Technology, Science, and Innovation: Institutions and Governance

PUBP-820
Spring 2018

Professor David M. Hart
Schar School of Policy and Government
George Mason University

Times, Places, and Contact Information
Class meetings: Wednesdays, 4:30-7:10 p.m., Founders Hall TBA
Office hours: Wednesdays, 2-4 pm or by appointment
Office location: Founders Hall 609
Email (preferred): dhart@gmu.edu
Office phone (if necessary): 703-993-2279

Learning Outcomes
New technologies present extraordinary opportunities for achieving major public policy objectives, such as economic growth, environmental sustainability, public health, international security, and the advancement of knowledge. Yet, they may also place the very same objectives in jeopardy. Whether the public benefits from technological innovation depends on how well the innovation process is governed.

This course acquaints doctoral students with what social scientists know about technological innovation and its governance. By “governance” I mean the influence exerted by cultural and economic institutions as well as by public policies on the technical and scientific communities that are the immediate sources of new technologies. While technology and science are themselves institutional complexes that have substantial “internal” momentum, they are constantly interacting with these “external” institutions. These interactions can be conceptualized at multiple temporal (years, decades, centuries, etc.) and geographical scales (regional, national, supranational, and global).

We will engage with classic works that introduced essential concepts in this field of inquiry and explore recent developments in the state-of-the-art. The course’s purposes are to hone the student’s ability to engage critically with challenging texts (and express herself in this regard) and to identify promising fields and questions for dissertation research.

Participants
PUBP-820 welcomes all SPGIA doctoral students and aims to support their progress toward field exams and dissertation proposals. The course is open to students enrolled in other programs as well, if they have a deep interest in and appropriate background for it, space permitting and subject to the instructor’s approval.

Course Texts and Materials
Course readings will be made available through the course Blackboard website or through open source files linked to this syllabus.
Format
Each class meeting will have two distinct components. The first half of the class will revolve around short papers prepared by the students, as described below, that focus on concepts introduced in the previous week. The second half will be composed primarily of a lecture that lays out core concepts, building on the readings and augmented by clarifying and critical discussion among all participants.

Assignments and Grading
Each student will prepare five essays of approximately 1500 words each. The class will be divided into two groups, each writing an essay every other week on a staggered basis, so that approximately half of the students will have an essay to share each week. The essays will not require research, but rather will be critical assessments of theoretical concepts, evidence offered by the readings, and related scholarly questions. Detailed guidance for these essays will be provided in the first class. The essays will be weighed equally in the semester grade.

Participation
This class depends vitally on preparation and active participation. No formal weight in the semester grade will be assigned to participation, but failure to participate adequately will result in lowering of assignment grades. Students in risk of this penalty will be given adequate notice and generous opportunity to avoid it.

Students with Special Needs
If you are a student with a disability and you need academic accommodation, please see the instructor and contact the Disability Resource Center (DRC) at 993-2474. All academic accommodations must be arranged through the DRC.

Read the plagiarism policy attached to the end of this syllabus. Ignorance of or failure to understand the policy will not lead to lenience in case of violation.
Reading List

I. Technology, Science, and Innovation: The Inner Workings

1. Technology, Science, and Innovation: Autonomy, Momentum, and Control
   January 24
   ▪ Kevin Kelly, “Choosing the Inevitable,” ch. 9 in What Technology Wants (Viking, 2010), pp. 175-188.

2. Science: Norms and Other Incentives
   January 31

3. Technology and Innovation: From Invention to Use
   February 7
II. “Background” Governance Institutions

4. Firms and Markets
February 14

5. Intellectual Property
February 21

6. Financial Institutions
February 28

7. Culture
March 7

MARCH 14 – NO CLASS – SPRING BREAK

III. National Innovation Systems, Public Policy, and National Goals

8. Economic Prosperity
March 21
- Aleksander Gerschenkron, “Economic Backwardness in Historical Perspective” ch. 1 in *ibid.* (Belknap, 1962).

9. Health and Well-Being
March 28
- Susan E Cozzens, “Quality of Life Returns from Basic Research,” *Health Research Policy and Systems* 2010, 8:18 (13 pp.)


10. National Security

April 4


IV. The Emerging Global Innovation System and Global Public Policy Goals

11. Low-Carbon Energy

April 11


12. Inclusive Innovation

April 18


13. TBD
April 25

14. Wrap Up
May 2
**SPGIA Policy on Plagiarism**

The profession of scholarship and the intellectual life of a university, as well as the field of public policy inquiry, depend fundamentally on a foundation of trust. Thus, any act of plagiarism strikes at the heart of the meaning of the University and the purpose of the School of Policy, Government and International Affairs. It constitutes a serious breach of professional ethics and it is unacceptable. Plagiarism is the use of another’s words or ideas presented as one’s own. It includes, among other things, the use of specific words, ideas, or frameworks that are the product of another’s work. Honesty and thoroughness in citing sources is essential to professional accountability and personal responsibility. Appropriate citation is necessary so that arguments, evidence, and claims can be critically examined.

Plagiarism is wrong because of the injustice it does to the person whose ideas are stolen. It is also wrong because it constitutes lying to one’s professional colleagues. From a prudential perspective, it is shortsighted and self-defeating, and it can ruin a professional career.

The faculty of the School of Policy, Government, and International Affairs takes plagiarism seriously and has adopted a zero tolerance policy. This may lead to failure for the course, resulting in termination from the program and possible termination from SPGIA. This termination will be noted on the student’s transcript. For foreign students who are on a university-sponsored visa (eg. F-1, J-1 or J-2), termination also results in the revocation of their visa.

To help enforce the SPGIA policy on plagiarism, all written work submitted in partial fulfillment of course or degree requirements must be available in electronic form so that it can be compared with electronic databases, as well as submitted to commercial services to which the School subscribes. Faculty may at any time submit a student’s work without prior permission from the student. Individual instructors may require that written work be submitted in electronic as well as printed form. The SPGIA policy on plagiarism is supplementary to the George Mason University Honor Code; it is not intended to replace it or substitute for it. ([http://policy.gmu.edu/honorcode](http://policy.gmu.edu/honorcode))

**Professor Hart’s Addendum**

I believe deeply that intellectual integrity is a fundamental element of learning. I firmly support the School’s zero tolerance policy on plagiarism and will enforce it stringently. Ignorance is not an excuse. To avoid plagiarism, a simple rule of thumb may be of help: when in doubt, include a citation. Citations, including those to web sources, should include sufficient information to allow a reader to verify the source. Further details on when and how to cite sources will be discussed in class. However, providing a citation to a block of text taken with minimal change from a source is not sufficient to avoid plagiarism. You must put the block in quotation marks, thereby acknowledging the source’s contribution of specific words as well as ideas in the block.