History 208: Of Miracles and Microscopes. History of science, 1200-1800
Spring 2015

Ellen Wurtzel (ewurtzel@oberlin.edu)
Class meets Tues-Thurs. 9:30-10:45
Carnegie 301

Office: 307 Rice Hall
Office hours: Tu 11-12:20; Thu. 1-2:00 and by appointment

Peter Apian, Cosmographia 1524

Robert Hooke’s Micrographia (1665)

Course Description and Goals
This class, like early modern science, will be experimental. We are asking particular questions: how is knowledge constructed and validated? Why do some areas of enquiry become science and others not? What is the place of the occult? Was there medieval science? A scientific revolution? One premise I hope we consider is that knowledge is constructed differently at different times in history, but so also are objects of inquiry, such as the body, the mind, nature, and the universe.

My goals: that we don’t take people out of the context in which they worked, thought, and interacted and likewise see their ideas not as disembodied floating objects but as embedded in a world we will seek to examine and know better than we do now. I also hope, that in demolishing the notion that around 1500, people began to look around the world and draw ‘correct’ conclusions about it, we can construct an alternative narrative or narratives about medieval and early modern bases of knowledge that changed but were not necessarily or only qualitatively better.

Over the course of the semester we will encounter a range of primary sources and some important historical literature; it is hoped that these will become tools for your own interpretation of medieval and early modern scientific enquiry. No specialized background in history or science is required for this course, but you are asked to actively attend to lectures, and above all READ all course assignments in advance of class meetings. You are also responsible, as part of a group, for one class discussion (see below). Written work includes one short essay and one 12-15 page prospectus for a research paper on a topic of your own choosing and in consultation with the instructor. There will be one lecture to attend outside of class time, one class session outside class time (lunch provided)

**Bring readings to class and be prepared to share your informed findings and your questions.

Required texts
These texts are available for purchase at the Oberlin Bookstore and also will be on print reserve in the library. Except for these texts, all readings will be available on Blackboard under Course Materials.


**Recommended texts (also on reserve)**

**General textbooks:** Lynn Hunt, et. al, *The Making of the West*, vol. I or Mortimer Chambers and Barbara Hanawalt, *The Western Experience* (vol. B The Early Modern Era)

**Course requirements**

All work must be turned in to receive credit for the course. The breakdown of grades is as follows:

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Percentage</th>
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<tr>
<td>Attendance and participation</td>
<td>15%</td>
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<tr>
<td>Group questions/discussion and feedback on other presentations</td>
<td>15%</td>
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<tr>
<td>Short Essay 5-7 pp.</td>
<td>20%</td>
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<tr>
<td>Research Prospectus</td>
<td>total 50%</td>
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<tr>
<td>a. Discussion of primary source/s (10%)</td>
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<td>b. Literature review (10%)</td>
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<td>c. Rough draft of prospectus (ungraded)</td>
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<td>c. Final prospectus 12-15 pp. (30%)</td>
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Grading based on the following: A+ 100-97; A 96-93; A- 92-90; B+ 89-87; B 86-83; B- 82-80; C+ 79-77; C 76-73; C- 72-70; D 65-69, F below 65.

**Details**

1. **Attendance and Participation.** Please come to class on time and prepared. Although I will provide weekly lectures with background/historical information, we will have discussion either every class or at least once during the week. During discussion, I expect you to do the lion’s share of the talking, in a meaningful, well-informed way. This means that you have prepared all the reading for that class, brought the reading to class, and have marked any pertinent passages and page numbers that you want to discuss or question. I will check attendance during the semester. If you have more than 3 unexcused absences, you risk a 0 for 15% of your grade.

2. **Group Discussion.** In addition to your weekly pithy remarks, you will also be responsible for generating 5-7 study questions for a particular session and leading a short discussion (20 minutes) with 1 other student. Your questions should be based on a careful reading of the text(s) for that particular class and should include connections you see to previous classes. You and your partner will meet with me before you send all your questions to the rest of the class. Please email your questions no later than 5:00 PM of the day before we discuss those readings. We will begin in the third week of class. (sign-up the second week of the term) and will do some practice questions before.

3. **Short essay.** Due Tuesday, 3/3 9:30AM 5-7pp. Send an electronic copy (with honor code) please. You will have two choices for your essay. I’ll hand out the prompts a week ahead of the due date.
4. **Research Prospectus.** In a 200-level class, you are just discovering a new topic. Instead of asking you to write a research paper while you are still getting your heads around the subject, I’d like you to write a research prospectus in which you consider a topic of interest (one we cover this semester or one of the many we will not) and go through all the important steps necessary to find a topic, learn what others have found out about it, decide on a question to investigate, find the sources you need to answer your question, and most importantly, consider the significance of what you might learn. This process is invaluable, not only for conceiving of a research investigation in history (and maybe jumpstarting a capstone or senior thesis project?) but also for research you might do in many other disciplines—and yes, even jobs post college.

a. **Pick a topic.** Send in to me electronically by **Tuesday, 2/24.** 1 paragraph. For class 3/3 we will work with Jennifer Starkey, research librarian at Mudd, to find relevant primary and secondary sources.

b. **Primary source analysis.** The first step to your investigation will be finding sources that you will research. In two parts:
   a. **Friday, 3/20 8PM** for description of the source and how and why it was produced; 1-2 pp. you will also send in a list of books and articles you have found about your topic/questions.
   b. **Sunday 4/12 5PM 3-5 pp** for what it is about and why it is a valid source to help you investigate your topic. Focus also on what questions the source/s raise for you that you want to answer.

c. **Literature review.** Sunday 4/26, 5PM 3-5 pp. A literature review shows that you have located the major articles and books for your given topic and that can help you answer your questions. It will also provide your preliminary assessment of their value for your work. You will find at least 2 books (monographs) and three articles that discuss your topic and/or sources. 1-2 paragraphs describing what each of them is about and how it is useful, and at least 1 paragraph at the end demonstrating how they have discussed your particular question (or that they haven’t).

d. **Rough draft.** Thursday 5/7. The prospectus puts it all together—the topic and question/s you want to answer, the sources you will use, what other scholars have said about the sources you’re using and the question you are asking, and what your investigation of the topic will contribute to the field as a whole. You are using the source analysis and literature review you have already created, but editing/adding to/revising as needed.

e. **Final Prospectus, including bibliography of primary and secondary sources. 10-12 pages,** due during our exam time for this course. Send electronically, please

**Guidelines for all written work**

There are only a few simple rules. 1. Be clear in your writing, specific rather than general in your claims, and faithful to the sources themselves. 2. Proofread!! 3. Please, please, please number your pages! 4. Papers should be one and a half or double-spaced, with at least 1” margins but not more than 1.25” 5. When you are using primary sources and other historians’ work, you will need to include footnotes and a bibliography. To do this, refer to some of the reference guides from the Oberlin History Department that I have posted on Blackboard. When in doubt, get in touch with me. *I evaluate students*’ *work on the basis of form as well as content.*

**Disabilities**

If you have specific physical, psychiatric or learning disabilities and require accommodations, please let me know early in the semester so that your learning needs may be appropriately met. You will need to provide documentation of your disability to Jane Boomer in the Office of Disability Services in Peters G-27/G-28.
**Lateness**
Unexcused late assignments will be penalized by dropping 3 points from your grade every day a paper is late. I take deadlines seriously.

**Plagiarism**
All work turned in for this course must be your own. I can’t stress this enough. The College requires that students sign an "Honor Code" for all assignments. This pledge states: "I affirm that I have adhered to the Honor Code in this assignment." For further information, see the student Honor Code which you can access via Blackboard>Lookup/Directories>Honor Code. If you have questions about what constitutes plagiarism, especially in the context of group assignments, please see me or raise it in class.

**Schedule of Classes and Assignments**

Week 1

2/3 *Introduction: terms and things*

2/5 *What is knowledge for in the Middle Ages?*

Week 2

2/10 *Medieval universities and ancient science*

2/12 *Queenly Theology and the natural world*

**Due:** Compare Aquinas and Ibn Rushd’s descriptions of the world, its purpose, and God’s relation to it. Come to class with 3-4 questions based on the readings that you think will elicit a good discussion on medieval knowledge, religion and natural philosophy. These are not easy texts but are fundamental to understanding medieval principles of science and epistemologies of knowledge. We will work in small groups to develop your ideas.

Week 3

2/17 *Sex, Science and the Body*

2/19 *Women’s Secrets, Generative and Anatomical*

Week 4
2/24 Alchemy and religion; art and nature

DUE: 1 paragraph. The topic (or two) you are interested in researching and why (what about it). Send in to me electronically please.

2/26 Medieval magic and witchcraft

Week 5

3/3 Visit to the library for research prospectus work with Jennifer Starkey. Meet in MUDD 113. Bring your own laptop if you want.

Due by class time. 5-7 pp. Send in electronically with honor code please.

3/5 Turf wars: Barber Surgeons, Physicians and the secrets of the body

Week 6 *Pick your primary source/s this week!

3/10 Environmental Exploration/Exploitation?

3/12 Naturalist Networks
Reading: Harkness, The Jewel House, skim pp. 1-14, Read Chapter 1, Living on Lime Street.

Week 7

3/17 Scientific Revolution?

3/19 Mathematical Sciences, Practical Arts
Due Friday 3/20 5PM: 1-3 pp. Primary source analysis 1 plus list of at least 2 books and 3 articles about your topic. You will use these for your literature review.

3/24-3/26 Spring Break!

Week 8

3/31 Rationalism: Mind Body, substance and form?
Readings: Rene Descartes, Meditations on First Philosophy (1641) and Discourse on Method (1637) Shapin, The Scientific Revolution, 30-57.

4/2 Empiricism: Experience and Administration
Readings: Harkness, Chapter 6, From The Jewel House to Salomon’s House; Bb. Francis Bacon, New Atlantis (1627) selections; Shapin, Scientific Revolution, 65-85.

Week 9

4/7 Imagining a Scientific Community

4/9 Science vs. Religion in the 17th century?

Due Sunday 4/12 8PM: 5 pp. Primary source analysis 2

Week 10

4/14 No Class during regular time. Instead we will meet for lunch with Taylor Allen’s Biology 100 class, today or tomorrow, when we will discuss the following reading together:

4/16 Men, Animals and the Great Chain of Being

Week 11

4/21 Newtonianism and the New Science

4/23 Visit with Lydia Barnett, OC ’03, Assistant Professor at Bates College, in class
Readings: TBA

**4:30 PM** Lecture by Lydia Barnett, Hallock Auditorium. Attendance required!

**Due Sunday 4/26 5PM, 5pp. literature review**

Week 12 *Please make sure you watch (before class on Thursday) Ridicule (Patrice Leonte, director, 1996). It is on netflix and on reserve in the library*

4/28 **Encyclopedic Knowledge**

4/30 **Salons and Sexual Difference (and Discussion of Ridicule)**

Week 13

5/5 **Empire and Botany**

5/7 **Wrap-up discussion**

**Due in class:** Prospectus rough draft, 10-12 pp.

**Due Thursday 5/14 at 11AM** Final Prospectus plus bibliography. 12-15 pp.