HIST 221 Science, Religion, and Nature in the Age of Galileo
Trinity College
Sean Cocco, Trinity Commons 132
T-TR 1.15-2.30
Office Hours T-TR 2.30-3.30 (and by appointment)

Andrea Sacchi, *La Divina Sapienza* (1629-33; Palazzo Barberini, Rome)
NB: Sacchi’s fresco was completed near the time of Galileo’s condemnation. Who is doing the revolving—the Earth or the Sun?

**Brief Course Description**
After four centuries, the astronomer Galileo Galilei’s trial before the Roman Inquisition endures as a symbol of the clash between science and religion. Undoubtedly, the rise of early modern science in seventeenth-century Europe provoked its share of battles, but the whole story defies simple explanation. This course will lead you to consider the origin and extent of the apparently irreconcilable differences between world views. How wide was the rift between science and religion before the Enlightenment? You will be encouraged to explore this complex relationship in historical context, by weighing the coexistence of scientific curiosity and intense faith, and also by considering the religious response to the expanding horizons of knowledge. The course will highlight investigations of the heavens and the earth, and will include a detailed look at Galileo’s trial. A number of broader themes will also be the focus. Among these are the understanding of God and nature, authority (classical and scriptural) versus observation, the wide range of knowledge-making practices, the persistence of magic, and the influence of power and patronage on science.
This course will be especially useful to students of history, science, and religion, and also those who wish to gain greater historical perspective on religious and secular thinking today. It is an introductory course that does not assume specific prior knowledge and welcomes undergraduates from different disciplines.

**Books and Reading**
Bernard de Fontenelle, *Conversations on the Plurality of Worlds* (California) ISBN 0520071719

*BB* Additional reading posted as .PDF files on Blackboard.

**Online Resources**
The Galileo Project
[http://galileo.rice.edu/index.html](http://galileo.rice.edu/index.html)
Interdisciplinary Documentation on Religion and Science
Institute and Museum of the History of Science (Florence, Italy)
[http://www.imss.fi.it/index.html](http://www.imss.fi.it/index.html)
Early English Books Online

*Course documents and images on the Trinity Blackboard site*

**Course Objectives**
- Develop a critical understanding of the relationship between science and religion
- Develop the ability to think as a historian
- Develop the skills of oral communication, writing, and critical thought
- Foster an environment where ideas can be shared and discussed openly

**On Plagiarized Papers**
Any quoted material should be cited – this means paragraphs, sentences, and phrases taken directly from another source and placed in quotations. Note, however, that even a gloss or paraphrase of another author’s work, without attribution and citation, is also...

Sean Cocco (Trinity College)  
Science, Religion, and Nature
considered plagiarism. If you have any doubts, cite. I adhere to the standards outlined in the “Academic Policies, Procedures and Regulations” outlined in the Student Manual (especially pp. 50-56). Plagiarism is grounds for course failure.

Citing does not diminish the originality of your work. What it does is give credit where it is due, and it gives your reader the opportunity to evaluate the evidence supporting your claims. At the end of a quote, a footnote tells the reader the source of your quotation. At the end of a paragraph, or sentence, it points to where you got the information. Almost all of your paragraphs should have footnotes. Software programs like Word make footnotes and endnotes easy. Historians prefer footnotes – these appear on the bottom of a page (like this). Once you have cited a given source in a note, you can use the “short title” format. Remember to note that citations are formatted differently in the bibliography; please consult Kate L. Turabian’s Manual for Writers of Term Papers.

Class Assignments and Grading
General Participation 15%
(Based on attendance, and contribution to discussion)

Midterm 1 examination 15%
Midterm 2 examination 15%

Paper 1 (6-page essay) 20%
Paper 2 (6-page essay) 20%

Final Exam 15%

Course Schedule and Outline

(BB = readings on Blackboard site)

Week 1—Foundations
T 1/22 Introduction

TR 1/24 Aristotle and the Medieval Synthesis of Science and Religion
Read:
1) Olson, Science and Religion, 1-55.
2) Oster, Science in Europe: 1-24

Week 2—Renaissance
T 1/29 Nature in the Renaissance
Read:
1) BB Allen Debus, Man and Nature in the Renaissance, 1-73

1 Here is an example of proper footnoting. For other examples of footnote formats see Kate L. Turabian, A Manual for Writers of Term Papers, Theses, and Dissertations (Chicago: 1973), 78-124 and 132-143.
2 Turabian, Manual, 102.
2) Olson: 224-227 (Hermes)

TR 1/31 Expanding Horizons
Read:
   1) BB José de Acosta, *Natural and Moral History of the Indies*
   2) Oster, 86-92
   3) ONLINE SOURCE:
      Abraham Ortelius, *Theater of the Whole World*
      http://eebo.chadwyck.com/search (search Bibliographic number: 18855)
      Browse digital images 1-19 (especially 14-19)

Week 3—The “New Science”
T 2/05 Copernicus and Vesalius
Read:
   1) Shapin, *Scientific Revolution*: 1-64
   2) Oster: 27-65

TR 2/07 Was there a Scientific Revolution?
Read:
   1) Shapin: finish book

   Week 4—The “New Science” continued…
T 2/12 Solomon’s House and Bacon’s Experimental Philosophy
Read:
   1) BB Francis Bacon, *New Atlantis*
      Oster: 142-149

TR 2/14 First Midterm

Week 5—Before Galileo
T 2/19 Witches and Heretics
Read:
   1) BB Excerpts from the “Hammer of Witches” (*Malleus Maleficarum*)

TR 3/21 Giordano Bruno
Read:
   1) BB Excerpts from Giordano Bruno, *The Ash Wednesday Supper*
   2) Galileo Project (see online link above): Giordano Bruno, Tommaso Campanella

   Week 6—Galileo’s World
T 2/26 Baroque Italy
Read:
   1) Begin Dava Sobel, *Letters to Father*
   2) Galileo Project: Florence and Tuscany, Medici
TR 2/28 Trinity Day

Week 7—Early Career
T 3/4 Galileo’s Daughter
Read:
1) Dava Sobel, Letters (complete for class discussion)
2) Galileo Project: Marina Gamba

TR 3/6 Galileo’s Lens: The Knowledge of Artisans
Read:
1) BB Benvenuto Cellini (on the casting of the Perseus)
2) Galileo Project: telescope

Week 8—Galileo in Success and Controversy
T 3/11 The Starry Messenger
Read:
1) Drake, Discoveries and Opinions of Galileo: 1-84
2) Galileo Project: Ptolemaic System, Copernican System, Johannes Kepler, Tycho Brahe

TR 3/13 Copernicus and the Bible
Read:
1) Drake: 145-216
2) Oster: 71-73
3) Galileo Project: Inquisition, Cardinal Bellarmine, Benedetto Castelli, Tommaso Caccini

Week 9—Spring Break
Spring Break

Week 10—Barberini’s Rome
T 3/25 The Injunction of 1616
Read:
1) Drake: 217-227
2) BB Trial letters in Finocchiaro, The Galileo Affair: 47-67; 134-153

** ESSAY 1 IS DUE (ON GALILEO’S DAUGHTER)**

TR 3/27 The Assayer
Read:
1) Drake: 231-281
2) Oster: 75-82

Week 11—The Condemnation
T 4/1  **Second Midterm**

TR 4/3  **The Dialogue and the Condemnation of 1633**
Read:
1) **BB** Galileo, *Dialogue*  
2) **BB** Finocchiaro, *Galileo Affair*: 256-293  

Week 12—After Galileo

T 4/8  **Kircher and the Volcano**
Read:
1) **BB** Accounts of Vesuvius’s eruption in 1631 (translated by Sean Cocco)  
2) Olson: 57-81  
3) Galileo Project: *Collegio Romano*,

TR 4/10  **Natural Theology in Seventeenth-Century England**
Read:
1) Olson: 85-136; 237-241  
2) Oster: 149-172; 189-198

Week 13—Imagining New Worlds: Planets in Science and Fiction

T 4/15  **Natural History: Describing and Classifying**
Read:
1) **BB** (to be determined)  
2) **Video:** From *Planet Earth* and *The Life of Birds*

TR 4/17  **Fontenelle’s Conversation on the Plurality of Worlds**
Read:
1) Fontenelle, *Conversation on the Plurality of Worlds*  

Week 14—**Thinking about the Earth**

T 4/22  **Geology and the Age of the Earth**
Read:
1) Olson: 167-192

TR 4/24  **“No Vestige of a Beginning, No Prospect of an End”**
Read:
1) Olson: 193-221; 241-256

** ESSAY 2 DUE

Week 15—Conclusion

T 4/29  **Final Review**

FINAL EXAM MAY 6  9:00 AM