Fall 2015

GEO 304E.80: Science and Society - Honors

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Science and Society

Course requirements: This course will be graded based on, in equal proportion, the midterm score, participation in class discussions including one class that you will moderate in the second half of the term, and a final project consisting of participation in some local or national issue related to science. Examples of possible projects include: a letter to the newspaper, to your Congressional delegation, or to local government representatives; volunteer time with a local advocacy group; a presentation in a local school or to a local group; an organized outreach effort; or another participatory activity (approved by the instructor).

Course structure: The structure of the class is based on Socratic discussion. In the first half of the term, we will alternate between readings from the textbook, which give historical context, and important primary sources. You will be expected to discuss the readings in class in detail, so you should be familiar with the material before our meetings. In the second half of the term, we will use philosophical tools and historical context to discuss urgent modern issues. One class meeting on each topic will be moderated by the instructor and the other by a group of students. Readings or activities in student-run meetings will be chosen by the students.


Instructor: Rebecca Bendick, SC 331
Bendick@mso.umt.edu
406-243-5774
office hours: MF 10:00-12:00 or by appointment

Part 1: history and philosophy of science
Week 1: the ancients
1 September: Intro, logistics, expectations
3 September: E&C Chapter 1 + Lucretius “On the nature of things”

Week 2: the early Christian era and Islamic scholarship
8 September: E&C 2
10 September: Avicenna “Canon”

Week 3: the revival of western science and philosophy
15 September: E&C 3
17 September: Thomas Aquinas “Questions I-IV”
Roger Bacon handout

Week 4: Renaissance, exploration, and scientific revolution
22 September: E&C 4
24 September: Galileo “Two New Sciences” and “Letter to the Grand Duchess Christina”

Week 5: Scientific revolution and modern methods
29 September: E&C 5
1 October: Newton “Principia Mathematica”
          Descartes “Discourse on the Method…”

Week 6 & 7: Enlightenment: the commercial value of science and natural history
6 October: no class
8 October: E&C 6
13 October: Declaration of Independence

Week 8: Transition
15 October: E&C Conclusion, MIDTERM

Part 2: modern issues of science and society

Weeks 9-14: modern topics to be decided. Some suggestions include:
  Evolution and intelligent design
  Death and birth
  Climate change
  Neurology, guilt, and criminality
  Free will
  Global Energy
  Food security
  Human perception and reality
  Extraterrestrial life
  Natural catastrophes and economics of risk
  Quantum physics and certainty

Week 15: Summary and conclusions
8-10 December: FINAL PRESENTATIONS/PROJECTS

All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University. All students need to be familiar with the Student Conduct Code. The Code is available for review online at http://www.umt.edu/SA/VPSA/index.cfm/page/1321.