HSCI 3833: The Scientific Revolution
TuTh 8:30 – 9:45 AM

Professor: Kathleen Crowther
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Office hours: TBA (and by appointment)
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Course Description:
This course explores the “Scientific Revolution” during the period from 1543 to 1687 – when a series of dramatic shifts occurred in understanding the natural world, including the emergence of novel cosmologies, the development of new techniques for observing and describing natural objects, and the rise of experimental methods. We will explore these developments through an in depth examination of the lives and work of four men: Galileo Galilei (1564-1642), Paracelsus (1493-1541), Johannes Kepler (1571-1630), and Francisco Hernández (1514-1587). Readings will include key primary texts as well as relevant secondary literature.

The course readings are available on-line at learn.ou.edu. You will also find descriptions of all of the assignments and extra credit opportunities on the course website. Please use your OU email account, or arrange for email to be forwarded from that account to the one you use. This will ensure that you receive course-related emails.

Grading Policy:
- Historical Writing Assignments 50%
- Exhibit Writing Assignments 20%
- Attendance & Participation 10%
- Final 20%

Schedule:

Week 1
Tu Aug 25. Introduction

Thu Aug 27. Historical Context
  Reading: Short primary sources and images on the printing press, universities, Renaissance humanism, the Reformation, and courts

SECTION I: GALILEO GALILEI

Week 2
Tu Sept 1. Aristotle
  Reading: Aristotle, De caelo (On the heavens), excerpts.

Thu Sept 3. Cosmology from Aristotle to Late Middle Ages
  Reading: (1) Johannes de Sacrobosco, Sphere (ca. 1230), excerpts in translation; (2) digital
versions of the *Sphere* in manuscript and print.

**Week 3**

**Tu**  
Sept 8. Copernicus  

**Thu**  
Sept 10. Court Culture  

**Week 4**

**Tu**  
Sept 15. Medici Court Culture  

**Thu**  
Sept 17. **EILEEN REEVES VISIT**  
Reading: Galileo, *Starry Messenger*.

**Week 5**

**Tu**  
Sept 22. Galileo and the Church  

**Thu**  
Sept 24. Galileo’s Trial  
Reading: Galileo, *Dialogue on the Two Chief World Systems*, excerpts.

**HISTORICAL ASSIGNMENT #1 DUE ON FRIDAY SEPTEMBER 25 TO DROP BOX**

**SECTION II: PARACELSUS**

**Week 6**

**Tu**  
Sept 29. Medieval and Early Modern Alchemy  

**Thu**  
Oct 1. **MEREDITH RAY VISIT**  

**Week 7**

**Tu**  
Oct 6. Paracelsus
Reading: (1) Charles Webster, Paracelsus: Medicine, Magic and Mission at the End of Time (New Haven and London: Yale University Press, 2008), ch. 1; (2) Paracelsus, Seven Defenseones, the Reply to Certain Calumniations of His Enemies.

Thu Oct 8. Practical alchemy

EXHIBIT ASSIGNMENT #1 DUE ON FRIDAY OCTOBER 9 TO DROP BOX

Week 8
Tu Oct 13. Medical alchemy
Reading: TBA

Thu Oct 15. Creating Artificial Life

SECTION III. JOHANNES KEPLER

Week 9
Tu Oct 20. Tycho Brahe, Johannes Kepler and Emperor Rudolph II

Thu Oct 22. Lutheran astronomy

HISTORICAL ASSIGNMENT #2 DUE ON FRIDAY OCTOBER 23 TO DROP BOX

Week 10
Tu Oct 27. Astrology
Reading: (1) H. Darrel Rutkin, "Astrology" in Katherine Park and Lorraine Daston (eds.), The Cambridge History of Science, vol. 3 Early Modern Science (Cambridge: Cambridge University Press, 2006), pp. 541-561; (2) excerpts from astrological writings, TBA

Thu Oct 29. MONICA AZZOLINI VISIT

**Week 11**

**Tu** Nov 3. Kepler as Astrologer  

**Thu** Nov 5. Mysteries of the Cosmos  

**Week 12**

**Tu** Nov 10. Kepler’s laws  

**SECTION IV. FRANCISCO HERNANDEZ**

**Thu** Nov 12. **PABLO GÓMEZ VISIT**  

**Week 13**

**Tu** Nov 17. Medieval and Renaissance herbals  
Reading: (1) Jean Givens, TBA; (2) Sachiko Kusukawa, xxx; (3) digital editions of manuscript and printed herbals

**Thu** Nov 19. Natural history, medicine and New World exploration  

**EXHIBIT ASSIGNMENT #2 DUE ON FRIDAY NOVEMBER 20 TO DROP BOX**

**Week 14**

**Tu** Nov 24. Finding sources in the history of science

**Thu** Nov 26. **THANKSGIVING**
Week 15
Tu  Dec 1. New world natural histories

Thu  Dec 3. **ANTONIO BARRERA VISIT**

Week 16
Tu  Dec 8. Group work on final assignment

**HISTORICAL ASSIGNMENT #3 DUE WEDNESDAY DEC 9**

Thu  Dec 10. Review of final assignments, and review for final

**FINAL EXAM (ON-LINE) OPENS FRIDAY, DECEMBER 11, 8:00 AM. DUE TUESDAY, DECEMBER 15, 11:59 PM.**