

HPS326HS – The History of Science and Religion - Syllabus for Spring 2015

Lectures: Monday 6:00-8:00 pm, EM 001

Tutorials: Tuesdays 6:00-7:00 pm, TF 201 / Wednesdays 6:00-7:00, TF 101

Instructor: Adam Richter, PhD candidate, Institute for the History and Philosophy of Science and Technology (IHPST)

Contact: I prefer to communicate by email. You can reach me at adam.richter@mail.utoronto.ca. Please put “HPS326” in the subject line or I might miss your email. I will try to respond to your emails within 48 hours, but this is not always possible. If necessary, you can leave a message for me at the IHPST by calling (416) 978-5397 or by coming to the IHPST office at VC316.

Office hours: Monday 3:00-5:00 p.m. or by appointment, VC 315

Teaching Assistant: Craig Knox, PhD candidate, IHPST (craig.knox@mail.utoronto.ca)

Course description: From its origins in the Renaissance, modern science has developed in the context of European religious beliefs and institutions. Although cases of conflict like Galileo or the “Monkey Trial” are famous, more common are cases of scientists like Newton or Boyle whose religious convictions were crucial to their scientific success. In this course we will consider the complex relationship between science and religion in various historical periods, which will allow us to challenge simplistic historiographical narratives about either the “conflict” or “harmony” between science and religion.

Course Objectives: 1) To learn and take a critical perspective on the “conflict thesis” and “harmony thesis” of the history of science and religion; 2) To gain an appreciation for the complexity of the science-religion relationship through a selection of case studies and topics; 3) To understand the difficulties in defining “science” and “religion,” and the variations in “scientific” and “religious” practices in different times and places; 4) To develop skills in critical reading, critical thinking, document analysis and academic writing

Grading scheme:

- **Quiz (10%)** - This short quiz consisting of multiple choice and fill-in-the-blank questions will be completed at the beginning of class on **2 February**.
- **Midterm test (20%)** - This test will consist of short-answer questions to test your comprehension of the major concepts from the first half of the course. It will take place in the first hour of class on **2 March**.
- **Essay (30%)** - We will discuss this short written assignment in class after the midterm. You will be required to write 4 to 5 pages demonstrating your ability to synthesize and analyze course material. The essay must be submitted by email by **5:00 p.m. on Friday 27 March**. You will be expected to follow the conventions of university-level academic writing. If you haven't written an essay in a humanities class at university before, I encourage you to visit <http://www.writing.utoronto.ca/advice> and/or visit one of the University of Toronto Writing Centres to get some practice. We have excellent facilities at U of T for improving one's writing, so please take advantage of them if you need some help with your writing skills!

- **Final exam (2 hours) (30%)** - The final exam for this course will take place during the exam period of 8-30 April. You will be able to choose from a selection of short- and long-answer questions. Consider the midterm to be a warm-up for the final exam. If your analysis, writing skills and clarity do not help you to achieve a satisfactory grade on the midterm, then you should practice these skills before the final exam.
- **Participation (10%)** - This grade will be based on active involvement (not mere attendance) at lectures and particularly tutorials. It will help considerably if you complete the required readings before class starts. **Please note that tutorials will not be held every week. See the schedule below for the weeks when tutorials will be held.**

If you submit an assignment after the deadline, the grade will be reduced by **3% per calendar day** (one day considered to have elapsed as of ten minutes past the deadline) up to a **maximum of 5 days (15%)**. If the assignment is more than 5 days late, I will not accept it at all. If you complete a test or assignment for medical reasons, you must submit a doctor's note. If you know ahead of time that you complete a test or assignment because of a scheduling conflict or a medical issue, you must notify me at least a week before the deadline or the date of the test.

Students with diverse learning styles and needs are welcome in this course. In particular, if you have a disability or health consideration that may require accommodations, please feel free to approach me and/or Accessibility Services at (416) 978-8060 or accessibility.utoronto.ca.

Course texts (available online through the University of Toronto Library system):

- John Hedley Brooke, *Science and Religion: Some Historical Perspectives* (Cambridge: CUP, 1991), abbreviated **Brooke**.
- Thomas Dixon et al, eds., *Science and Religion: New Historical Perspectives* (Cambridge: CUP, 2010), abbreviated **Dixon**.
- David C. Lindberg and Ronald L. Numbers, eds., *When Science and Christianity Meet* (Chicago: University of Chicago Press, 2003), abbreviated **Lindberg**.
- Ronald L. Numbers, ed., *Galileo Goes to Jail and Other Myths about Science and Religion* (Cambridge, MA: Harvard University Press, 2009), abbreviated **Numbers**.
- J. B. Stump and Alan G. Padgett, eds., *The Blackwell Companion to Science and Christianity* (Chichester: Wiley-Blackwell, 2011), abbreviated **Stump**.

Other assigned readings will be made available online or through Blackboard.

Academic honesty:

Please note that I take breaches of academic honesty very seriously, and that offences can have lasting academic consequences far worse than failing an assignment. Academic honesty includes, but is not limited to, the avoidance of plagiarism. All work that you submit must be entirely your own. Any sources that you consult must be clearly cited. **Unacknowledged borrowing from any source, published or unpublished, will not be tolerated. Nor will any effort to portray someone else's work as your own.** Academic honesty includes fully citing sources. Chicago style is preferred in history. You may use a different citation style if you wish, as long as you use it consistently and correctly. If you have any doubts about how to cite correctly, or what constitutes academic dishonesty, visit <http://life.utoronto.ca/get-smarter/academic-honesty/>. If that doesn't help, you can contact me or the TA. **Finally, please remember that in the age of the Internet, it is very easy to detect plagiarism, so it's simply not worthwhile.**

Electronic devices:

Please turn off your cell phone, or better yet leave it at home. Any use of cell phones in class is disruptive and distracting, so, as a matter of courtesy to me and to your classmates, please don't use them in any capacity (including calls, texts, games, apps) except for emergencies. You may take notes on a laptop or tablet, but please do not browse the Internet, check your email, or engage in social networking during class. We have much to cover in a short time, and electronic distractions will cause you to miss a lot of material!

HPS326HS Spring 2015 – Lectures:

Week 1) 5 January – Syllabus Overview and Introduction to Science and Religion

NO TUTORIAL

Week 2) 12 January – Historiography of Science and Religion (Brooke/Harrison)

Readings: *Brooke* 1-11; Peter Harrison, “Science' and 'Religion': Constructing the Boundaries” in *Dixon* 23-49.

TUTORIAL

Week 3) 19 January – Christianity and Science in Late Antiquity and the Middle Ages

Readings: David C. Lindberg, “Myth 1: That the Rise of Christianity was Responsible for the Demise of Ancient Science” in *Numbers* 8-18; Michael H. Shank, “Myth 2: That the Medieval Christian Church Suppressed the Growth of Science” in *Numbers* 19-27

NO TUTORIAL

Week 4) 26 January – Science in the Islamic Empire

GUEST LECTURE by Paul Greenham, IHPST

Readings: Syed Nomanul Haq, “Myth 4: That Medieval Islamic Culture was Inhospitable to Science” in *Numbers* 35-42; Dimitri Gutas, “Al-Madhi and His Sons, Social and Religious Discourse and the Translation Movement” in *Greek Thought, Arabic Culture the Graeco-Arabic translation movement in Baghdad and early 'Abbasid society (2nd-4th/8th-10th centuries)* (London: Routledge, 1998), 61-74, available through U of T Library system or Blackboard

TUTORIAL

Week 5) 2 February – The “Scientific Revolution” / Religious Reactions to Copernicanism

Readings: Margaret J. Osler, “Religion and the Changing Historiography of the Scientific Revolution” in *Dixon* 71-86; Maurice A. Finocchiaro, “The Copernican Revolution and the Galileo Affair” in *Stump* 14-16; *Brooke* 82-94

*****QUIZ in first 15 minutes of class*****

NO TUTORIAL

Week 6) 9 February – Galileo and “God's Two Books” (Brooke/Finocchiaro/Letter to GDC)

Readings: Maurice A. Finocchiaro, “The Copernican Revolution and the Galileo Affair” in *Stump* 16-24; the first 20 paragraphs of Galileo's Letter to the Grand Duchess Christina (ending in “not how heaven goes”) available at <http://legacy.fordham.edu/Halsall/mod/galileo-tuscany.asp>

TUTORIAL

*****READING WEEK – NO CLASS ON 16 MARCH*****

Week 7) 23 February – Robert Boyle, The Royal Society, and Mechanical Philosophy

Readings: William B. Ashworth Jr., “Christianity and the Mechanistic Universe” in *Lindberg* 61-84; John Wallis on the origin of the Royal Society, available at <http://legacy.fordham.edu/halsall/mod/1662royalsociety.asp>; also take a quick look at Robert Hooke's *Micrographia*, available at <http://archive.nlm.nih.gov/proj/ttp/flash/hooke/hooke.html>

TUTORIAL

Week 8) 2 March – Isaac Newton

Readings: Edward B. Davis, “Myth 13: That Isaac Newton's Mechanistic Cosmology Eliminated the Need for God” in *Numbers* 115-122

*****MIDTERM IN THE FIRST HOUR OF CLASS*****

NO TUTORIAL

LAST DAY TO DROP THE COURSE WITHOUT RECEIVING A GRADE: 8 MARCH

Week 9) 9 March – The Alpha and Omega: Scientific and Religious Perspectives on the Beginning and End of the World

Reading: *Brooke* 226-254; Crosbie Smith, *The Science of Energy: A Cultural History of Energy Physics in Victorian Britain* (Chicago: University of Chicago Press, 1998), 100-102, 110-111, available on Blackboard

TUTORIAL

Week 10) 16 March – Evolutionary Theory and Christian Theology

Readings: *Brooke* 275-289, 310-317; Edward J. Larson, “Myth 20: That the Scopes Trial Ended in Defeat for Antievolutionism” in *Numbers* 178-186

NO TUTORIAL

Week 11) 23 March – Medicine and Religion across European History

Reading: Keir Waddington, “Medicine and Religion” in *An Introduction to the Social History of Medicine: Europe since 1500* (New York: Palgrave MacMillan, 2011), 39-56, available on Blackboard

TUTORIAL

*****ESSAY DUE FRIDAY 27 MARCH AT 5:00 P.M. BY EMAIL*****

Week 12) 30 March – Beyond Complexity: Recent Trends in Science and Religion

Ronald L. Numbers, “Simplifying Complexity: Patterns in the History of Science and Religion” in *Dixon* 263-282

TUTORIAL

*****FINAL EXAM IN EXAM PERIOD 8-30 APRIL*****