INTD 220: History of Physical Science
Syllabus, Spring 2019

Course Online: Canvas will be our central workspace

Instructors:

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Course Description:
This course will explore the history of the physical sciences: physics, chemistry, geology, and related fields. Attention will be given to both the scientific advances (especially as revealed in key experiments), and also the broader development of a scientific worldview. After initial class meetings, small teams of students will work independently to produce a focused study on a particular person, experiment, or institution. The course focus will be on Western thought between the years 1500 and 1900, although some projects outside those guidelines may be allowed with instructor permission.

Learning Outcomes:
Students will gain a familiarity with perspectives and methods of study used in the history of science. They will learn detailed facts about one particular scientist, experiment, or episode in the history of science. Historical research skills will be honed through application and practice.

Times and places:
Class meetings: in 14 Sturges, Fridays 1:30-2:20pm
GREAT Day: Wednesday, April 17 (substitutes for final exam)
Office hours: see course Canvas site

Required materials:
- John Henry, *The Scientific Revolution and the Origins of Modern Science* (ISBN 9780230574380)
- Margaret C. Jacob, *The Scientific Revolution: A Brief History with Documents* (ISBN 9780312653491)

Coursework Expectations:
85% of the grade will be based on the final group project. Early in the semester, we will constitute working teams (balanced between humanities and science students), roughly 4 groups of 4 students each. The project will comprise multiple required components:
- Project Proposal: A 1-2 page paper outlining your focus for the project. This should include the subject, approach, background and context, points of interest, and a preliminary bibliography of secondary sources and at least one primary source.

- Poster for GREAT Day: A visual representation of your group research, with an emphasis on analysis and engagement with primary source evidence.
- Research Paper: A 5-7 page paper that includes group research from your poster project. This should be analytical (in the historical sense) and include engagement with at least one significant primary source and 3-4 secondary sources on your topic. The research paper also includes a final bibliography of resources consulted in your work.
- Self-reflective Essay: Reflection on your personal contribution to your group's project, and what new knowledge or perspectives you take away from the project, including interconnections between this class and your other academic programs.

15% of the grade will be based on participation. This course will be run as a seminar style class, which means that your active participation in discussion of the readings and projects will be a major part of all course activities. We will take attendance in class and evidence of excessive absenteeism or consistent lack of preparation or participation will significantly impact this component of the grade.

Expected Schedule:

Note: Page numbers for the Third Edition of Henry and the Second Edition of Jacob.

Date	Class Topic	Items Due
25 January	Introduction, Review of past projects	
1 February	Introduction to the History of Science	Read: Henry, Ch. 1–3 (pp. 1–55)
8 February	Problems in the History of Science	Read: Jacob, Part 1 (pp. 1–36) Due: Finalized team memberships
15 February	Problems in the History of Science (continued)	Read: Henry, Ch. 4–8 (pp. 56–114) Due: Topic statement
22 February	Introduction to Primary Source Evidence: Astronomy and Mechanics	Read: Jacob, Docs 3 & 4 [Galileo] (pp. 48–56) Due: A list of possible primary sources that connect to your topic
1 March	In class presentation of proposals	Due: Project Proposal

8 March	Interpreting Primary Source Evidence: Method	Read: Jacob, Docs 2 [Bacon], 5 [Harvey], 7, 8 [Boyle], & 18 [Franklin] (pp. 43–48, 57–62, 75–83, 119–122) Due: Submit GREAT Day abstracts
15 March	Good Poster Practices, Group work session	
22 March	Spring Break - No Class	
29 March	Group work session and review of progress	Draft GREAT Day poster due after class
2 April (Tues)		**GREAT Day poster submission due by 4:30pm**
5 April	Poster presentation practice	
12 April	Poster presentation practice	
17 April (Wed)	**GREAT Day**	**Present!**
19 April	No Class	
22 April (Mon)	Guest Lecture: Gwen Kay, Professor of History at SUNY Oswego	
26 April	Review and reflection	Due: Research Paper
3 May	Final Discussion	Read: Jacob, Docs 6 [Descartes], 9 [Newton], 15 [Toland], 17 [Desaguliers] (pp. 62–75, 83–86, 105–107, 112–119) Due: Self-Reflective Essay