

## PUBP 898.3: Innovation Policy

	University of Regina Campus	University of Saskatchewan Campus
<b>Instructor:</b>	Not currently offered at U of R	Peter W.B. Phillips
<b>Phone:</b>		966-4021
<b>E-mail:</b>		peter.phillips@usask.ca
<b>Office Hours:</b>		By appointment
<b>Office Location:</b>		146 Diefenbaker Building
<b>Term:</b>		Term 1 (fall)
<b>Room:</b>		Diefenbaker 162
<b>Time:</b>		Wednesdays, 1:00 - 3:50 p.m.

### CALENDAR DESCRIPTION

This graduate course is designed as a special topic course in the theory and practice of innovation policy. The graduate students will investigate the theory, methodology and applications of innovation policy through primary readings, discourse and writing.

### COURSE CONTENT AND APPROACH

Students will examine a variety of topics through readings, discourse and writing, including: the context of economic growth, technological change and innovation; theories and methods of innovation; policy applications; and critiques of innovation policy.

### REQUIRED READINGS

Textbook: Phillips, P. 2007. Governing transformative technological innovation: Who's in Charge? Edward Elgar.

### SUPPLEMENTARY READINGS

As assigned below.

### EVALUATION

Method of student evaluation:

Policy brief (two page abstract/synopsis of your policy paper; due October 13)	5%
Policy paper (November 25)	35%
Evaluation of discussion (weekly through term)	30%
Final exam (time and format to be determined)	30%

### LATE ASSIGNMENTS

Late assignments will be assigned a penalty of one grade (10%); special circumstances will be considered upon application by the student.

## **STUDENTS WITH SPECIAL NEEDS**

All students with disabilities are encouraged to register with DSS. Access to most services and programs provided by DSS is restricted to students who have registered with the office. Once you have registered, please contact the professor to discuss accommodations.

## **ACADEMIC INTEGRITY AND CONDUCT**

Ensuring that you understand and follow the principles of academic integrity and conduct as laid out in the University of Regina's Graduate Calendar and the University of Saskatchewan's Guidelines for Academic Conduct is vital to your success in graduate school. Ensuring that your work is your own and reflects both your own ideas and those of others incorporated in your work is important: ensuring that you acknowledge the ideas, words, and phrases of others that you use is a vital part of the scholarly endeavour. If you have any questions at all about academic integrity in general or about specific issues, contact your course instructor and to discuss your questions.

## **STRUCTURE OF THE COURSE**

**Availability:** P (Phillips has a copy); W (on web as indicated); L (in USask Library); L e-book (can be read online via USask Library); JSTOR (available via USask Library)

### **Week 1, Sept 9: Introduction to innovation policy in theory and practice**

An introduction to the course and to the concepts of innovation policy in theory and practice.

#### **Required readings:**

Charles Leadbeater on Innovation

([http://www.ted.com/talks/lang/eng/charles\\_leadbeater\\_on\\_innovation.html](http://www.ted.com/talks/lang/eng/charles_leadbeater_on_innovation.html)) (W)

Phillips ch 1

Romer, P. 2007. Economic Growth," The Concise Encyclopedia of Economics, David R. Henderson, ed.

Liberty Fund.stanford.edu/~promer/EconomicGrowth.pdf (W)

Romer, P. 1994. Beyond Classical and Keynesian Macroeconomic Policy. Policy Options, July/Aug.

[http://www.iisec.ucb.edu.bo/mercado/clases/macroeconomia\\_maestria/lecturas/Beyond\\_classical\\_and\\_keynesian\\_macroecomic\\_policy.pdf](http://www.iisec.ucb.edu.bo/mercado/clases/macroeconomia_maestria/lecturas/Beyond_classical_and_keynesian_macroecomic_policy.pdf)

Romer, P. 1995. Beyond the Knowledge Worker. Worldlink, Jan/Feb.

<http://www.versaggi.net/e-commerce/articles/romer-knowledgeworker.htm> (W)

Smith, Adam. 1776. Wealth of Nations, Chapters 1 and 2. <tp://www.adamsmith.org/smith/won-b1-c1.htm> (W)

### **Weeks 2-3, Sept 16 and 23: Economic Growth, Technological Change and Innovation**

Examination of the concepts of economic growth, technological change and innovation.

#### **Required Readings:**

Phillips ch 2-3

**Assigned:**

- Committee for Study of Invention (2004), 'Invention: Enhancing inventiveness for quality of life, competitiveness, and sustainability', report sponsored by the Lemelson-MIT Program and the National Science Foundation, April 23, accessed on August 10, 2005 at <http://web.mit.edu/invent/n-pressreleases/downloads/report.pdf> (W)
- Fagerberg, J., D. Mowery and R. Nelson (eds), (2005), The Oxford handbook of innovation, Oxford: Oxford University Press. Chapter 1. (L e-book: [T173.8.O89 2005eeb](#))
- Held, D., A. McGrew, D. Goldblatt and J. Perraton (1999), Global transformations: politics, economics and culture, London: Polity, Introduction, pp 1-28. (P)
- Helpman, E. (ed), (1998), General purpose technologies and economic growth, Cambridge, Mass.: MIT Press, Ch 1-4 (L: [HC79.T4G464 1998](#))
- Kline, S. and N. Rosenberg (1986), 'An overview of innovation', in R. Landau, and N. Rosenberg, (eds), The positive sum strategy: harnessing technology for economic growth, Washington: National Academy Press (L: [T173.8.P67 1986](#)) (P)
- Mokyr, J. (2002a), 'Innovation in an historical perspective: tales of technology and evolution', in B. Steil, G. Victor and R. Nelson (eds), Technological innovation and economic performance, Princeton: Princeton University Press (L: [HC79.T4T43 2002](#)) (P)
- Rosenberg, N. (1994), Exploring the black box: technology, economics and history, Cambridge University Press (L)(P)
- Schumpeter, J. (1954), Capitalism, socialism, and democracy, London: George Allen and Unwin, Chapter 7 (L electronic: [HX72.S38 1976eb](#)) (P)
- Schumpeter, J. (1939) Business cycles : a theoretical, historical, and statistical analysis of the capitalist process. New York ; London : McGraw-Hill. (L: [HB3711.S39 1939](#))

**Weeks 4-5, Sept 30 and Oct 6: Governance Systems and Actors**

A 360° review of the concepts of governing and governance and a review of the actors and their motivations.

**Required Reading:**

Phillips Ch 4-8

**Assigned:**

- Cohn, T. 2008. Global Political Economy, Chapters 3-5. (P)
- Commission of the European Communities (EC), (2001), European governance: a white paper, COM(2001), 428 final, Brussels, 25 July (W)
- Gilpin, R.. 1975. "Three models of the future." International Organization, 29(1), 37-60 (W: available on JSTOR).
- North, D. (1991) Institutions. Journal of Economic Perspectives 5: 97-112 (JSTOR).
- Olson, M. (1965), The logic of collective action: public goods and the theory of groups, Cambridge, MA: Harvard University Press. (L: [HM131.O.52 1965](#)) (P)
- OECD, Governance in the 21<sup>st</sup> Century, Paris: OECD, at: <http://www.oecd.org/dataoecd/15/0/17394484.pdf>. (W)
- Picciotto, R. (1995), 'Putting institutional economics to work: from participation to governance', World Bank Discussion Paper 304, accessed on August 15, 2005 at [http://www-wds.worldbank.org/servlet/WDSContentServer/WDSP/IB/1995/09/01/000009265\\_3961219115337/Rendered/PDF/multi\\_page.pdf](http://www-wds.worldbank.org/servlet/WDSContentServer/WDSP/IB/1995/09/01/000009265_3961219115337/Rendered/PDF/multi_page.pdf) (W)

- Putnam, R. 1993. Making Democracy Work: Civic Traditions in Modern Italy. Princeton: Princeton University Press. (L: [JN5477 .R35P866 1993](#))
- Strange, S. (1988) States and Markets: An Introduction to International Political Economy. Pinter Press: London, esp ch. 1-2. (L: [HF1411 .S788 1994](#))(P)

## **Week 6-7, Oct 13 and 20: Knowledge formation, invention, gestation and commercial exploitation**

Examining the recombination of knowledge into inventions that flow through the gestational system to commercial exploitation.

### **Required:**

Phillips Ch 9-12

### *Assigned:*

- Bush, V. 1945. Science The Endless Frontier, A Report to the President by the Director of the Office of Scientific Research and Development, Chapters 1 and 6  
(<http://www.nsf.gov/od/lpa/nsf50/vbush1945.htm>)
- Gibbons, M., C., Limoges, H. Nowotny, S. Schwartzman, P. Scott and M. Trow (1994), The new production of knowledge: The dynamics of science and research in contemporary societies, London: Sage. (L: [QA76.76 .E95N49 1994](#))(P)
- Malecki, E. (1997). Technology and Economic Development: The Dynamics of Local, Regional and National Competitiveness (Toronto: Longman), chapter 2.(L: [HC79 .T4M346 1997](#) )
- OECD, The Knowledge-based Economy ([http://www.oecd.org/dsti/sti/s\\_t/inte/prod/kbe.htm](http://www.oecd.org/dsti/sti/s_t/inte/prod/kbe.htm)).(W)
- Phillips, P., S. Smyth and W. Kerr (eds). 2006. Governing Risk in the 21<sup>st</sup> Century: Lessons from the World of Biotechnology. Nova Science Publishers, chapters 1 and 3 (P)
- Phillips, P and R. Wolfe (eds). 2001. Governing Food: Science, Safety and Trade. McGill University Press/Queens School of Policy Studies, chapters 1 and 3 (L)(P)

## **Week 8-9, Oct 27 and Nov 4: Economic theories and innovation policy**

The neoclassical conception of the economy, standard growth theory and the new economic theories and their relevance for innovation policy.

### **Required:**

- Gilpin, R. 2001. Global political economy : understanding the international economic order. Princeton, N.J. : Princeton University Press, Chapters 4-6 (L: [HF1359 .G5616 2001](#)) (P).

### **Assigned:**

- Audretsch, D and M. Feldman (1996), 'R&D spillovers and the geography of innovation and production', American Economic Review, 26, 631-640. (JSTOR)
- Howitt, P and D. Weil. 2009. Economic Growth. The New Palgrave Dictionary of Economics, 2<sup>nd</sup> ed. [http://www.dictionaryofeconomics.com/article?id=pde2008\\_G000209](http://www.dictionaryofeconomics.com/article?id=pde2008_G000209) (W)
- Lucas, R. (1988), 'On the mechanics of economic development', Journal of Monetary Economics, 22, 30-42. (JSTOR)

- Metcalf, S. 2009. Technical change. . The New Palgrave Dictionary of Economics, 2<sup>nd</sup> ed.  
[http://www.dictionaryofeconomics.com/article?id=pde2008\\_T000034&q=technical%20change&topid=&result\\_number=2](http://www.dictionaryofeconomics.com/article?id=pde2008_T000034&q=technical%20change&topid=&result_number=2)(W)
- Romer, P. (1990), 'Endogenous technological change', Journal of Political Economy, 98(5:2), S71-S102.  
[http://www.jstor.org/sici?sici=0022-3808\(199010\)98%3A5%3CS71%3AETC%3E2.0.CO%3B2-8&cookieSet=1](http://www.jstor.org/sici?sici=0022-3808(199010)98%3A5%3CS71%3AETC%3E2.0.CO%3B2-8&cookieSet=1)
- Scotchmer, S. (2004), Innovation and Incentives, MIT Press (L electronic).
- World Bank. World Development Report, 1991, 1997 and 1998 (overview sections of three reports) (W)
- Zucker, L., M. Darby and M. Brewer (1998), 'Intellectual human capital and the birth of U.S. biotechnology enterprises', American Journal of Economics, 88(1), 290-306. (JSTOR)

## **Week 10, NOV 11: Remembrance Day, No class**

## **Week 11, Nov 18: Business theories and innovation policy**

Examination of the business literature related to innovation policy, including clusters and business strategy.

### **Required:**

- Krugman, P. (1998), 'What's new about the new economic geography?', Oxford Review of Economic Policy, 14(2), 7-17. (JSTOR)

### **Assigned:**

- Fagerberg, J., D. Mowery and R. Nelson (eds), (2005), The Oxford handbook of innovation, Oxford: Oxford University Press, chapters 7 and 22.(e-book: [T173.8.O89 2005eeb](#))
- Lundvall, B-A ed., National systems of innovation : towards a theory of innovation and interactive learning, chapter 1 (L).
- Karwandy, J. 2008. Perspectives on industrial clustering and the product, resource and knowledge based views of management, MSc Thesis, chapter 2 (W)
- Phillips, P. Regional systems of innovation as modern R&D entrepots: The case of Saskatoon. Chapter 2 in Chrisman et al, Innovation and Entrepreneurship in Western Canada (P)
- Porter, M. (1990) The Competitive Advantage of Nations. The Free Press: New York. Chapters 1-4. (L)(P)
- Shapiro, C. and H. Varian (1999), Information rules: a strategic guide to the network economy, Boston: Harvard University Press.(L)(P)
- Wolfe, D. and M. Lucas. 2005. Global Networks and Local Linkages: the paradox of cluster development in an open economy. McGill-Queen's University Press for the School of Policy Studies, Queen's University, chapters 1 and 3. (P)

## **Week 12, Nov 25: Social theories and innovation policy**

An examination of innovation models based on communities, partnerships and human-scale relationships.

### **Required:**

- Romer, P. 2009. Charter Cities (TED podcast) (W).

### **Assigned:**

- Etzkowitz, H. and L. Leydesdorff (2000), 'The Dynamics of Innovation: From National Systems and 'Mode 2' to a Triple Helix of University-Industry-Government Relations', Research Policy, 29(2), 109-123. (JSTOR)
- Einsiedel, E. (ed), Foresight on Emerging Technologies. University of Calgary Press, chapter 15 (P).
- Einsiedel, E. and F. Timmermans (eds) Crossing Over: Genomics in the Public Arena, University of Calgary Press Chapter 1 (P)
- Florida, R. 2007. Talent, Technology and Tolerance in Canadian Regional Development <http://martinprosperity.org/media/pdfs/3Ts-Canada-Florida-et-al.pdf> (w)
- Phillips, P., William P. Boland and Camille D. Ryan. 2009. Public-private partnerships for pulse research. Mimeograph: University of Saskatchewan
- Salamon, L. and O. Elliot (eds) (2002), The tools of government: a guide to new governance, Oxford: Oxford University Press, chapters 1 and 22 (L [JF1525 .P6T66 2002](#))

## **Week 13, Dec 4: Critiques and challenges for innovation policy**

What is the role of the state in a global era. We will examine the concepts of complexity, the post-modernist critique and a number of responses

### **Required:**

- Fagerberg, J., D. Mowery and R. Nelson (eds), (2005), The Oxford handbook of innovation, Oxford: Oxford University Press, chapter 18.(e-book: [T173.8 .O89 2005eeb](#))
- Phillips, chapter 13.

### **Assigned:**

- Gilpin, R. 2001. Global political economy : understanding the international economic order. Princeton, N.J. : Princeton University Press, Chapters 13 (L: [HF1359 .G5616 2001](#)) (P).
- Jasanoff, S. (ed), (2004), States of knowledge: The co-production of science and social order, London: Routledge, chapters 1 and 2 (L electronic: [Q175.5 .S734 2004eb](#))
- Porter, J. and P. Phillips (eds). 2007. Public Science in Liberal Democracy. University of Toronto Press, Chapters 13 and 16 (L)(P)

## **DETAILS INFORMATION ON ASSIGNMENTS AND EVALUATION**

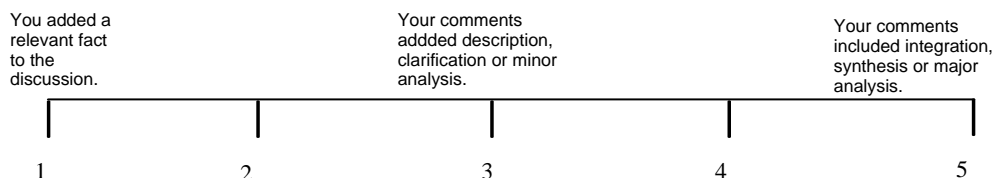
### **1. Policy Paper:**

Each student is expected to write an individual assignment on a topic that applies the theory and examines a practical challenge or opportunities related to innovation policy in Saskatchewan, Canada or around the world. This could involve, for instance, development of a theoretical framework, critical examination of a specific policy option, evaluation of existing policies or a comparative critical analysis of innovation policies. Individual assignments should be maximum 20 pages in length, double-spaced. Individual assignments are worth 35% of your final mark. Due Date: Wednesday, November 25 at start of class.

You must submit a two page policy brief of your paper topic by October 13 (worth 5%). Note, a summary of the course notes is not acceptable.

## 2. Grading of course participation:

During the seminar, each student will be assigned specific readings to read, prepare a one-page summary to share with your classmates and present a brief synopsis in the seminar. The synopsis and the presentation will be evaluated. You will each do about 5 in the course. In addition, we will evaluate your general participation in the resulting discussion about papers you and others present. Your participation in the discussions will be graded according to the quality of your contribution to the discussion. Each of you will participate in the marking of others. The following scale will be used to assess this, with 5 being the highest:



We will annotate the contributions in a table similar to the one below.

Contribution	Value	Point
Fact only	1	
Fact and description /clarification	2	
Minor analysis	3	
Some synthesis	4	
Integration, synthesis and major analysis	5	

3. **Final exam:** The format will be determined by the instructor and students in the course.