**History 106**

**Introduction to the History of Science:**

**THE SCIENTIFIC REVOLUTION**

Professor Robert S. Westman

Winter Quarter 2015

Tu Th 2:30 p.m.-3:20 p.m.

Cognitive Science Bldg. 004

Office: H&SS 4072

Office Hours: Tu., 3:30-5:30 p.m.; also by appt.

Instructor’s email: rwestman@ucsd.edu

Reader: Yolanda Fay Hartley

**Required Reading (Available at UCSD Bookstore)**

**Book Abbreviations in square brackets below [=]**

- **Thomas S. Kuhn.** *The Copernican Revolution.* Harvard University Press, 1957 [=CR]
- **Additional required readings available on "TED", online and Geisel Library (online)**

**Recommended Reading.**


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**Lecture Topics and Associated Readings**

**Part I: The Copernican Revolution.**

1) *Introduction.*

2) **The University Curriculum I: Aristotelian Natural Philosophy**
   (a) Dear, *RS,* pp. 1-18; b) Kuhn, *CR,* ch. 3.

3) **The University Curriculum II: The Science of the Stars**

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 (all)

MID-TERM EXAMINATION: February 17

Part II: The Transformation of 17C Natural Philosophies

9) Francis Bacon and the Baconian Vision of Science: From the 17C to the 19C
   Read: Dear, RS, pp. 111-130; Popkin, History of Scepticism. Introd., chap. 1 [TED]; Laura Snyder. The Philosophical Breakfast Club and the Invention of the Scientist. 2011 Dibner Library Lecture:
   Carolyn Merchant, "
10) Divine Activity and the Mechanical Philosophy
    Read: (a) Dear, RS, pp. 80-100; (b) Kuhn, CR, pp.238-242; 252-4;(c) “Rene Descartes”
        (Wikipedia online); Carolyn Merchant: "The Death of Nature: Women, Ecology and the Scientific Revolution" (TED); I. Bernard Cohen, "Revolution in Science" (TED)

SHORT PAPER DUE: March 3

    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 (25%): Short answer; multiple choice. February 17
+Short Paper (25%): March 3
+Final Examination (50%): Essay: Take-home exam
+Final Examination: March 19, 3-6 p.m.