Gallatin School, New York University

Interdisciplinary Seminar- Black Holes, Human Clones and Nanobots: The Edge of Science Becomes Reality (IDSEM-UG1670)

Spring 2012 - Monday & Wednesday 12:30 p.m. - 1:45 p.m. 1 Washington Pl – Rm. 527
Professor - José Perillán
Email – jgp10@nyu.edu
Office Hours – By Appointment. Please email me (Office: Gallatin Rm. 425)

Course Description -

Will the newest version of the CERN accelerator in Europe create a mini black hole on earth? What are the implications of our advances in genetic engineering and nanotechnology? Twentieth-century science gave us revolutions in many diverse fields, but three of the most important and pervasive innovations were relativity, quantum theory, and the mapping of the human genome. The effects of these advances on human knowledge have begun to ripple through our society but they are far from having realized their full potential. Where do we stand now and where are we headed? These are the fundamental questions we will grapple with in this seminar. The implications of understanding nature, and by extension learning to manipulate nature, straddle multiple disciplines. We will be exploring topics in the conceptual understanding of modern science and its relationship to religion, politics, economics, and philosophy. No mathematical background is necessary; a sincere interest in the subject matter is the only pre-requisite for this seminar. Consider this a ‘science for poets’ course. Readings may include works by authors such as Albert Einstein, Niels Bohr, James Watson, Justine Burley, Thomas Kuhn, Hilary Putnam, Arthur C. Clarke, Richard Dawkins, and Brian Greene among others.

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 science. 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 – See Blackboard
- Reading response # 1 (Due 1/25)

Week 2 – January 30 & February 1
- Reading assignment due 1/30: Lederman (Preface – Interlude B)
- Reading response # 2 (Due 1/30)

Week 3 – February 6 & 8
- Reading assignment due 2/6: Ledderman (Chapters 6 – 9)
- Reading response # 3 (Due 2/6)

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

Week 5 – February 20 & 22
- Monday 2/20 - President’s Day. No Classes.
- Reading assignment due 2/22: Kaku (Chapters 5 – 9)
- Reading response # 5 (Due 2/22)

Week 6 – February 27 & 29
- Reading assignment due 2/27: Rosenblum and Kuttner (Preface – Chapter 9)
- Reading response # 6 (Due- 2/27)

Week 7 – March 5 & 7
- Reading assignment due 3/5: Rosenblum and Kuttner (Chapters 10 – 18)
- Formal assignment #1 due March 7

Week 8 – March 12 & 14 – Spring Break!

Week 9 – March 19 & 21
- Reading assignment due 3/19: Thorne (Foreword – Chapter 8)
- Reading response # 7 (Due- 3/19)

Week 10 - March 26 & 28
- Reading assignment due 3/26: Thorne (Chapters 9 – Epilogue)
- Reading response # 8 (Due- 3/26)

Week 11 – April 2 & 4
- Reading assignment due 4/2: Dawkins (Introduction – Chapter 7)
- Reading response # 9 (Due- 4/2)

Week 12 - April 9 & 11
- Reading assignment due 4/9: Dawkins (Chapters 8 - 13)
- Reading response # 10 (Due- 4/9)

Week 13 – April 16 & 18
- Reading assignment due 4/16: Ridley (Preface – Chapter 10)
- Reading response # 11 (Due- 4/16)
Week 14 - April 23 & 25

- Reading assignment: Ridley (Chapter 11 – 22)
- Reading response # 12 (Due- 4/23)

Week 15 – April 30 & May 2

- Reading assignment: TBA- Blackboard
- Reading response # 13 (Due- 4/30)

Week 16 – May 7

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