Gallatin School, New York University

Interdisciplinary Seminar- Debating Science: Great Scientific Controversies in Context (IDSEM-UG1671)

Spring 2012 - Monday & Wednesday 3:30 p.m. - 4:45 p.m. Wave – Rm. 435
Professor - José Perillán
Email – jgp10@nyu.edu
Office Hours – By Appointment. Please email me (Office: Gallatin Rm. 425)

Course Description -

Is light a wave or a particle? Were the ‘Bone Wars’ of the late 19th Century good for the study of paleontology? Is the atomic world deterministic or not? In the study of animal morphology does function dictate form or is it form that dictates function? What is the scale of our universe? These are some of the greatest debates that have gripped the scientific community over the past 350 years. Many of these debates have been restricted to a healthy dialog within the scientific community but on occasion they have sparked lively and even ad homonym exchanges between scientists. In this seminar we will explore the nature of these debates within their appropriate contexts. To grapple with these debates effectively we will need to examine primary and secondary source materials relating to the particular controversy, including biographical materials on their corresponding protagonists. As such, we will be studying works by scientists like: Isaac Newton, Robert Hooke, Georges Cuvier, Geoffroy St. Hilaire, Niels Bohr, Albert Einstein, Thomas Henry Huxley, Samuel Wilberforce, Harlow Shapely, Heber Curtis, Othniel Marsh, and Edward Cope. Readings will include works by these protagonists as well as supporting secondary source material.

General Expectations -

In this course we will focus on developing strong strategies for thinking, reading, and writing critically. Using a variety of readings, we will learn to deconstruct an author’s narrative and subsequently evaluate its effectiveness. With the help of supplementary readings and class discussions we will learn about concepts in modern physics that contribute to the genre of Science Fiction. I look forward to animated yet respectful discussions of the topics covered.
Attendance is Mandatory-

In addition, on time attendance is expected. In the event of an unavoidable absence, please notify me by e-mail as soon as possible, and I will make arrangements with you to catch up on the work you missed. As this is a discussion based seminar, class participation is a significant portion of your grade, so please come to class on time, with your assignments completed, and prepared to engage the rest of the class in lively discussion.

Readings –

The following texts are required reading for this course. Books will be available for purchase through the NYU bookstore and all assigned readings that are essays, papers, or excerpts will be made available for copy or download.

Books –

Required -


Recommended –

Reading & Writing Assignments –

Students will be assigned both reading and writing assignments every week. The reading assignments will be posted on blackboard each week and will be based primarily on the required books listed above. Writing assignments will include:

1) Weekly reading responses (1-2 pages each) - informal writing kept in an e-journal format to be turned in at the midpoint and end of the semester.

2) Two formal assignments will include an analytical paper and a research paper.

   Formal Assignment # 1: Argument Deconstruction (8 - 10 pages)
   Formal Assignment # 2: Research Paper (12 - 15 pages)

All written assignments should be double-spaced, paginated, stapled, in 12-point font, and with 1-inch margins on all sides.

Late Assignments -
Assignments will be downgraded for every day they are late. If there are extenuating circumstances, please notify me in advance of the due date so that we can make appropriate arrangements.

Academic Honesty -
Plagiarism and other forms of academic dishonesty are very serious offenses and will not be tolerated in this course. Any act, deliberate or otherwise, will be reported immediately to the Gallatin administration for disciplinary action. More information about Gallatin’s expectations for academic integrity can be found at: www.gallatin.nyu.edu/academics/policies/policy/integrity.html

Grading -

Formal Assignment 1: Argument Deconstruction 30%
Formal Assignment 2: Research Paper 40%
E-Journal Response Papers 15%
Class Participation 15%
Tentative Syllabus -

Students are assigned weekly readings and reading response papers so they should come to class prepared to participate in class discussions. 1-2 page E-Journal response papers with reflections and observations on the reading assignments will be assigned weekly.

Week 1 – January 23 & 25
- Introduction to course – Science, Innovation, and Prediction
- ICCI communication – Overview
- Reading assignment due 1/25: Kuhn Essay
- Reading response # 1 (Due- 1/25)

Week 2 – January 30 & February 1
- Reading assignment due 1/30: Zajonc (Chapters 1 - 6)
- Reading response # 2 (Due- 1/30)

Week 3 – February 6 & 8
- Reading assignment due 2/6: Zajonc (Chapters 7 - 12)
- Reading response # 3 (Due- 2/6)

Week 4 – February 13 & 15
- Reading assignment due 2/13: Jonnes (Introduction – Chapter 7)
- Reading response # 4 (Due- 2/13)

Week 5 – February 20 & 22
- Monday 2/20 - President’s Day. No Classes.
• Reading assignment due 2/22: Jonnes (Chapter 8 – Afterward)
• Reading response # 5 (Due- 2/22)

Week 6 – February 27 & 29
• Reading assignment due 2/27: Kumar (Prologue – Chapter 8)
• Reading response # 6 (Due- 2/27)

Week 7 – March 5 & 7
• Reading assignment due 3/5: Kumar (Chapter 9 – 15)
• Formal assignment #1 due March 7

Week 8 – March 12 & 14 – Spring Break!

Week 9 – March 19 & 21
• Reading assignment due 3/19: Larson (Full text)
• Reading response # 7 (Due- 3/19)

Week 10 - March 26 & 28
• Reading assignment due 3/26: Rea (Chapters 1 – 10)
• Reading response # 8 (Due- 3/26)

Week 11 – April 2 & 4
• Reading assignment due 4/2: Rea (Chapter 11 - Epilogue)
• Reading response # 9 (Due- 4/2)
Week 12 - April 9 & 11

- Reading assignment due 4/9: Maddox (Prologue – Chapter 10)
- Reading response # 10 (Due- 4/9)

Week 13 – April 16 & 18

- Reading assignment due 4/16: Maddox (Chapter 11 - Epilogue)
- Reading response # 11 (Due- 4/16)

Week 14 - April 23 & 25

- Reading assignment due 4/23: Davies (Preface – Chapter 7)
- Reading response # 12 (Due- 4/23)

Week 15 – April 30 & May 2

- Reading assignment due 4/30: Davies (Chapter 8 – 12)
- Reading response # 13 (Due- 4/30)

Week 16 – May 7

- **Formal assignment #2 due May 7**
- Last Day of Classes!