

LPS/HISTORY60: Making of Modern Science (Fall/19)

Instructor	William Stafford
E-mail	stafforw@uci.edu
Class Information	MWF 11 am HIB 110
Office Hours	TBA SST 795
Website	https://canvas.eee.uci.edu/
TA	Name
E-mail	Email
Discussion Sections	Mon 4 pm SSL 129 or Tue 2 pm SST 238
Office Hours	Thurs at 10am, Fri at 9am SST 764

1 INTRODUCTION

While fulfilling a General Education requirement, this course will give students a better understanding of the history of science and introduce them to the difficulties in deciding what does and does not count as science using historical case studies. This course will allow science majors to more critically assess the historical narratives they are given about their subject and prepare all students to take upper division history and philosophy of science courses. You will be assessed by writing two essays and one exam. The first essay will demonstrate your ability to apply the theories of science we learned to historical case studies. The second will demonstrate your ability to research beyond the material of the course by asking you to discuss a little-known figure in the history of science. The exam will show your general mastery and memory of the course material.

2 STUDENT LEARNING OUTCOMES

Course goals:

- Understand the difficulties inherent in demarcating science.
- Analyse attempts to define science and evaluate them with the use of historic case studies.
- Learn about the history of modern science by looking at a series of historical case studies.
- Research cases of learning and people that aren't part of the canon of history of science and evaluate how this work compares to theories of science and historical case studies.
- Learn about the impact science has had on society. Evaluate whether there is any way to distinguish between 'bad' science and other endeavours.

Skills:

- Manage time, follow instructions,
- Engage in discussions in a respectful and constructive manner,
- Essay writing skills including citations and thesis writing,
- critical analysis of texts,
- giving clear and compelling arguments for your views, presenting objections to your views charitably and responding to objections robustly.

3 BOOK

Bowler, Peter J., and Iwan Rhys Morus. 2010. Making Modern Science: A Historical Survey. University of Chicago Press.

Godfrey-Smith, Peter. 2009. Theory and Reality: An Introduction to the Philosophy of Science. University of Chicago Press.

Required Materials:

Microsoft Word (download free [here](#))

Suggested Materials:

Flash cards (paper or electronic)

4 EEE/CANVAS

Students are encouraged to check the course website often. Surveys may be added on Friday and due on Monday and it is your responsibility to check.

5 HOW TO PROPERLY CONTACT ME

When emailing me or Jessica please use the following heading format: [Course Code]: [First name] [Last Name] [Section]– [Subject].

Resource: <https://medium.com/@lportwoodstacer/how-to-email-your-professor-without-being-annoying-af-cf64ae0e4087#.1xcuo9rvg>

6 ACADEMIC DISHONESTY

All students are expected to adhere to the UCI Academic Dishonesty Policies (for more information, please visit <http://senate.uci.edu/files/2015/12/Appendix-VIII-UCI-Academic-Senate-Policy-on-Academic-Honesty.pdf>).

7 REGRADES

All regrades are competed by the instructor rather than the TA. Students must ask for a regrade within 2 days of grades being released. Be aware that a regrade may result in a lower grade than was initially given.

8 STUDENT BEHAVIOUR IN CLASS

Students must always be respectful in discussions. At times we will be discussing sensitive topics and students who negatively affect the discussion environment may receive an unsatisfactory on discussion participation.

9 ATTENDANCE AND TARDINESS

Students attendance of sections will be considered when assigning satisfactory or unsatisfactory to discussion performance.

Late work will only be accepted with an accompanying explanation. Students who do not qualify for an accommodation, will be docked one grade per a day late.

A non-exhaustive list of reasons for accommodations:

- Disability
- Sports event,
- Religious holiday,
- Immigration appointments,
- Jury duty or court appointments,
- Medical (including mental health related),
- Career duties.

10 DISABILITY SERVICES

If you have a disability for which you are or may be requesting an accommodation, you are encouraged to contact both your instructor and the Disability Services Centre (<http://www.disability.uci.edu/>) as early as possible in the term. The Disability Services Centre will verify your disability and determine reasonable accommodations for this course. You may also independently talk to me about accommodations.

11 GRADES

There are 300 points total:

Participation	30 points	10%
First essay	120 points	40%
Second essay	60 points	20%
Final exam	90 points	30%

Points to Letter:

A	281+
A-	271+
B+	261+
B	251+
B-	241+
C+	231+
C	221+
C-	211+
D+	201+
D	191+
D-	181+
F	<181

11.1 PARTICIPATION

There are 30 points or 10% of your grade for participation. This will be given out as follows:

All participation completed satisfactorily	30 points
No more than one not completed satisfactorily	15 points
More than one not completed satisfactorily	0 points

The participation consists of:

1. Completing a detailed and thoughtful peer review in week 6
2. Completing all reading reactions and course surveys in a way that demonstrates familiarity with the reading material and course subject matter.
 - a. Due 2pm on Monday each week,
 - b. Week 1 reading due in Week 2 and so on,
 - c. Two may be late with reasons,
 - d. You must email me and Jessica.

- Participating in discussions and creating a positive discussion environment (this includes any activities or presentations that our TA Jessica may require)

11.2 ESSAY 1

Two essay topics which both apply what you have learnt about theories of science to historical case studies. Emphasis on critical engagement not repetition of factual information

Around 1,500 words

Essay Draft	Friday 11am week 5 Nov 1st
Peer Review	Friday 11am week 6 Nov 8th
Essay Final	Friday 11am week 7 Nov 15 th

11.3 ESSAY 2

You chose a figure or practice under-represented in history of science. (Cannot be one we cover in class.) With an emphasis on independent research. Research topic independently and analyse either:

- how it relates to canonical examples of science,
- how it relates to one of the theories of science we discussed,

Around 750 words

Due Friday 11am week 10 Dec 6th

11.4 FINAL EXAM

Final exam will be 1.5 hours. Two sections one on the material from the first half and one from the second. Chose one question from each section. We will discuss this more closer to the time.

Fri, Dec 13, 8:30-10:00am

12 SCHEDULE/READINGS

Date	Lecture	Readings	Due
Week 0	Introduction	N/A	NA
Week 1	Hypothetical Deductive Method and Falsificationsim	Theory and Reality Ch. 4	Mon: Pre-course survery
Week 2	Paradigm Shifts and Revolutions	Kuhn Ch. 5 & 9	Mon: Reading Review (RR)
Week 3	The Scientific Revolution	Making of Modern Science (MMS) Ch. 1 & 2	Mon:RR
Week 4	The Chemical Revolution	MMS Ch. 3	Mon:RR
Week 5	The Age of the Earth	MMS Ch. 5	Mon:RR Fri: Essay Draft
Week 6	Darwinism	MMS Ch. 6	Mon:RR Fri: Peer Review

Week 7	20 th Century Cosmology	MMS Ch. 12	Mon:RR Fri: Final Essay 1
Week 8	Global History of Science	TBA	Mon:RR
Week 9	Science and Society: Biology and Racism	Sivasundaram Ch. 5	Mon:RR
Week 10	Science and Society: Medicine and Gender	TBA	Mon:RR Fri: Essay 2
Finals	N/A	N/A	Mon:RR Fri: Final