History 106
Introduction to the History of Science:
THE SCIENTIFIC REVOLUTION
Professor Robert S. Westman
Fall Quarter 2012
Tu Th 11:00 a.m.-12:20 p.m.
Warren Lecture Hall 2008

Office: H&SS 4072; Tel. 534-6317
Office Hours: Wed., 1-3; after class some Tuesdays & by appt.
Instructor’s email: rwestman@ucsd.edu

Required Reading (Available at UCSD Bookstore)
Book Abbreviations in square brackets below [=]

**Additional readings available on “Ted (WebCt)” + Online**

Recommended Reading.


Lecture Topics and Associated Readings

**Part I: The Copernican Question**

1) **Introduction. The University: What would you have learned in the 16C? Where would you have learned it?**
   (a) Dear, RS, pp. 1-18; (b) Kuhn, CR, ch. 3.

2) **The University Curriculum I: Aristotelian Natural Philosophy**
   (a) Dear, RS, chaps. 1, 2; (b) Kuhn, CR, chaps. 1-2.

3) **The University Curriculum II: The Science of the Stars**
   (a) Kuhn, CR, chaps. 1, 2; (b) Westman, The Copernican Question, chap. 2, pp. 62-75 [Geisel online]; (c) Dear, RS, pp. 18-29; (d) Animations of planetary motions by Prof. Dennis Duke [Google: “Dennis Duke”> “Almagest Planetary Model Animations”; Scroll down to “II. Stand Alone Versions”]; (d) “Ptolemy”: Wikipedia online.

4) **Copernicus’s Reform: What did he do? Why did he do it?**
   Read: (a) Dear, RS, pp. 30-45; (b) Kuhn, CR, pp. 123-184; (c) Westman, The Copernican Question, chap. 3; (d) Copernicus, Commentariolus [Ted]; (e) Dennis Duke Animations

5) **The Copernicans and the Churches: Convincing Catholic Rome and Lutheran Wittenberg**
   (a) Westman, “The Melanchthon Circle, Rheticus and the Wittenberg
Interpretation of the Copernican Theory" [Ted]; (b) Westman, "The Copernicans and the Churches, pp. 76-98" [Ted];
c) Kuhn, CR, pp. 185-196.
6) The First Copernicans, Tycho Brahe and Unexpected, Singular Heavenly Novelties.
   Read: (a) Kuhn, CR, 200-209; (b) Dear, RS, pp. 76-77.
7) Kepler: From the Cosmographic Mystery to the New Astronomy
   Kuhn, CR, pp. 209-219; Voelkel, Kepler, pp. 24-73 [Ted].
8) Kepler and Galileo: Unexpected, Recurrent Novelties in the Heavens
   Read: (a) Dear, RS, pp. 65-79, 101-111; (b) Kuhn, CR, 219-225; (c) Galileo, Sidereal Messenger.

MID-TERM EXAMINATION: November 13

Part II: The Transformation of 17C Natural Philosophies

9) New Visions and Places of Scientific Authority in the Seventeenth Century
   Read: Dear, RS, pp. 111-130; Popkin, History of Scepticism, Introd., chap. 1 [Ted]
10) Divine Activity and the Mechanical Philosophy
    Read: (a) Dear, RS, pp. 80-100; (b) Kuhn, CR, pp. 238-242; 252-4; (c) Descartes, DM (entire). Peruse "Rene Descartes" (Wikipedia online)
    Read: (a) Dear, RS, pp. 131-148; (b) W.T. Jones, A History of Western Philosophy, vol. 3, pp. 104-114 [Ted]; c) Shapin, “Pump and Circumstance” [Ted]; (e) The Principle of the Barometer. Excerpts from Evangelista Torricelli (1644) and Robert Boyle (1660)[Ted]
12) Atheism Resolved: How Sir Isaac Newton Restored Law n’Order to the West’
    Read: (a) Dear, RS, pp. 149-170; (b) Kuhn, CR, pp. 252-265; c) Newton Project Website: www.newtonproject.sussex.ac/prism.php?id=26 [Life and Character >>”Life and Work at a Glance”; “Personal Life”]

Grading Requirements

+Mid-Term Examination (1/3): Short answer; multiple choice
+Final Examination (2/3): Essay: Take-home exam
+Final Exam Date: WEDNESDAY, DECEMBER 12, 11:30-2:30