

Science Technology and Society (STAS) 401.05 - Lecture 01
Special Topics in Science, Technology and Society
Innovation and contemporary society
Fall 2013
Mo 14:00-16:45

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Course Description

The term “innovation” has acquired considerable power in the popular imagination. Both the creation and preservation of wealth and prosperity are commonly linked to innovation, which in turn has become the cornerstone of virtually all concepts of the knowledge society or knowledge economy. However, these expectations and claims are almost exclusively associated with technology and with technical change. Indeed, the origins of theories attributing economic performance and social development to innovation hinge almost entirely upon technical change. Nevertheless, there remain many questions about the definition, nature and consequences of innovation. Many of these concern the relationship between technical and socio-economic factors in innovation.

This course will explore various social, economic and political theories of innovation and discuss their implications in a variety of practical contexts. In a seminar format, students will become familiar with the intellectual history of innovation as a socio-economic concept and with how this concept has inflected contemporary thinking about such matters as social development, economic performance, commerce, and the organization and governance of public and private institutions.

The course will be conducted as a seminar involving both discussion of core readings provided by the instructor, student presentations based upon research assignments, and a research development workshop.

Additional Information - N/A

Objectives of the Course

To examine critically contemporary perceptions of innovation as embodied in technological change and explore new thinking about innovation as a social and political process.

To become familiar with the theory and evidence surrounding innovation and a socio-economic phenomenon.

To gain experience researching topical issues related to science technology and society in an innovation context.

To develop forensic and presentational skills.

Internet and electronic communication device information

It is disruptive to the learning goals of the seminar to engage in electronically enabled activities unrelated to the seminar discussions. Students are reminded to turn mobile telephones and other electronic devices off during the sessions and to use laptops for course-related purposes only.

Students expecting emergency communications during a session are exempted from these provisions upon prior notification of the instructor.

Electronic recording of lectures will be permitted only for students who have a formally diagnosed physical or learning disability that requires this action. Written proof of disclosure of such disabilities to the relevant university administrative bodies will be required before such permission is granted (refer to the Students with Disabilities section below).

Otherwise, students are encouraged to make creative use of media in the seminar whenever they wish, and especially in presentations. Students who may have special media requirements for seminar presentations other than an Ethernet connection and classroom projector should notify the instructor at least 4 weeks beforehand so that arrangements can be made with Media Services.

Textbooks and Readings:

The core reading list is organized into six themes.

1. Background

Scherer, F. M., (1992) Schumpeter and plausible capitalism, *Journal of Economic Literature*, 30, 1416-1433.

Ruttan, V. (1959) Usher and Schumpeter on Invention, Innovation, and Technological Change, *The Quarterly Journal of Economics*, 73 (4), 596-606.

Hawkins, R. (2012) Looking at innovation from a uniquely Canadian perspective: The case for a new alliance of practice, policy and scholarship, Discussion Paper, Ottawa: Institute for Science, Society and Policy, March.

2. Economics

Freeman, C. (1994) The economics of technical change, *Cambridge Journal of Economics*, 18 (5), 463-514.

Dosi, G. (1982) Technological paradigms and technological trajectories: A suggested interpretation of the determinants and directions of technical change, *Research Policy*, 11, 147-162.

Baumol, W. J. (2003) Innovations and growth: two common misapprehensions, *Journal of Policy Modeling*, 25, 435–444.

3. Business

Pavitt, K. (1990) What we know about the strategic management of technology, *California Management Review*, 32, 3-26.

Abernathy, W. J. and Clark, K. B. (1985) Innovation: mapping the winds of creative destruction, *Research Policy*, 14, 3-22.

Baumol, W. (1990) Entrepreneurship: Productive, Unproductive, and Destructive, *Journal of Political Economy*, 98 (5), 893-921.

4. Knowledge

Powell, W. B. and K. Snellman (2004) The knowledge economy, *Annual Review of Sociology*, 30, 199-220.

Mazzoleni, R. & R. Nelson (1998) Economic theories about the benefits and costs of patents, *Journal of Economic Issues*, 32 (4), 1031-1052.

Villanueva-Felez, A., R. Bekkers and J. Molas-Gallart (2010) University–industry relationships and the role of the individual: Network ties and the diversity of knowledge transfer, *Industry and Higher Education*, 24 (3), 203-210.

5. Social dynamics

Mumford, M. D. (2002) Social Innovation: Ten Cases From Benjamin Franklin *Creativity Research Journal*, 14 (2), 253–266.

Florida, R. (2002) The economic geography of talent, *Annals of the Association of American Geographers*, 92 (4), 743-755.

Hawkins, R. & C. Davis (2012) Innovation and Experience Goods: A Critical Appraisal of a Missing Dimension in Innovation Theory, *Prometheus – Critical Studies in Innovation*, 30 (3), 235-259.

6. Institutional factors

Wright, G. (1990) The origins of American economic success, *American Economic Review*, 80, 651-668.

Weiss, C. and W. B. Bonvillian (2011) Complex Established ‘Legacy’ Sectors, The Technology Revolutions that Do Not Happen, *Innovations*, 6, (2), 157-187.

Hollingsworth, J. R. (2000) Doing institutional analysis: implications for the study of innovations, *Review of International Political Economy*, 7 (4), 595 – 644.

Assignments and Evaluation

Expository Seminars (20%) – Each student will present two critical reviews (10% each) of a core concept in innovation as drawn from the core group of readings provided by the instructor. The main points and arguments of each seminar will be summarized in a short document (250-500 words) that will be turned in to the instructor and disseminated as a resource document to the other course participants. The document may be in paragraph and/or point form. The assignment grade is based entirely upon the presentation, but will be contingent upon receipt of the document.

Exploratory Seminars (50%) – Each student will lead two seminars (25% each) that expand upon and contextualize the basic concepts and theories discussed in the expository seminars. This will involve the student in additional reading and research. The main points and arguments of each seminar will be summarized in short papers (500-1000 words) that will be turned in to the instructor. For each seminar, the presentation and discussion will account for 15% and the paper for 10%.

Term Paper (30%) – Each students will write a research paper (2500-3000 words exclusive of bibliography) exploring innovation as it applies to a topic of their own choosing. Topics must be approved by the instructor. Papers are due the last day of class (December 2).

All assignments must be completed or a grade of F may be assigned at the discretion of the instructor.

It is the student's responsibility to keep a copy of each submitted assignment.

Note: Please hand in your essays directly to your tutor or instructor if possible. If it is not possible to do so, a daytime drop box is available in SS320; a date stamp is provided for your use. A night drop box is also available for after-hours submission. Assignments will be removed the following morning, stamped with the previous day's date, and placed in the instructor's mailbox.

Registrar-scheduled Final Examination: No

Policy for Late Assignments

Assignments submitted after the deadline may be penalized with the loss of a grade (e.g.: A- to B+) for each day late.

Freedom of Information and Protection of Privacy Act

This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIP). As one consequence, **students should identify themselves on all written work by placing their name on the front page and their ID number. Also you will be required to provide a piece of picture identification in order to pick up an assignment or look at a final exam from SS320 after classes have ended.**

For more information see also <http://www.ucalgary.ca/secretariat/privacy>.

Writing Skills Statement

Department policy directs that all written assignments (including, although to a lesser extent, written exam responses) will be assessed at least partly on writing skills. For details see <http://comcul.ucalgary.ca/needtoknow>. Writing skills include not only surface correctness (grammar, punctuation, sentence structure, etc) but also general clarity and organization. Research papers must be properly documented.

If you need help with your writing, you may use the Writing Centre. Visit the website for more details: <http://www.ucalgary.ca/ssc/writing-support>

Grading System

The following grading system is used in the Department of Communication and Culture:

	Grading Scale
A+	96-100
A	90-95.99
A -	85-89.99
B+	80-84.99
B	75-79.99
B-	70-74.99
C+	65-69.99
C	60-64.99
C-	55-59.99
D+	53-54.99
D	50-52.99
F	0-49

Where a grade on a particular assignment is expressed as a letter grade, it will normally be converted to a number using the midpoint of the scale. That is, A- would be converted to 87.5 for calculation purposes. F will be converted to zero.

Plagiarism

Using any source whatsoever without clearly documenting it is a serious academic offense. Consequences include failure on the assignment, failure in the course and possibly suspension or expulsion from the university.

You must document not only direct quotations but also paraphrases and ideas where they appear in your text. A reference list at the end is insufficient by itself. Readers must be able to tell exactly where your words and ideas end and other people's words and ideas begin. This includes assignments submitted in non-traditional formats such as Web pages

or visual media, and material taken from such sources.

Please consult your instructor or the Writing Centre (3rd Floor Taylor Family Digital Library, <http://www.ucalgary.ca/ssc/writing-support>) if you have any questions regarding how to document sources.

Academic Misconduct

For information on academic misconduct and the consequences thereof please see the current University of Calgary Calendar at the following link;
<http://www.ucalgary.ca/pubs/calendar/current/k.html>

Students with Disabilities

If you are a student with a disability who may require academic accommodation, it is your responsibility to register with the Student Accessibility Services (220-8237, <http://www.ucalgary.ca/access/>) and discuss your needs with your instructor no later than fourteen (14) days after the start of the course.

Students' Union

For details about the current Students' Union contacts for the Faculty of Arts see <http://www.su.ucalgary.ca/governance/elections/home.html>

Student Ombudsman

For details on the Student Ombudsman's Office see <http://www.ucalgary.ca/provost/students/ombuds>

Emergency Evacuation and Assembly points

For information on the emergency evacuation procedures and the assembly points see <http://www.ucalgary.ca/emergencyplan/assemblypoints>

"SAFEWALK" Program -- 220-5333

Campus Security will escort individuals day or night -- call 220-5333 for assistance. Use any campus phone, emergency phone or the yellow phone located at most parking lot booths.

Ethics

Whenever you perform research with human participants (i.e. surveys, interviews, observation) as part of your university studies, you are responsible for following university research ethics guidelines. Your instructor must review and approve of your

research plans and supervise your research. For more information about your research ethics responsibilities, see

The Department of Communication and Culture Research Ethics site:

<http://www.comcul.ucalgary.ca/ethics>

or the University of Calgary Research Ethics site:

<http://www.ucalgary.ca/research/ethics/cfreb>

Schedule of Lectures and Readings

Course Schedule:

Session	Date	
1	Sept 9	Introduction and organization
2	Sept 16	Introductory lecture/discussion
Expository Seminars		
3	Sept 23	Theme One Seminar
		Theme Two Seminar
4	Sept 30	Theme Three Seminar
		Theme Four Seminar
5	Oct 7	Theme Five Seminar
		Theme Six Seminar
Workshops		
6	Oct 14	Statuary holiday
7	Oct 21	Workshop session to review the materials from the Exploratory Seminars and to discuss and develop ideas for the Exploratory Seminars and for Term Papers.
Exploratory Seminars		
8	Oct 28	(Scheduling as agreed with students at beginning of the course)
9	Nov 4	
10	Nov 11	Statuary holiday
11	Nov 18	Term papers due in Class, 2 December.
12	Nov 25	
13	Dec 2	