Special Studies in the History of Pre-Modern Science

This course is a team-taught graduate survey of the history of science, intended to broaden and deepen the content presented in HSCI 3013 (which, in most cases, you will be auditing in conjunction with this graduate course), and to introduce you to advanced historiography that relates to the pre-modern period. You will encounter both classic work in the discipline as well as more recent viewpoints. In conjunction with your auditing of HSCI 3013, the goal for this 5990 supplement is to provide you with a working knowledge of the basic “canon” of topics and historiographic issues in the pre-modern period, and an awareness of the broad array of themes and content that constitute the larger web of connections in thinking about the history of early science, technology and medicine. In reaching this goal you will be better prepared to undertake such tasks as building your own bibliographies for further study and research and better prepared to serve as a teaching assistant in the undergraduate survey at a later date, due to a fuller knowledge of the historical background and historiography.

Instructors: Kathleen Crowther, Steven Livesey, Kerry Magruder, Rienk Vermij.

Course Mechanics

3013 Component: All students in this 5990 are expected to be directly involved in one of the sections of 3013 offered this semester, either as an actively auditing student or as the course GTA. The professor for the 3013 you take will specify the exact nature of your obligations to that course, but you should expect, at a minimum, to be required to attend the lectures and discussions and to do the readings. Some faculty may ask you to do weekly homework assignments or to take quizzes and exams as well; others may not.

Weekly 5990 Seminar: For the most part, the course will meet weekly as a seminar. Students are expected to turn in a short writing assignment for each week that has assigned reading. Generally, the short assignment will be an analytical essay of approximately 750-1000 words on the primary reading for that week. As such, it should go beyond summarizing key points to integrate an analytical discussion as well. However, some instructors may instead give you specific instructions on how to structure the short writing assignments, or give you a specific question or questions on which to focus. If so, they will forward those instructions to you via email prior to your need to prepare the assignment. As the overall coordinator for the course, Dr. Livesey will oversee this process as well as the general structure — if you have any questions about logistics at any time, feel free to contact him by email (slivesey@ou.edu) or telephone (325-6490) or in person (PHSC 604). If you are unclear about the expectations for any particular assignment, please ask the relevant professor.

Grading: Your grade for the course will be determined by all four participating faculty. It will depend upon both your writing assignments and your participation in the weekly discussions, with the writing assignments being weighted more heavily.

Readings: For the required reading, we will seek to place copies of texts owned by OU on reserve in the Collections. If articles are part of the required reading we will either scan the material and post it on the D2L site for the course or place copies on a designated shelf in PHSC. We do this as a convenience for
you, and in recognition of the costs of course materials. We do urge you to consider buying course materials as part of your graduate training. Sources such as amazon.com often offer discounted prices for new texts and access to used copies; bookstores such as abe.com, alibris.com, bookfinder.com, and especially AddAll.com (which searches more than forty online book consortia) are also helpful sources for used books.

Note: seminar participants are urged to establish collaborative use rules for reserve readings so that all members of the class have equal access to the materials. This is especially important in the days prior to the deadlines for written materials.

Course meeting times: Mondays, 12:30 – 2:30 p.m., Harlow Room, History of Science Collections.

August 24 — Introductory meeting, attended by all instructors.

August 31 — Cultures of ancient science (Dr. Livesey)

Reading:


September 7 — No class, Labor Day

September 14 — Genres of ancient Greek and Roman Science (Dr. Liba Taub)

Background Studies:


Focal Readings:


L. Taub, Aetna and the Moon: Explaining Nature in Ancient Greece and Rome. The OSU Press Horning

Case Study: Lucretius

Lucretius On the Nature of the Universe (De rerum natura) (various translations available, but please look at the verse translation by Ronald Melville, in the Oxford World's Classics series) Book 1; also look at a prose translation or two (for example, in the Loeb or Penguin volumes).

September 21 — Science in medieval universities (Dr. Livesey)

Read for background:

Hilde de Ridder-Symoens ed., A History of the University in Europe, I, Universities in the Middle Ages (Cambridge: Cambridge UP 1992). Read especially chapters 1-2; browse Parts II (‘Structures’) and III (‘Students’) for sections of individual interest; the five chapters in Part IV (‘Learning’) will be distributed among five students in the class.

Focal reading:


September 28 — Medieval Medicine (Dr. Crowther)

Read for background:

Vivian Nutton, 'Medicine in Medieval Western Europe, 1000-1500', in: Lawrence Conrad et al., The Western Medical Tradition 800 BC to AD 1800 (Cambridge: Cambridge University Press 1995) 139-205.

Focal reading:


Katharine Park, Secrets of Women: Gender, Generation, and the Origins of Human Dissection (New York:
Zone Books 2006), chapters I, II and III.

October 5 — Astronomy and Cosmology (Dr. Vermij)

NB: THIS WEEK ONLY, THE COURSE WILL MEET IN PHSC 626 (HISTORY OF SCIENCE DEPARTMENT CONFERENCE ROOM); THERE WILL BE A SPECIAL BOOK DEMONSTRATION OF RENAISSANCE ITALIAN BOOKS AT 3:00 IN THE HARLOW ROOM.

Focal reading:


Background reading: In order to understand what Leoninus' theory is all about, you will need some background reading (probably quite a lot). An old, but still useful overview is: J.L.E. Dreyer, A history of astronomy from Thales to Kepler (second edition, New York; Dover, ca. 1953).

October 12 — Science and Religion (Dr. Magruder)

Reading:


October 19 — Books, Printing and the Sciences (Dr. Magruder)

Reading:


Marina Frasca-Spada and Nick Jardine ed. Books and the Sciences in History (Cambridge: Cambridge University Press 2000). Read the Introduction, Chapter 4 (Blair), and the two afterwords.

Optional: We will devote half of our time to examining the features of early printed books. To prepare for that lab-component of the class, you may want to become familiar with some of the terms used to describe books. Browse a classic little dictionary of book terms by John Carter, ABC for book collectors (London 1952; 8th ed. by John Carter and Nicolas Barker. New Castle, DE: Oak Knoll Press; London: British Library, 2004; Available in the library and online at http://www.ilab.org/images/abcforbookcollectors.pdf). In the lab you will encounter terms from the

October 26 — The Cultures of Natural History (Dr. Crowther)

Reading:


November 2 — The Anatomical Renaissance (Dr. Crowther)

Reading:


November 9 — Patronage and institutions (Dr. Vermij)

Focal reading:

Mario Biagioli, *Galileo, courtier* (Chicago 1993). An influential and much debated study which should be read by any serious student of early modern science. For this meeting, read p. 11-101. (Chapter I: Galileo's self-fashioning).


Background reading:


November 16 — Theories of the earth (Dr. Magruder)

Reading:

November 23 — Thanksgiving holiday, no class

November 30 — The new science: Cartesianism and Newtonianism (Dr. Vermij)

Focal reading


Background reading: read a biography of your choice of Isaac Newton.

December 7 — The new science: experimental philosophy (Dr. Vermij)