Introduction and Course Goals

Critical examination of different methods and theories in history and philosophy of science and STS (Science, Technology and Society studies) along with discussions of a number of tools in the study and history of culture and religion and how they can be utilized in the study of science and religion; the course moves away from the conflict/reconciliation paradigms and towards examining the perceived relations and exchanges of science and religion through analyzing paradigms, discourses, traditions and authorities. The course can serve as a methodological introduction to history and philosophy of science and STS.

The course is a research workshop with a focus on training and professionalization and an emphasis on methods tools in academic writing and research. Students work on specific projects throughout the semester from topic selection, question formation, to research and writing to produce a piece of academic writing such as research papers, conference papers, articles, book reviews, prospectus, syllabi, etc.
Pedagogy and Class dynamics:

The seminar is workshop-based, where students work on specific issues or topics (individually or in teams) and link their work as it develops to the discussions in the different meetings and sessions. The class will have three workshops:

1. The First: We will look at the general lines of projects and learn how to formulate research questions.
2. The Second: We will look at how the project developed. We will discuss how to develop and problematize a research interest or question. We will learn how to develop a bibliography, research plan, discuss methodologies and plan researching and writing.
3. The Third: The final workshop, during reading or exam period (time to be arranged). Final projects will be presented and discussed.

The final project will be submitted 3 days after the final workshop to allow students to integrate feedback and discussion in the project, if they want to.

Every team or individual project will have the chance to present in the class and to meet regularly during office hours to have specific discussions and advice. These meetings will adopt a thesis-advising format to ensure continuous support and the proper development of the projects.

As a graduate seminar and a research workshop, the class will pay special attention to research methods, tools, tips and advice to improve efficiency and encourage professionalization. Discussion of how to select a topic, form a thesis or a question, write a prospectus, etc will all be addressed in details.

Readings include an assortment of theoretical and methodological writings, historical background readings and case studies discussing different phenomena from different regions around the world. There are also optional readings, which you are advised to consult in general and more so in the sessions directly touching on your subject. Before every class, I will post a blog entry on the readings explaining them, how they relate to one another and in what order (if any) they should be read.
A section meeting will be held weekly, where students will have the chance to discuss the readings more, to think about the readings relevance and applicability in their projects and to discuss and review the progress of their work.

Grading and Assignments:
Grades are divided as follows:

   a. Participation (incl. Blog responses) and attendance                           30%
   b. Two reflection papers (on two different units)                                    20%
   c. First workshop                                                                 5%
   d. Second workshop                                                               10%
   e. Final paper/project                                                           35%

Grades, evaluations and feedbacks are meant to enhance contribution and to help participants make the best of their work in class. Therefore, transparency in grading is the rule and discussions about the grades are welcomed and encouraged.

Attendance and Participation
Participation is a key component of the class and regular informed contributions in lecture and section are necessary. In addition to lecture and section, the course blog and other online tools serve as media for communications and contributions. 30% of total grade (including 10% for blog contributions).

Two Reflection Papers on two different units of choice; graded as follows:

   a. First reflection (Comparative Analysis): (2-4 pages) 10% of total grade. This paper should address two or three different readings, compare their methods and evaluate their arguments comparatively.
   b. Second reflection (Case study analysis): (2-4 pages) 10% of total grade. In this paper, you will choose one of the readings designated as “case studies” and analyze it with attention to methods, tools of data collection and analysis.
   c. Rewrite Option: if you do not like what you did for one of the two papers, you have the option of rewriting this paper. The rewrite will be due one week after you receive the feedback on the original paper. You can use this option only once!
Workshops:

a. First workshop paper (1-2 pages): 5% of total grade. Presented during the first workshop. Intends to propose a topic and suggest mechanisms of team formation. Graded on timely completion and effort, not content.

b. Second workshop paper/project proposal (2-3 pages): 10% of total grade. Presented in the second workshop. Intends to formulate a proper research project. Graded on timely completion, effort and content in view of feedback on first paper.

Final project: This project is the product of your semester-long work. It will be presented in the final workshop to the class. It can take any form: a paper, a presentation, a mini-prospectus, a grant proposal, a book proposal, a conference paper, a syllabus, a workshop or conference proposal, a webpage, a book, a video game (this is by no means an exhaustive list). Other forms previously submitted include art work, dance, theatre performance, pottery work, cooking. In essence, form should be subject to the project's content.
Schedule

1. Introduction to the seminar and general discussion of the syllabus. (Sept. 8)

**Unit I-Themes**

*On Knowledge and Authority*

2. Episteme, techne and power (Sept. 15)

What is knowledge? How can it be communicated? Is religion a type of knowledge? How is scientific knowledge produced and distributed? Is technology a type of knowledge? Is technical knowledge or “know-how” always “scientific”? Why can someone lecture and another only listen? What gives the professor the power to speak and demands the audience to listen? How do we believe certain statements, dispute or disbelieve others? What is scientific revolution? And how revolutionary is it anyway? Oh, and why should I care?!


3. Labs, schools and corporations… (Sept. 22)

Do I have to wear a white coat and go to a lab to “do science”? What happens inside the lab? How are labs and schools created and why? What is corporate innovation and how does it affect scientific production? Is religion produced in labs as well? What would a religious lab/lab of religion mean or look like?


4. Debates in Science and Religion (Sept. 29)

From the Galileo Affair, to Scopes trial and Hobby Lobby Supreme Court decision, it appears that science and religion are often in conflict. While a number of scholars (such as Richard Dawkins, Charles Weinberg, etc) use many such examples to argue for a continuous conflict, others like Stephen Jay Gould argue for "non-overlapping magisteria," and others like Francisco Ayala or like Ian Barbour believe that science and religion do not have to be in conflict at all. In this session, we will go over some of these debates and see what the defining moments in questions of science and religion were.


First Workshop (Oct 3rd; 12-3pm)

This is the first step of project thinking: In this workshop, students will submit small proposals about their fields of interest and the topics they wish to pursue throughout the semester (all is subject to change and modification, of course). We will think about what constitutes a research question and how to formulate and develop one. We will also think about how our diverse interests can be made into answerable research and scholarly questions.
5. Science, Religion and the Gendered Self (Oct. 6)

In this session, we will see how gender and gender identity affect the production, communication and consumption of knowledge. We will see how a gendered self is produced along different lines of power, authority, tradition and communication. We will also discuss the relevance of gendered analysis to the analysis of knowledge and its making.


(A Tri-partite Academic Debate - please read in order presented below)


6. Science, religion and evolution (Oct. 20)

Since the publication of Charles Darwin's *Origin of Species*, evolution and evolutionary theories were at the center of some of the more heated science-religion debates. This session will explore this question, see how these debates developed, and what we can make of them.


Richard Dawkins. The Selfish Gene: With a New Introduction by the Author. 2006. (selections) (on Reserve)


7. What is ethical about Bio-ethics? (Oct. 27)

Can we trust scientists to regulate their own work? or will we end up with a mutant breed of X-men? (oh, and what is wrong with that?) Should people be cloned to create living organ reservoirs? should we use stem-cells for research? Can we use chimps or higher animals in genetic research? or should we stop at mice and rats?

Although many of these bioethical questions do not necessarily involve religion, such questions continue to come up in science-religion debates This session will explore many of the bioethical questions that are at the heart of these debates, and investigate how and why they are raised.


Adam M Hedgecoe. Critical Bioethics: Beyond the Social Science Critique of Applied Ethics. *Bioethics* vol. 18, N° 2, 2004. (Pp. 120-143)
http://muse.jhu.edu.ezp-prod1.hul.harvard.edu/books/9781439901168/

(Pp. 147-160)

(Selections)
8. Science, Religion and Empire: Kew Gardens, Missionary Medicine and Global Health (Nov. 3)

The relation between science and religion took different turns throughout history and played an important role in the political and intellectual projects of different empires through history. This session will discuss how science, religion and their relations affected and figured in different imperial projects through history and in different regions of the world.


How does science(s) and technology move between North and South? And why would this matter?


**Second Workshop (Oct. 31; 12-3pm)**

Project proposals or paper abstracts are some of the most common genres of academic writings. We write them as we apply to conferences or grants and use them in doctoral or professional project presentations. In this workshop, we will learn how to make a project abstract of 500 words. We will discuss how we to formulate and problematize the research question, how to summarize and present it briefly and effectively and make a compelling case for our projects.

In this workshop, students will present and develop one or more of the following, among others:

1. Paper abstract
2. Project proposal (for research, multimedia, curriculum or art projects)
3. Statement of purpose (for research, multimedia or art projects)/statement of research
4. Abstract for grant application (for research, multimedia or art projects)

(Other possibilities that better suit the student’s project are welcome)

Methods and tools used in these different genres of writing will be discussed in the sessions and sections leading to the workshop.
10. On Utopias and Apocalypses (Nov. 17)

The Perfect World, how it looks and whether it is possible, were some of the most important questions that occupied and continue to occupy scientific, religious and philosophical production. We will discuss how the image of the perfect world was and is constructed and how it changed over time. Yet, sometimes, the perfect world is preceded by an apocalypse.


(Pp. 255-270)

(Pp. 456-471)

(Case Study 3) Sohrab Behdad. Islamic Utopia in Pre-Revolutionary Iran: Navvab Safavi and the Fada’ian-E Eslam. Middle Eastern Studies vol. 33, N° 1, 1997.  
(Pp. 40-65)

(Pp. 241-257)

(Case Study 5) Mikael Klintman. The Genetically Modified (Gm) Food Labelling Controversy: Ideological and Epistemic Crossovers. Social Studies of Science vol. 32, N° 1, 2002.  
(Pp. 71-91)

(Pp. 195-213)
11. Science, Religion and Art (Nov. 24)
This week, we will visit some of the more famous artistic and cinematic pieces and see whether and how they handled questions of science and religion.


12. Conclusions: Rituals, Wonders and Interpretations (Dec. 3)
So where does all this leave us?!


(Pp. 338-361)

Bibliography


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