLE: Guns, Germs, and Steele: The Fates of Human Societies

VOLUME:

DATE: 1997

PAGES: 195-214 (In the hardback edition)

AUTHOR: Biddle, Wayne

ARTICLE/CHAPTER TITLE:

JOURNAL/BOOK TITLE: A Field Guide To Germs

DATE: 1995

PAGES: 10-17

ADDITIONAL RESOURCES

Do you anticipate that students will be expected to locate and employ resources beyond required texts, reserve library reading and intranet resources? If yes, please identify these resources.

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Presentations will be given on the session indicated, prior to arriving at the assigned port.

PPP – Session 6 - Port: Kobe, Japan

1. _____ 2. _____ 3. _____ 4. _____ 5. _____

PPP – Session 7 - Port: Qingdao, China

1. _____ 2. _____ 3. _____ 4. _____ 5. _____

PPP – Session 8 - Port: Ho Chi Minh City, Vietnam

1. _____ 2. _____ 3. _____ 4. _____ 5. _____

PPP – Session 9 - Port: Bangkok, Thailand

1. _____ 2. _____ 3. _____ 4. _____ 5. _____

PPP – Session 12 - Port: Chennai, India

1. _____ 2. _____ 3. _____ 4. _____ 5. _____

PPP – Session 16 - Port: Adabiya, Egypt

1. _____ 2. _____ 3. _____ 4. _____ 5. _____

PPP – Session 17 - Port: Istanbul, Turkey

1. _____ 2. _____ 3. _____ 4. _____ 5. _____

PPP – Session 18 - Port: Dubrovnik, Croatia

1. _____ 2. _____ 3. _____ 4. _____ 5. _____

PPP – Session 20 – Port: Cadiz, Spain

1. _____ 2. _____ 3. _____ 4. _____ 5. _____

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Session 18 1. _____ 2. _____ 3 _____ 4. _____ 5. _____
6. _____ 7. _____

Session 19 1. _____ 2. _____ 3 _____ 4. _____ 5. _____
6. _____ 7. _____

Session 20 1. _____ 2. _____ 3 _____ 4. _____ 5. _____
6. _____ 7. _____

Session 21 1. _____ 2. _____ 3 _____ 4. _____ 5. _____
6. _____ 7. _____

Session 22 1. _____ 2. _____ 3 _____ 4. _____ 5. _____
6. _____ 7. _____