

Winter 2019

History 361

Early Modern Science

4 Credits

CRN 27255

Monday, Wednesday, 10-11:20

360 Condon

Prof. Vera Keller

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Office: 309 McKenzie Hall

Office Hours: Monday 12-2

Format: Mixed Lecture and Discussion

Outline of Subject: Experimental science holds a pre-eminent place in research universities today. How did this come to be? Experimental science originated in what we call the "early modern" period in Europe, around 1500-1800. At the start of this period, experimental science could barely be found within the university curriculum. By the end, experimental science could be found taught in universities across Europe and overseas, such as in the Americas. Where did experimental science come from, how did it gain cultural authority, and how did it spread? This course explores the origins of experimental science in a surprising (from today's perspective) locale - the home. Experimenting with the "secrets of nature" was a do-it-yourself, amateur, popular practice across Europe. Only with difficulty did the tradition of "secrets" enter institutional and academic settings, transforming to become, seemingly, a more public practice. Even as science shed its mysterious and esoteric associations, however, it became exclusive in new ways, as more professionalized forms of science closed its doors to many prior practitioners, including women.

Course Materials:

Required text: William Eamon, *Science and the Secrets of Nature: Books of Secrets in Medieval and Early Modern Culture* (Princeton: Princeton University Press, 1994).

1 copy on 4 hour course reserve at Knight Library.

Expectations for students: Students are expected to do the assigned readings and assignments, to attend class, and to come to class prepared to engage. Absences are excused with a doctor's note. Engagement can take the form of 1) volunteering to answer a question posed by the professor, 2) raising one's own helpful question or constructive criticism in class, or 3) bringing up in class the idea of *another* student (with appropriate credit), from, for example, one of their blog posts. Students are expected to be respectful of everyone in the room. No electronic devices in class; a laptop or cellphone will automatically count as an absence for the day. If using an electronic device is medically necessary, please talk to me with appropriate documentation. Late work receives a reduction of 10% per day.

Assessment:

Blog posts (2 points): 32 points

In order to get full points, each blog posts will both pose a constructive comment or question, and respond to a previous question or comment from a peer. The first person posting each week will get the full 2 points with just one comment or question. The blog posts should offer evidence that the assigned reading has been thoughtfully done, and should include at least one specific reference to reading, including a page number.

Midterm: 10 points

This will be a closed-book exam, with a mix of multiple-choice and short-answer questions.

Final Essay: 10 points

This will be an open-book exam of short-answer questions.

Attendance (17 points: 1 point a day; a half-point a day)

Contributions (17 points: 1 point a day)

A contribution means answering a question, responding to a request for volunteers, or asking a constructive question. 1 contribution point can be won each class meeting.

Special Collections visit in-class assignments: 2 points each (2)

Hartlib Papers Online Take-Home Assignment: 5 points

Color Experiments in-class Assignment: 5 points

Grading Rubric:

A + 98 and up

A : 94-97

A - : 90-93

B +: 86-89

B : 83-85

B-: 80-82

C +: 77-79

C: 73-76

Learning Outcomes [in part adapted from "History's Habits of Mind" from The National Council for History Education (NCHE)]

- gain an awareness of the discipline of the history of science
- engage in respectful and constructive discussions
- Grasp the significance of the past in shaping the present
- Perceive past events and issues as they might have been experienced by the people of the time, with historical empathy rather than present-mindedness
- Read critically, to discern differences between evidence and assertion and to frame useful and appropriate questions about the past
- Interrogate texts and artifacts, posing questions about the past that foster informed discussion, reasoned debate and evidence-based interpretation
- Recognize that history is an evolving narrative constructed from available sources, cogent inferences and changing interpretations
- Negotiate a complex, often uncertain and ambiguous world, equipped with the appreciation for multiple perspectives

What are your desired learning outcomes? List three.

- 1)
- 2)
- 3)

The University of Oregon is working to create inclusive learning environments. Please notify me if there are aspects of the instruction or design of this course that result in disability-related barriers to your participation. You are also encouraged to contact the Accessible Education Center in 155 Oregon Hall at 541-346-1155 or uoaec@uoregon.edu

University of Oregon Affirmation of Community Standards

The University of Oregon community is dedicated to the advancement of knowledge and the development of integrity. In order to thrive and excel, this community must preserve the freedom of thought and expression of all its members. A culture of respect that honors the rights, safety, dignity, and worth of every individual is essential to preserve such freedom. We affirm our respect for the rights and well-being of all members.

We further affirm our commitment to:

- respect the dignity and essential worth of all individuals
- promote a culture of respect throughout the university community
- respect the privacy, property, and freedom of others
- reject bigotry, discrimination, violence, or intimidation of any kind
- practice personal and academic integrity and expect it from others
- promote the diversity of opinions, ideas, and backgrounds that is the lifeblood of the university

Academic Honesty

Students will comply with all policies on Academic Honesty at the University of Oregon. Plagiarism can often unintentionally become a problem when students are unaware of what it includes, or when they use improper citation. Plagiarism is the inclusion of someone else's product, words, ideas, or data as one's own work. When a student submits work for credit that includes the product, words, ideas, or data of others (or of their own previous work), the source must be acknowledged by the use of complete, accurate, and specific references, such as footnotes. By placing one's name on work submitted for credit, the student certifies the originality of all work not otherwise identified by appropriate acknowledgements. On written assignments, if verbatim statements are included, the statements must be enclosed by quotation marks or set off from regular text as indented extracts.

Course Schedule:

I: January 7
Welcome

II: January 9
Introduction, 1-12

III: January 14
15-37

IV: January 16
38-53

January 21 No Class Today, MLK Day

V: January 23
53-90

VI: January 28
93-112

Visit to Special Collections
in-class assignment

VII: January 30
112-133

VIII: February 4
134-167

IX: February 6
Midterm
Closed-book. Multiple-choice and short-answer questions.

X: February 11
194-221

XI: February 13
221-233

XII: February 18
269-285

XIII: February 20
285-291

XIV: February 25
291-300

XV: February 27
301-318
Visit to Special Collections
in-class assignment

XVI: March 4
319-332
Hartlib Papers Online Take-Home Exercise (due on Canvas on March 5).

XVII: March 6
332- 350
Color Experiments
in-class assignment

XVIII: March 11
351-360

March 13
Final discussion.

Final Take-Home Exam due March 19 at noon.
Open-book. Open-note, short-answer questions.