

Faculty of Science Course Syllabus
Department of Economics
Economics 2211
Economics of Innovation
Winter 2022

Instructor(s): Jonathan J Simms jjjsimms@dal.ca A-13, 6220 University Ave.

Lectures: 11:35 – 12:55 Tuesdays and Thursdays Studley LSC-COMMON AREA C244

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Course Description

This course examines the place of innovation in microeconomic policy space. It does so from two perspectives: the capacity of the private sector to recognize and address productivity gaps with investments in innovative products, processes and methods, on the one hand, and the capacity (i.e., limits) of government policy and program initiatives to promote innovation in their economies, on the other.

NOTE: All Economics courses, unless stated otherwise, must have a minimum grade requirement of C for their prerequisite courses.

Course Prerequisites

ECON 1101 or ECON 1102, or by permission of the professor

Course Objectives/Learning Outcomes

- To enhance students' understanding of the innovation imperative in growing economy
- To improve students' knowledge of what accounts for the state of innovation performance
- To survey with students the key factors that comprise a framework for an innovation strategy
- To improve students' capacity to critically assess innovation policy in a global context

Required Course Materials

McKelvey, M., Jin, J., "Introduction to Innovative Capabilities and the Globalization of Chinese Firms: Becoming Leaders in Knowledge-intensive Innovation Ecosystems":
Edward Elgar Publishing. 2020

Swann, G.M. Peter, "The Economics of Innovation", Cheltenham, UK, Northampton, Mass.:
Edward Elgar Publishing Inc. 2009

Course Requirements

This is a course for economics majors and those who have already declared a field of study in science, engineering and sustainability and who would like to explore the implications of their anticipated pursuits in the context of the economy. To that end, class-related activities will include presentations and experiential events designed to introduce the practical aspects of science, technology, engineering and mathematics' (STEM's) contributing innovations to productivity and growth in our modern, post-industrial economy.

The practical/experiential sessions will be of three varieties:

Field Trips. Field trips may be arranged according to the existing Faculty of Science practices and rules, with the possibility of additional fees for buses etc., if necessary, and these fees will be announced in advance. Such visits may be to one or more of the following: a research lab, a business, public sector facilities, and a non-governmental organization. These will be designed to introduce the economic considerations – both upstream and downstream - that are required for the pursuit of a new invention, introducing a new innovation, investing in a commercialization opportunity, or offering an environmentally sustainable product or production process.

Presentations: Guest Speakers/ Panel discussions on economics topics that pertain to the inputs, operations and outputs of innovation initiatives such as, intellectual property and patent law, management innovation, processing innovations, product and service innovations, and public policy (regulatory and program development).

Workshop. “The Research Entrepreneur Entering the Innovation Ecosystem”: the micro- and macro-economic considerations involved in the policy and program aspects behind major R&D funding programs and the practical steps required to explore, develop and produce a winning “Start-up” application proposal.

Course Assessment

Component	Weight (% of final grade)	Date
<i>Assignments (3@10% each)</i>	30	<i>As per Syllabus Dates</i>
<i>Research Project</i>	20	<i>April 3</i>
<i>Final</i>	50	<i>TBA</i>

Conversion of numerical grades to Final Letter Grades follows the Dalhousie Common Grade Scale

A+ (90-100)	B+ (77-79)	C+ (65-69)	D	(50-54)
A (85-89)	B (73-76)	C (60-64)	F	(<50)
A- (80-84)	B- (70-72)	C- (55-59)		

Course Policies on Missed or Late Academic Requirements

General:

Students are expected to use the Student Declaration of Absence form for late or missed requirements, prior to the academic deadline. A student may submit a maximum of one (1) Student Declaration of Absence form.

Note that medical notes are not required, including for the final exam. Notification, prior to the start of the exam is required, if students cannot write the final exam. A make-up exam will be arranged with the professor.

You may expect that plagiarism software will be used in course.

As this is a more experientially oriented course, your attendance and participation is particularly essential. Therefore, absence from three of the expected eight presentations and field trips, and workshop (combined total) will result in a deduction of 10 points from your final grade. Details regarding the arrangement of these events, and your confirmation of participation, will be outlined, in class.

All deliverables (assignments and the project) are to be double-spaced, 12-pt font, New Times Roman (with bibliographies and annexes, in the case of the project). No more than 15% of assignment or project texts are to be quotations. Citation protocols APA or Chicago may be used. All assignments are due at 12:00PM (Noon), in soft copy, to the Teaching Assistant, on their due date. Late assignments will receive a zero, unless accompanied by a medical excuse. Projects are due on April 3 prior to the beginning of the class. Students who do not have their section of their team's project completed on time, will be deducted 10 of their 20 points, for each late day.

Assignments will be posted on the course website at least 10 days in advance of their due date. You will have a choice of three topics, in each assignment. The deliverable will be a 1-to-2-page essay.

The project is to include two or three students, each responsible for at least 5 pages of text/narrative, in contribution to the final document. Instructions for the project requirements will be presented on January 18th and they will be posted on the course website. Project teams are to be established, and their project title, together with the outlined components/contributions of each team member, are to be submitted to the TA, no later than February 1.

Course Content

Date	Lecture	Reading Modules
Jan 8	1. Overview	Syllabus
Jan 11	2. Context	<u>Context</u> Swann Ch 1- 2; https://economics.mit.edu/files/1785
Jan 13	3. Context	<u>Imperative</u> https://www.pmi.org/-/media/pmi/documents/public/pdf/learning/thought-



		<p>leadership/pulse/innovation-imperative-pulse-indepth.pdf?v=c66de5bb-2202-4131-a7e5-77bb65a27b4d</p> <p>McKelvey, M., Jin, J., <i>Introduction to Innovative Capabilities and the Globalization of Chinese Firms</i>, in <i>Introduction to Innovative Capabilities and the Globalization of Chinese Firms: Becoming Leaders in Knowledge-intensive Innovation Ecosystems</i>. Edward Elgar Publishing. 2020</p>
Jan 18	4. Imperative	<p><u>Aspects (1)</u> Swann Ch 3-4</p> <p>https://eiuperspectives.economist.com/technology-innovation/prioritisation-and-precision-how-artificial-intelligence-and-design-thinking-will-transform</p>
Jan 20	5. Decline	<p><u>Aspects (2)</u> Swann Ch 5-6</p> <p>Gerguri, Shqipe MA, Ramadani, Veland PhD, <u>The Impact of Innovation into the Economic Growth</u>. MPRA Paper No. 22270, posted 23 Apr 2010 10:49 UTC</p> <p>https://mpra.ub.uni-muenchen.de/22270/1/The_impact_of_innovation_into_economic_growth-final_2008-eng-Shqipe-Veland.pdf</p> <p>https://www.economist.com/finance-and-economics/2020/02/27/how-to-get-more-innovation-bang-for-the-research-buck</p>
Jan 25	6. Challenges	<p>Alfredo De Massis , David Audretsch, Lorraine Uhlaner, and Nadine Kammerlander, <i>Innovation with Limited Resources: Management Lessons from the German Mittelstand</i>, in <i>J PROD INNOV MANAG</i> 2018;35(1):125–146</p> <p>https://onlinelibrary.wiley.com/doi/epdf/10.1111/jpim.12373</p>
Jan 27	7. Challenges	<p><u>Aspects (3)</u> Joakim Björkdahl* and Magnus Holmén, Editorial: Business model innovation – the challenges ahead, in <i>Int. J. Product Development</i>, Vol. 18, Nos. 3/4, 2013.</p> <p>file:///C:/Users/The%20Simms/Downloads/BjrkdahlHolmn2013Businessmodelinnovation-theChallengesAheadIJPd.pdf</p> <p>Assign A DUE</p>
Feb 1	8. Trends	<p>Celia Huber and Kevin Sneader, <i>The eight trends that will define 2021–and beyond</i>, McKinsey and Company</p> <p>https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/the-eight-trends-that-will-define-2021-and-beyond</p>
Feb 3	9. Trends	<p><u>Firms (1)</u> Swann Ch 9-10</p> <p>https://www.economist.com/business/2020/01/04/cloning-tesla-electric-vehicle-wars-in-china</p> <p>https://www.economist.com/finance-and-economics/2019/12/12/are-anti-competitive-firms-killing-american-innovation</p>



Feb 8	10. Talent	https://ccis.ucsd.edu/files/CCIS.BuildingTheInnovationEconomy1.pdf https://www.mckinsey.com/about-us/new-at-mckinsey-blog/people-are-leaving-jobs-in-droves-heres-what-makes-them-stay
Feb 10	11. Talent	<u>Firms (2)</u> Swann Ch 11-12 https://www.entrepreneur.com/article/250777 https://www.economist.com/leaders/2019/08/22/what-companies-are-for
Feb 15	12. Unleashing	https://www.innovationpolicyplatform.org/www.innovationpolicyplatform.org/content/innovation-definitions-and-fundamentals/index.html Xi Sun, <u>What enables Technology Self-reliance? Theoretical Discussion and Comparative Case Study</u> , in Introduction to Innovative Capabilities and the Globalization of Chinese Firms: Becoming Leaders in Knowledge-intensive Innovation Ecosystems. Edward Elgar Publishing. 2020
Feb 17	13. Unleashing	<u>Firms (3)</u> Swann Ch 13 http://marasbiber.com/wp-content/uploads/2018/05/Michael-E.-Porter-Cluster-Reading.pdf http://destinationinnovation.economist.com/wp-content/uploads/sites/3/2015/09/EIU_InnovationClusters_Final-1.pdf V. Amendolagine, E. Giuliani, A. Martinelli, R. Rabellotti, <u>Chinese Multinational Enterprises Bridging Technologies Across Home and Host Regions</u> , in Introduction to Innovative Capabilities and the Globalization of Chinese Firms: Becoming Leaders in Knowledge-intensive Innovation Ecosystems. Edward Elgar Publishing. 2020
Mar 1	14. Governance	Assign B DUE X. Chen, Z. Liu, V.M. Hunstock, <u>Evaluation of Science Parks in China from an Innovation Ecosystem Perspective</u> , and... C. Alvstam, I. Ivarsson, <u>Technology Transfer and the Internationalization Process of an Emerging Market Firm: a case study of the acquisition of the Volvo Car Corporation</u> , in Introduction to Innovative Capabilities and the Globalization of Chinese Firms: Becoming Leaders in Knowledge-intensive Innovation Ecosystems. Edward Elgar Publishing. 2020
Mar 3	15. Governance	<u>Consumers</u> Swann Ch 15 - 16 https://www.bing.com/videos/search?q=innovation+consumer+behavior&view=detail&mid=F1192228FDB93DB62974F1192228FDB93DB62974&FORM=VIRE
Mar 8	16. Consumers	https://www2.deloitte.com/ca/en/pages/consumer-business/articles/consumer-driven-innovation.html https://www.mckinsey.com/industries/consumer-packaged-goods/our-insights/will-



		innovation-finally-add-up-for-consumer-goods-companies
Mar 10	17. Consumers	<p><u>Effects (1)</u> Swann Ch 17-18</p> <p>The Economist Intelligence Unit, <u>The Elements Innovation</u>. https://innovationmatters.economist.com/ https://www.economist.com/briefing/2017/09/23/chinas-audacious-and-inventive-new-generation-of-entrepreneurs</p>
Mar 15	18. Applied	<p>https://www.ideatovalue.com/inno/nickskillicorn/2021/01/the-law-of-diffusion-of-innovation J. Liu, <u>Internationalization for Technological Capability Building</u> in Introduction to Innovative Capabilities and the Globalization of Chinese Firms: Becoming Leaders in Knowledge-intensive Innovation Ecosystems. Edward Elgar Publishing. 2020</p>
Mar 17	19. Applied	<p><u>Effects (2)</u> Swann Ch 19-20</p> <p>X. Liang, X. Shi, Y. Shi, <u>Fitting into Innovation Ecosystems</u>, in Introduction to Innovative Capabilities and the Globalization of Chinese Firms: Becoming Leaders in Knowledge-intensive Innovation Ecosystems. Edward Elgar Publishing. 2020</p>
Mar 22	20. Social	<p>Assign C DUE https://www.canada.ca/en/employment-social-development/programs/social-innovation-social-finance/reports/recommendations-what-we-heard.html</p>
Mar 24	21. Social	<p><u>Competitiveness and Sustainability</u> https://innovationmatters.economist.com/the-future-of-cities</p>
Mar 29	22. Forward	https://futuretodayinstitute.com/trends
Mar 31	23. Forward	<p><u>Innovation in Crisis?</u> https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/innovation-in-a-crisis-why-it-is-more-critical-than-ever#</p>
Apr 3	24. Policy	<p>Canada: A Case Study https://www.ic.gc.ca/eic/site/062.nsf/eng/home Project DUE</p>

Faculty of Science Course Syllabus (Section B) (revised June-2021)**Winter 2022***The Economics of Innovation ECON 2211***University Policies and Statements**

This course is governed by the academic rules and regulations set forth in the University Calendar and by Senate

Academic Integrity

At Dalhousie University, we are guided in all of our work by the values of academic integrity: honesty, trust, fairness, responsibility and respect (The Center for Academic Integrity, Duke University, 1999). As a student, you are required to demonstrate these values in all of the work you do. The University provides policies and procedures that every member of the university community is required to follow to ensure academic integrity.

Information: https://www.dal.ca/dept/university_secretariat/academic-integrity.html

Accessibility

The Advising and Access Services Centre is Dalhousie's centre of expertise for student accessibility and accommodation. The advising team works with students who request accommodation as a result of a disability, religious obligation, or any barrier related to any other characteristic protected under Human Rights legislation (Canada and Nova Scotia).

Information: https://www.dal.ca/campus_life/academic-support/accessibility.html

Student Code of Conduct

Everyone at Dalhousie is expected to treat others with dignity and respect. The Code of Student Conduct allows Dalhousie to take disciplinary action if students don't follow this community expectation. When appropriate, violations of the code can be resolved in a reasonable and informal manner—perhaps through a restorative justice process. If an informal resolution can't be reached, or would be inappropriate, procedures exist for formal dispute resolution.

Code: https://www.dal.ca/dept/university_secretariat/policies/student-life/code-of-student-conduct.html

Diversity and Inclusion – Culture of Respect

Every person at Dalhousie has a right to be respected and safe. We believe inclusiveness is fundamental to education. We stand for equality. Dalhousie is strengthened in our diversity. We are a respectful and inclusive community. We are committed to being a place where everyone feels welcome and supported, which is why our Strategic Direction prioritizes fostering a culture of diversity and inclusiveness

Statement: <http://www.dal.ca/cultureofrespect.html>

Recognition of Mi'kmaq Territory

Dalhousie University would like to acknowledge that the University is on Traditional Mi'kmaq Territory. The Elders in Residence program provides students with access to First Nations elders for guidance, counsel and support. Visit or e-mail the Indigenous Student Centre (1321 Edward St) (elders@dal.ca).

Information: https://www.dal.ca/campus_life/communities/indigenous.html

Important Dates in the Academic Year (including add/drop dates)

https://www.dal.ca/academics/important_dates.html

University Grading Practices

https://www.dal.ca/dept/university_secretariat/policies/academic/grading-practices-policy.html

Student Resources and Support

Advising

General Advising https://www.dal.ca/campus_life/academic-support/advising.html

Science Program Advisors: <https://www.dal.ca/faculty/science/current-students/academic-advising.html>

Indigenous Student Centre: https://www.dal.ca/campus_life/communities/indigenous.html

Black Students Advising Centre: https://www.dal.ca/campus_life/communities/black-student-advising.html

International Centre: https://www.dal.ca/campus_life/international-centre/current-students.html

Academic supports

Library: <https://libraries.dal.ca/>

Writing Centre: https://www.dal.ca/campus_life/academic-support/writing-and-study-skills.html

Studying for Success: https://www.dal.ca/campus_life/academic-support/study-skills-and-tutoring.html

Copyright Office: <https://libraries.dal.ca/services/copyright-office.html>

Fair Dealing Guidelines <https://libraries.dal.ca/services/copyright-office/fair-dealing.html>

Other supports and services

Student Health & Wellness Centre: https://www.dal.ca/campus_life/health-and-wellness/services-support/student-health-and-wellness.html

Student Advocacy: <https://dsu.ca/dsas>

Ombudsperson: https://www.dal.ca/campus_life/safety-respect/student-rights-and-responsibilities/where-to-get-help/ombudsperson.html

Safety

Biosafety: <https://www.dal.ca/dept/safety/programs-services/biosafety.html>

Chemical Safety: <https://www.dal.ca/dept/safety/programs-services/chemical-safety.html>

Radiation Safety: <https://www.dal.ca/dept/safety/programs-services/radiation-safety.html>

Scent-Free Program: <https://www.dal.ca/dept/safety/programs-services/occupational-safety/scent-free.html>

Dalhousie COVID-19 information and updates: <https://www.dal.ca/covid-19-information-and-updates.html>