This course is a team-taught graduate survey of the history of science, intended to broaden and deepen the content presented in HSCI 3013 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. The goal therefore 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
Peter Barker 5-2242 barkerp@ou.edu; Kathleen Crowther 5-2247 kcrowther@ou.edu; Steven Livesey 5-6490 slivesey@ou.edu, Kerry Magruder 5-2741 or 5-1823 kmagruder@ou.edu; John Stewart johnstewart@ou.edu

Course Mechanics
3013 Component: All students in this 5990, in so far as they have not followed an undergraduate survey in the history of science earlier, are expected to be directly involved in one of the sections of 3013 offered this semester, either as an actively auditing student or as a course GTA. The professor for the 3013 class you take will specify the exact nature of your obligations to that course. At a minimum, you should expect 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, or other work at the discretion of the instructor, for each week that has assigned reading. The various instructors will give you specific instructions on how they want the assignments to be made. Count on an analytical essay of approximately 750-1000 words on the primary reading for that week, which definitely should go beyond a mere summary. Some instructors may expect you to provide elements for an analytical discussion, other may give you a specific question on which to focus. In any case, instructions will be forwarded in class or via email prior to your need to prepare the assignment. If there remains anything unclear, please see the respective instructor.

For more general issues, regarding the process, structure or logistics of the course, you may contact Dr. Livesey, who will act as the overall coordinator for the course. If at any time you have questions, feel free to contact him by email (slivesey@ou.edu), telephone (325-6490), or in person (Chemistry 312).

Grading
Your grade for the course will be determined by all five 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, as far as it is not available online, 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
The regular meeting time will be Friday 9:00 – 11:00 am. All meetings will be in the Harlow Room of the History of Science Collections, Bizzell Library, 5th Floor.

Course schedule

August 23
1. Introductory meeting, attended by all instructors.
2. Cultures of ancient science (Dr. Livesey).

Reading:

August 30. Aristotle: Physics, Cosmology, Biology (Dr. Livesey)

Reading:

September 6. 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 University Press, 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 13. Medieval Medicine (Dr. Crowther)**

Read for background:

Focal reading:


**September 20. Islamic Science – I (Dr. Stewart)**

Focal reading:

**September 27. Islamic science – II (Dr. Barker)**


**October 4. Astronomy and cosmology (Dr. Barker)**

Read for background:

Focal reading:


**October 11. The Anatomical Renaissance (Dr. Crowther)**

Reading:


**October 18. Scientific instruments (Dr. Stewart)**

Background reading:
There exist several good overviews of historical instruments, e.g. Maurice Daumas, *Scientific Instruments of the 17th and 18th Centuries* (New York and Washington 1972) (transl. from the French). An elementary introduction to the subject which you may find useful is Albert Van Helden, *The Birth of the

Focal reading:

**October 25. Alchemy (Dr. Stewart)**
Reading:

**November 1. Astrology (Dr. Barker)**
Read for background:
Focal reading:

**November 8. Scientific illustrations (Dr. Crowther)**
Focal reading:
Kathleen M. Crowther and Peter Barker, ‘Training the Intelligent Eye: Understanding Illustrations in Early Modern Astronomy Texts’, manuscript to be provided as PDF file.

**November 15. 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* (first edition London 1952; 8th edition by John Carter and Nicolas Barker, New Castle and London 2004). Available in the library and online at [http://www.ilab.org/download.php?object=documentation&id=29](http://www.ilab.org/download.php?object=documentation&id=29). In the lab you will encounter terms from the following topics:
November 22. Theories of the earth (Dr. Magruder)

Background reading:

Focal readings:

November 29 - Thanksgiving holiday, no class

Academic Integrity
Please be aware of the seriousness of plagiarism. It is imperative that you acknowledge all sources. Generally, the essays for this course will require no further sources beyond those listed in the syllabus. But this limited base of readings does not free you from the obligation to acknowledge materials. Plagiarism is defined as the unacknowledged use of specific ideas, arguments, or extended passages from any source. It is an extremely serious academic offense (to say nothing of the moral issues involved); you may wish to consult the Student Code [studentconduct.ou.edu] for penalties.

Other Information
1. Any student in this course who has a disability that may prevent him or her from fully demonstrating his or her abilities should contact Professor Livesey personally as soon as possible to discuss accommodations necessary to ensure full participation and facilitate your educational opportunities.
2. According to the University of Oklahoma Faculty Handbook, “It is the policy of the University to excuse absences of students that result from religious observances and to provide without penalty for the rescheduling of examinations and additional required class work that may fall on religious holidays.” Please contact Professor Livesey regarding this policy.
3. Office hours (Professor Livesey): Chemistry 312 Monday 11:00-12:00, Wednesday 4:00-5:00, and by appointment.