History 233 History of Science in the Modern Era
MWF 1:00-1:50
Room TBD

Prof. Cyrus Mody
Humanities 309
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Office hours: by appointment

Book available at the bookstore:


Grading: Participation: 25%
Homeworks 25%
Mid-terms: 25%
Final: 25%

Participation: This is a lecture-based course, but one in which the lectures include significant audience participation. I will ask questions that will, hopefully, lead you toward a fuller appreciation of the choices confronting scientists and natural philosophers at different times in history; and I will spend the first part of most lectures recapping the previous lecture with your assistance. Thus, your active participation in the discussions will be crucial. I will keep a tally for participation. If you attend class, contribute to discussion, and demonstrate a working knowledge of the readings you will get full participation credit.

Homeworks: There will be short homeworks, primarily covering the assigned readings, every couple weeks.

Midterms: There will be two in-class midterm exams, on February 17 and March 14.

Final: There will be a take-home final exam. This will be administered through Owl-Space, due by the end of the exam period. Since it is a take-home, you will be allowed to use the course readings and any notes you have taken.

Note: any student with a documented disability needing academic adjustment or accommodations is requested to speak with me during the first two weeks of class. All discussions will remain confidential. Students with disabilities should also contact Disabled Student Services in the Allen Center.

Learning outcomes: By the end of this course, you should be able to articulate how science is and has always been a human, social, globally-distributed enterprise with complex connections to politics, religion, technology, commerce, warfare, class, race,
gender, colonialism, and a variety of other facets of human history. While I don’t expect you to remember most of the specifics of the course once you graduate, I would like you to (A) be able to relearn this material very quickly if you ever have another occasion to study the history of science; (B) be able to dispense with some common myths about science and scientists; and (C) be able to read about current public debates in which science figures with an eye to the broad points we discuss in this course.

You should also pick up some practical skills during this semester, if you have not done so already. In particular, you will need to know how to listen and take notes, summarize an argument, and present your own thoughts for discussion.

**Plagiarism and the Honor Code:** Every assignment in this course is covered by Rice’s Honor Code. I won’t ask you to check off the Honor Code box on your regular homeworks, but you are still required to abide by it. That means that you **must** adhere to standard US academic practice when it comes to originality of work and citation of sources. **Any** time you quote from a source, you must cite that source and you must indicate that you are quoting rather than paraphrasing. **Any** time you paraphrase a source, you must acknowledge it. If you rely on an idea borrowed from someone else, you should indicate that. I am not a stickler for any particular citation style, but whatever style you choose should be (A) consistent and (B) clear enough that your reader can track down your source and verify it.
Schedule:
Readings are to be read for the lecture under which they are listed. Be prepared to discuss them on that day.

Monday, January 13: Introduction to class

Wednesday, January 15: Pre-Socratics and Plato

Friday, January 17: Aristotle and Alexander
Ede and Cormack 1
Homework #1 out

Wednesday, January 22: Roman natural history and medicine
Ede and Cormack 2

Friday, January 24: Hellenistic knowledge moves east

Monday, January 27: Science in medieval Arab and Islamic empires
Ede and Cormack 3
Homework #1 due
Homework #2 out

Wednesday, January 29: Medieval Europe: monks, travelers, universities
Ede and Cormack 4

Friday, January 31: The Scientific Renaissance

Monday, February 3: Patronage
Homework #2 due

Wednesday, February 5: Alchemy
Ede and Cormack 5
Homework #3 out

Friday, February 7: England and the Royal Society

Monday, February 10: France: Salons and the Academy

Wednesday, February 12: The Netherlands and commercial knowledge
Homework #3 due

Friday, February 14: Globalizing science in the Age of Wonder

Monday, February 17: Midterm 1

Wednesday, February 19: The First Industrial Revolution
Friday, February 21: Enlightenment and Revolution

Monday, February 24: Counter-revolution and Romanticism

Wednesday, February 26: Evolution before Darwin
Homework #4 due

Friday, February 28: Darwin

Monday, March 10: Statistics

Wednesday, March 12: Victorian physics
Ede and Cormack 7
Homework #5 out

Friday, March 14: Midterm 2

Monday, March 17: Anthropology, criminology, eugenics
Ede and Cormack 8

Wednesday, March 19: Pasteur
Homework #5 due

Friday, March 21: Public health

Monday, March 24: X-rays and N-rays

Wednesday, March 26: Education and professionalization

Friday, March 28: Engineering and invention

Monday, March 31: Early corporate research
Ede and Cormack 9

Wednesday, April 2: Late colonial science

Monday, April 7: World War One
Ede and Cormack 10
Homework #6 out

Wednesday, April 9: Relativity and relativism

Friday, April 11: Early Soviet science
Monday, April 14: Philanthropic science
Homework #6 due

Wednesday, April 16: Science under National Socialism
Ede and Cormack 11
Homework #7 out

Friday, April 18: World War Two

Monday, April 21: The early Cold War
Ede and Cormack 12

Wednesday, April 23: Circa 1970
Ede and Cormack 13
Homework #7 due

Friday, April 25: Science since the ’70s