Instructor: Rashid Nikzad

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Time: Tuesdays and Thursdays, 18:05–20:55
Classroom: Southam Hall 314

Office hours: Tuesdays, 21:00–22:00, or by appointment
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Course Description

This course is designed to provide students with an overview of the issues facing policy makers in trying to improve the innovative performance of the economy. In general terms, innovation means the implementation of a new or significantly improved product, process, marketing method, or organizational method in business practices and organizations. Innovation is expected to lead to more economic value from an hour of work, higher productivity, and thus creating the potential for rising wages and a higher standard of living.

A good understanding of the issues and content of innovation policy requires a good understanding of the literature dealing with how innovation arises in economies, and the analysis of the relatively better or poorer performance of different firms, industrial sectors, and national economies. This course will focus on why industrial innovation is considered so important in economic policy making and explains different views on what makes firms and economies innovative. The course will also provide some examples of policy responses to innovation challenges.

As part of the course, empirical modeling and evaluation techniques of various innovation policies will be discussed to provide students with necessary tools to conduct evidence-based policy evaluation. Prior familiarity with econometric techniques would be helpful but not necessary.

Course Structure and Evaluation

The course consists of 13 sessions. Each session will be approximately 3 hours in length and will generally include two parts: (1) Introduction of the topic by the instructor (approx. 90 minutes); (2) Oral presentations by students, followed by an open discussion by seminar members on the points raised and a summary and wrap up by the instructor.

Topics of the presentation are identified in the course outline. Students will provide to the instructor, immediately after the presentation, a two page bullet form summary of the main points made in the
presentation or a hard copy of the PowerPoint presentation. Details of presentation requirements will be distributed at the introductory class and a preliminary schedule of presenters will be assigned.

Students will also be required to submit a term paper of maximum 20 pages (double-spaced) on a topic linked to the seminar sessions. A short, maximum one page, outline of the paper must be submitted by the 5th session and approved by the instructor before proceeding. The outline should contain a short thesis statement and provide a brief summary of the main issues to be reviewed and the principal resources to be used. The term paper must be submitted to the instructor no later than June 13.

The final assessment will be on the following basis:

- Oral Presentation: 20% of the final grade,
- Final exam: 30% of the final grade,
- One page paper outline: 10% of the final grade,
- Term paper: 40% of the final grade.

Course Outline and Calendar

Week 1 - Course introduction

There will be a brief review of course topics, a review of the evaluation framework for the course, a discussion of resources available, and a guideline on making the presentations. Preliminary assignment of presentations will also take place.

Week 2 - What is innovation? How is it measured?

Any framework to measure performance in innovation should include measures of input, output, and outcome of innovation activities. This includes defining proper statistical indicators, determining their data sources, and outlining the strengths and weaknesses of each indicator to capture different aspects of innovation activities. Examples of these indicators include R&D expenditures, intellectual property rights, productivity measures, etc.

Suggested readings:


**Week 3 - Why does innovation policy matter? The link between innovation, productivity, and economic growth.**

Innovation policy is a critical element of the economic agenda of most governments in the OECD; but why is it the case? In this session we will examine the arguments that link the ability of economies to continue to maintain and grow incomes to their ability to innovate.

Suggested readings:


**Week 4 - Financing innovation in the private sector: how critical is public money?**

To correct for the market failure in R&D, governments provide incentives to private firms to compensate for the gap between the private and social returns to R&D expenditures. Government intervention in R&D could be done through indirect instruments, direct instruments, or a mixture of the two. Indirect instruments include R&D tax credits, R&D allowances and reductions in R&D workers’ wage taxes. Direct instruments include R&D grants, loans and procurement. This session will discuss the difference between these two instruments and their impacts on innovation. Also, there will be a discussion about SR&ED and IRAP as the two main examples of indirect and direct R&D instruments in Canada.

Suggested readings:


**Week 5 - Promoting innovation through government laboratories and research institutes**

In addition to using direct and indirect R&D instruments, governments may support innovation activities directly by engaging in S&T activity in government labs. This session will discuss the role of government labs and research institutes in the innovation system.

Suggested readings:


Week 6 - Universities as an innovation engine in the economy

Many countries, including Canada, consider universities and post-secondary institutions as key engines for innovation. University laboratories and researchers are seen important resources of commercially relevant basic research. Another important role for universities and post-secondary institutions is to provide human capital and necessary skills for the marketplace. Accordingly, the federal government has diverted very significant levels of resources to universities in recent decades, and universities throughout the OECD now combine the functions of education and research in varying degrees.

Suggested readings:


Weeks 7 and 8 - Intellectual property and its role in promoting innovation

Intellectual property (IP) and the mechanisms designed to protect it (e.g. patents, trademarks, industrial design, and copyrights) are seen by many as an increasingly important part of innovation policy. An IP right is a government-protected right granted to an inventor or creator to exclude others from using the newly developed technology or product. The argument for government intervention to protect IP rights is that without this protection, competitive market systems fail to provide enough incentives for the private sector to undertake sufficient research and development to generate the new ideas and technologies which are important sources of long-run economic growth. This session introduces different types of IP rights and their relationships with innovation.

Suggested readings:
Week 9 – The role of information and communication technologies (ICT) and digital economy in innovation

One school of thought argues that the key to innovation lies in ensuring that key enabling technologies are adopted by firms and that the promotion and adoption of these technologies is key to improving the innovative capacity of the economy. Perhaps the clearest example of this approach is the focus on ICT technologies which combine the use of computer, telecommunications and internet technologies to radically improve the productive capacity of firms’ production, distribution and management of goods and services. This session will explore the role of the ICT in innovation activity and productivity. The session also discusses the concept of digital economy and its meaning for innovation policy.

Suggested readings:


Week 10 - Innovation policy, size or nationality of innovative firms, industrial clusters, regionalism, and federalism.


This session will discuss four different topics and their relationship with innovation policy. According to one school of thought, SMEs are an important source of innovation and employment in the economy due to their abilities to exploiting new and rapidly evolving products and technologies. Alternatively, another school of thought emphasizes on the importance of large enterprises in innovation. Similarly, according to one school of thought, government should help domestic entrepreneurs to grow large enough so that they can exploit new products, technologies, and markets on their own, and that to ensure R&D and head offices stay in the country. Yet, another school of thought emphasizes on foreign ownership and export orientation of companies. This session will discuss the empirical evidence to support these arguments. The session will also discuss the roles of clusters and regional policies in innovation.

Suggested readings:

**SMEs/Foreign ownership:**


**Industrial Clusters:**


Regionalism and federalism:


**Week 11 – The link between innovation policy and other social and economic policies**

This session will focus on the relationship between innovation policy and other economic and social policies. Innovation policy addresses the overall innovation climate, which goes far beyond traditional science and technology policy, involves many different components of the economy, and requires the government to utilize many policies at its disposal. While components of innovation policy could include financing of public and private research and building research labs, innovation policy also interacts with broader economic and social policies such as trade policy, government regulations, education policy, regional development, macroeconomics and political stability.

Suggested readings:


**Week 12 – Program evaluation and innovation policy**

Effective evaluation of policies and programs which aim at stimulating research, development and innovation has become increasingly important for policy makers. This emphasis is driven by public spending constraints, accountability and transparency of public spending, and minimizing distortions arising from government interventions. This session will introduce evaluation concepts by elaborating on program evaluation techniques which have been discussed throughout the course.
Suggested readings:


Week 13 - Concluding remarks

Despite many debates and remedial policies, Canada’s productivity growth and innovation performance have not improved in recent years. It is worth mentioning that despite the deteriorating rate of productivity, Canada’s real gross domestic income per capita increased much faster than that of the US over the 2002-06 period due to the improvement in terms of trade. However, the question is whether this growth can sustain without an improvement in innovation and productivity. This session will provide a review of different debates and contrasting perspectives on how to support innovation.

Suggested readings:


University Policies

**Academic Integrity:** Please be aware that all work submitted as requirements of this course must be both your own work and original to this course. Students should consult Section 14 of the Faculty of Graduate Studies Calendar, General Regulations concerning academic integrity and instructional offences.

**Plagiarism:** Please be aware that plagiarism is serious offence at Carleton and should be recognized and avoided. For information on how to do so, please see “Pammett on Plagiarism and Paraphrasing” at carleton.ca/economics/courses/writing-preliminaries.

**Lateness/Missing term-work:** Late term papers will receive a 20% grade penalty per day, including weekends. Not attending classes on the scheduled day of presentation will result in a grade of zero for that component. Students who can document a compelling reason for missing the scheduled day of presentation will be rescheduled for another day.

**Course grades:** Note that no course grades are final until approved by the Faculty Dean. Note also that course grades may be scaled upwards or downwards in a rank-preserving manner to better fit the relevant departmental distributional norm.

**Academic Accommodation:** You may need special arrangements to meet your academic obligations during the term. For an accommodation request the processes are as follows:

**Pregnancy obligation:** write to me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details visit the Equity Services website: www.carleton.ca/equity/

**Religious obligation:** write to me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details visit the Equity Services website: www.carleton.ca/equity/

**Academic Accommodations for Students with Disabilities:** The Paul Menton Centre for Students with Disabilities (PMC) provides services to students with Learning Disabilities (LD), psychiatric/mental health disabilities, Attention Deficit Hyperactivity Disorder (ADHD), Autism Spectrum Disorders (ASD), chronic medical conditions, and impairments in mobility, hearing, and vision. If you have a disability requiring academic accommodations in this course, please contact PMC at 613-520-6608 or pmc@carleton.ca. After requesting accommodation from PMC, meet with me to ensure accommodation arrangements are made. Please consult the PMC website for the deadline to request accommodations for the formally-scheduled exam (if applicable).