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Office: CPR 377
Hours: By appointment

001	Tu-Thu	11:00am-12:15pm	CPR	251
002	Tu-Thu	12:30pm-01:45pm	CPR	338

HUM 4938: Science and Society
A cross-cultural introduction to science studies

What is science? What are health and disease? How do these practices interact with the societies in which they take place? In this class we will explore some answers to these questions, investigating various times, places, peoples, and ideas. The only way to understand what science and medicine are is to look at all the various practices of knowing and healing found across the world, in both time and location. This class should be viewed as an introduction to the global history and philosophy of science, focusing especially on medicine. The goal is to help students understand various philosophical and scientific concepts, and how those concepts occur in particular cultural frameworks, as well as help develop the skills needed to think critically about science and medicine.

This class consists in three units. The first unit will serve as an introduction to history and philosophy, using the history of disease concepts as a way of understanding the complex relationship between scientific practices and the wider culture in which such practices are embedded. The second unit is an in depth examination of two scientific systems: those of ancient Greece and ancient China. By comparing and contrasting these systems, we can learn a great deal about how science works, and how it interacts with other elements of the culture. The third unit will build on the foundation established by earlier units, and will further student knowledge of the history of both Western and non-Western science and medicine, including discussing debates concerning who “really” invented science.

This class requires a lot of reading, some of which is very difficult. I expect you understand the basic arguments and points being made by the authors. Attending lecture is therefore essential!

For each reading assignment, I suggest you try to do the following three things:

1. Write down the overall structure and conclusion of the reading. This shouldn't be full of details, but should be a mere sketch or outline of what you read. This will help you remember what the reading was about!
2. Locate one or two main arguments and briefly write down their premises and conclusions. Then think about the following questions: Is the argument convincing? Why or why not? How would you evaluate the argument?
3. Write down all the terms you don't understand and look up their definitions. Write down any confusions and questions you have about the reading, and bring them to class so that we might discuss them and dispel any confusion.

Required Books

1. Jacalyn Duffin (2005), *Lovers and Livers*, University of Toronto Press
2. Geoffrey Lloyd and Nathan Sivin (2003), *The Way and the Word: Science and Medicine in Early China and Greece*, Yale University Press

3. Walter Libby, *An Introduction to the History of Science*, [PDF available on Canvas](#)
4. DeKosky and Allchin (eds.), *An Introduction to the History of Science in Non-Western Traditions*, [PDF available on Canvas](#)

Note: These last two texts will be supplemented by a variety of additional readings, which will also be made available either online or through a PDF available on Canvas.

Plagiarism / Cheating

Academic dishonesty of any type, including plagiarism, is unacceptable. Plagiarism is the representation of another person's work, words or ideas as your own. The cost of plagiarising/cheating starts with failing the course and may result in stiffer penalties.

Learning Disabilities/Personal Problems

If you feel that you are dealing with an issue that is in any way affecting your college experience, please come talk with me or. Anything we discuss will be private, and we will do our best to offer solutions and to help you work through any problems that you may have.

If you have a learning disability that requires special accommodations or affects your contribution to or performance in class, please speak with one of us privately and contact the office of Disabled Student Academic Services in SVC 2043 (974-4309) so that they can help accommodate your needs. The Tutoring (<http://lib.usf.edu/tutoring/subjects/>) and Writing Center (<http://www.lib.usf.edu/writing/>) are all great resources that I encourage you to use, but please remember that it fills up fast, so please make an appointment!

Emergency Notifications

In the event of an emergency, USF might suspend normal operations. During this time, USF may opt to continue delivery of instruction through methods that include but are not limited to: Canvas, Skype, and email messaging and/or an alternate schedule. It's the responsibility of the student to monitor the Canvas site for each class for course specific communication, and the main USF, College, and department websites for important general information.

Course Requirements and Grades

Grading scale

100-93% A	<93-90% A-	<90-87% B+	<87-83% B	<83-80% B-
<80-77% C+	<77-73% C	<73-70% C-	<70-67% D+	<67-63% D
<63-60% D-	< 60% F			

Attendance and Participation (25%)

Writing Assignment for Unit 1 (20%)

The goal for this assignment is to find a disease and write a short description for each part of the disease concept we discussed in class:

1. **Illness** or **symptoms**: what suffering is like, the characteristics of the problem
2. **Patients**: who suffers from it; demographics and epidemiology
3. **Name** or **Diagnosis**: what we call it
4. **Outcome** or **Prognosis**: what will happen
5. **Cause**: what we think provokes it
6. **Treatment** or **prevention**: what to do to make it go away and not return

After doing this, you must briefly summarize when and how the disease was first identified and discovered.

Length: No more than 3 pages.

Due: Thursday February 5, online through canvas

Writing Assignment for Unit 2 (30%)

Imagine yourself either as an ancient Greek or ancient Chinese medical or scientific practitioner of some sort (feel free to choose from any of the practices discussed in the book). Along the road one day, you encounter a practitioner from the opposite civilization, and you begin to discuss your various methods. You quickly, however, come to disagree about various important elements of your practice. In your paper, first summarize the similarities and differences in your particular field between the practice of the Chinese and the Greeks. Then formulate an argument against the opposing method of practice; that is, if you imagined yourself a Greek doctor, try to argue why Chinese medicine is inferior to Greek, from that doctor's perspective. Make sure to reference various aspects of Greek or Chinese society that might be relevant, such as institutional practices, state or private financial support, educational systems, etc.

Length: No more than 6 pages.

Due: Thursday April 2, online through canvas

Writing Assignment for Unit 3 (25%)

The goal for this assignment is to compare and contrast the various ways of healing and knowing discussed in this unit. How are the scientific practices of non-Western cultures different from Western practices and from each other? How are they similar? In comparing these different contexts for scientific production, make sure to be critical: do you see problems with some practices? Which seem best to you? Is there such a thing as the best way of producing knowledge? Finally, at the end of your paper, take some space to reflect on whether we should call all the epistemological practices we have studied 'science'. Is this term useful for such a broad range of practices? Or is there something that binds them all together?

Length: No more than 4 pages.

Due: Monday April 27, online through canvas

Schedule
(subject to change)

Under each date you will find the reading to be discussed in class that day. Come to class prepared!

T – 1/6: Introduction

Introduction, argument and interpretation

Unit 1: Thinking about the History of Disease

Goals: The goal of this first unit is to introduce some of the key concepts of history and philosophy and the study of science. Duffin's book is an excellent text for showing the complex relations between a scientific activity and the culture and time period in which it occurs. Duffin's book shows how disease concepts have changed over time, affecting what counts as a disease and what counts as a cure.

Key concepts: the disease concept (symptoms, diagnosis, prognosis, patients, treatment), epistemology, ontology, historiography, anachronism, objectivity, subjectivity.

Reading: Jacalyn Duffin (2005), *Lovers and Livers*.

Th – 1/8

Ch. 1: The Disease Game

T - 1/13

Ch. 2: Lovers

Th – 1/15

Ch. 2: Lovers

T – 1/20

Ch. 3: Livers

Th – 1/22

Ch. 3: Livers

Unit 2: Comparing Ancient Greek and Chinese Science

Goals: The goal of this section is to take an in depth look at the scientific practices and cultures of two very different civilizations, attempting not just to understand each scientific system on its own terms, but to understand how to compare and contrast such systems in different cultures. In particular, we will pay close attention to social structures—patterns of patronage, intuitions, educational practices, and the social distinctions upon which these structures are predicated (such as honor or prestige or the pursuit of money). Importantly we will attempt to understand how social structures and the content and method of science interact, demonstrating the ways in which we must understand science as embedded within culture and not separate from it.

Key Concepts: patronage, transmission, argument forms, orthodoxy vs. innovation, reality vs. appearance and appearance vs. reality, the aims and goals of inquiry, mathematical vs. physical explanation, microcosm and macrocosm, cosmology and cosmography

Reading: Geoffrey Lloyd and Nathan Sivin (2003), *The Way and the Word: Science and Medicine in Early China and Greece*

T – 1/27

Ch. 1: Aims and Methods

Th – 1/29

Ch. 1: Aims and Methods

****First writing assignment due****

T – 2/3

Ch. 2: The Social and Institutional Framework of the Chinese Sciences

Th – 2/5

Ch. 2: The Social and Institutional Framework of the Chinese Sciences

T – 2/10

Ch. 2: The Social and Institutional Framework of the Chinese Sciences

Th – 2/12

Ch. 2: The Social and Institutional Framework of the Chinese Sciences

T – 2/17

Ch. 3: The Social and Institutional Framework of Greek Science

Th – 2/19

Ch. 3: The Social and Institutional Framework of Greek Science

T – 2/24

Ch. 3: The Social and Institutional Framework of Greek Science

Th – 2/26

Ch. 3: The Social and Institutional Framework of Greek Science

SPRING BREAK: MARCH 2 – MARCH 7: START WORKING ON YOUR PAPERS!

T – 3/10

Ch. 4: The Fundamental Issues of Greek Science

Th – 3/12

Ch. 4: The Fundamental Issues of Greek Science

T – 3/17

Ch. 5: The Fundamental Issues of the Chinese Sciences

Th – 3/19

Ch. 5: The Fundamental Issues of the Chinese Sciences

T – 3/24

Ch. 6: Chinese and Greek Sciences Compared

Th – 3/26

Ch. 6: Chinese and Greek Sciences Compared

Unit 3: Western and Non-Western Sciences

Goals: The goal of this unit is to build on the foundation of the previous units in understanding science and medicine as cultural productions. In particular, this unit will use an old fashioned history of science introductory text, focused solely on the history of Western thought, in comparison with newer texts expanding the history of science to non-Western contexts. The hope is that students will both learn about the history of science in both of these contexts, able to compare and contrast not just across cultures, but across ways of interpreting the history of science.

We will focus on what we might call a (much) expanded Needham question, which asks not just why the Scientific Revolution only occurred in Europe, but what this statement means and how it should be interpreted and, further, how we can integrate the histories of different sorts of knowing and healing practices from different cultural contexts into a unified picture of scientific activity.

Key Concepts: Scientific Revolution, epistemology, ways of knowing, historiography, bias and assumptions, colonialism

Readings: Walter Libby (1917), *An Introduction to the History of Science*; Robert DeKosky and Douglas Allchin (eds) (2008), *An Introduction to the History of Science in Non-Western Traditions*, Seattle: *History of Science Society*

T – 3/31

Cunningham, A. and P. Williams, "De-centring the 'Big Picture': The Origins of Modern Science and the Modern Origins of Science," *Brit. J. Hist. Sci.*, 26 (1993): 407-32. **Available on CANVAS in pdf.**

Th – 4/2

LIBBY: *Preface*; *Ch.4* "The Medieval Church and the Arabs" and *Ch.6* "Scientific Method" **Available on CANVAS in pdf**

Second writing assignment due

T – 4/7

LIBBY: *Preface*; *Ch.4* "The Medieval Church and the Arabs" and *Ch.6* "Scientific Method" **Available on CANVAS in pdf**

Th – 4/9

LIBBY *Ch.7* "Science as Measurement" and *Ch.8* "Cooperation in Science" **Available on CANVAS in pdf**

T – 4/14

LIBBY *Ch.7* “Science as Measurement” and *Ch.8* “Cooperation in Science” **Available on CANVAS in pdf**

Th – 4/16

ALLCHIN *Ch.4* “Africa”, Gloria Emeagwali (with assistance from Constance Hilliard) and *Ch.5*. “Native America”, Clara Sue Kidwell **Available on CANVAS in pdf**

Richard C. Onwuanibe, “The Philosophy of African Medical Practice,” *A Journal of Opinion*, 9(3) (1979), pp. 25-28 **Available on CANVAS in pdf**

T – 4/21

ALLCHIN *Ch.5* “Latin America”, Marcos Cueto and Jorge Cañizares Esguerra, and *Ch.6* “Australia and the Pacific”, David Turnbull and Philip F. Rehbock **Available on CANVAS in pdf**

Joseph W. Bastien, "Differences between Kallawaa-Andean and Greek-European Humoral Theory," *Social Science and Medicine*, 28 (1989), pp.45-51. **Available on CANVAS in pdf.**

Th – 4/23

Peter Worsley, “Non-Western Medical Systems,” *Annual Review of Anthropology* 11 (1982), pp.315-348 **Available on CANVAS in pdf**

George Foster, “Disease Etiologies in Non Western Cultures,” *American Anthropologist* (78(4) (1976), pp.773 – 782 **Available on CANVAS in pdf**

*****WRITING ASSIGNMENT 3 IS DUE MONDAY APRIL 27 THROUGH CANVAS*****