THE UNIVERSITY OF HONG KONG
FACULTY OF BUSINESS AND ECONOMICS

PhD Course Syllabus

Course Code/Title: **[Course Code] Topics in Macroeconomics II**

Course Description: This course is a topic course on macroeconomics for PhD students. The course covers topics in the mechanics of economic growth and sources of income and growth differences across countries, with an emphasis on heterogeneous firm innovation. Related questions include innovation and endogenous growth, resource (mis)allocation, competition, and market power. This course introduces a wide range of theoretical models and empirical studies based on classic papers and some recent research. It will help students develop some key tools of dynamic economics useful in macroeconomics.

Course Objectives: The first purpose of the course is to bring students as close to the frontier research in macroeconomic development, endogenous growth, and firm dynamics as possible. The second purpose of the course is to help students build up a toolbox for macroeconomic research. By the end of the class, students are expected to be able to write down a model to explain empirical phenomena by using or extending the models covered in the course. Students are also expected to be able to apply modern econometrics methods to empirical macroeconomic projects.

Pre-requisite: Knowledge of doctoral-level macroeconomics, microeconomics and econometrics, and mathematics (such as elementary calculus and probability).

Assessment: 10% assignment; 30% presentation; 60% research project.

Remarks: All PhD courses are non-credit-bearing and will be assessed on a pass/fail basis.

Course Learning Outcomes (CLOs) On completion of this course, students should be able to:	Aligned PLOs*				
	1	2	3	4	5
1. Gain familiarity with key issues in macroeconomic development, endogenous growth and firm dynamics	X	X			X
2. Build skills in developing macroeconomic models and applying econometric methods	X	X	X	X	
3. Identify research topics	X	X	X		X
4. Comment and assess work related to the covered topics	X		X	X	X

***Programme Learning Outcomes (PLOs) for Research Postgraduate Programme:**

1. Demonstrate critical understanding, at an advanced level, of up-to-date knowledge and research methodology of a particular field
2. Implement effective academic and personal strategies for carrying out research projects independently and ethically
3. Contribute original knowledge in response to issues in their specialist area
4. Communicate research findings at a diverse range of levels and through a variety of media
5. Evaluate one's own research in relation to important and latest issues in the field

COURSE DETAILS *(subject to change at instructor's discretion)*

Year/Semester:	2023-24, First or Second Semester
Time/Venue:	TBD
Instructor:	**Xiaomei Sui** Email: xsui@hku.hk Office: KKL-xxx (by appointment)

I. Teaching and Learning Activities

In-class and Out-of-class Activities *(e.g. lectures, class discussion, papers reading, proposal writing)*	Expected hour	% of student study effort
1. Lectures	33	30%
2. Class discussion	10	10%
3. Paper reading and presentation	30	30%
4. Homework	30	30%
Total	103	100%

II. Assessment

Assessment Components *(e.g. assignments, proposal, presentation, examination)*	Weight	CLOs to be assessed				
		1	2	3	4	5
1. Assignment	10%	X	X	X	X	X
2. Presentation	30%	X	X	X	X	X
3. Research project	60%	X	X	X	X	X
Total	100%					

Students will be assessed based on the following performance standards:

Course Grade	Performance Standard
Pass	
Fail	

There will be two problem sets throughout the semester. Students are encouraged to work with their classmates and submit problem sets in groups of no more than four people. In the last two weeks, students are required to give a presentation of a classic or recent paper. The list of papers will be provided by the instructor. At the end of the semester, students will submit a research proposal he/she plans to pursue. Students' grades will be based on the assignments (problem sets), presentation and research project.

III. Course Content and Tentative Schedule

Module 1: Classical models on endogenous growth (Weeks 1-2)

This module introduces the first models of endogenous technological change, where sustained economic growth occurs due to innovation activities.

Module 2: Recent models on innovation and firm dynamics (Weeks 3-4)

This module helps students familiarize with some baseline models for studying firm dynamics, resource allocation, and aggregate growth.

Module 3: Heterogeneous firm innovation behavior (Week 5)

This module introduces firms' heterogeneous innovation behaviors and their contributions to aggregate growth.

Module 4: Innovation, misallocation, and cross-country income difference (Weeks 6)

This module analyzes how market imperfections/frictions alter firm innovation behaviors and market reallocation across firms, translating into aggregate productivity or income differences across countries.

Module 5: Firm dynamics and secular trends (Weeks 7)

This module discusses secular trends in the U.S. and other OECD countries with endogenous growth models. The secular trends include declining entry rate, increasing industrial concentration and market power, lower productivity growth, etc.

Module 6: Innovation, knowledge diffusion, and international trade (Weeks 8)

This module examines how interdependences across countries that arise from knowledge diffusion and international trade can affect heterogeneous firms, the process of economic growth, and the world distribution of income.

Module 7: Innovation, firm financing, and financial frictions (Weeks 9)

This module studies how financial frictions matter for aggregate productivity growth by affecting firm financing in innovation.

Module 8: Endogenous growth and industrial policies (Weeks 10)

This module studies industrial policies (e.g., antitrust policy, innovation policy, and carbon taxes) with endogenous growth models.

Module 9: Student presentations on classic/recent papers (Weeks 11-12)

IV. Required/Recommended Readings

This course will be based primarily on original academic articles. However, the following book is a useful reference. Students are encouraged to read it selectively according to the topics they are interested in.

Textbooks

Daron Acemoglu. 2009. Introduction to Modern Economic Growth. Princeton University Press

Articles

Students are required to read the corresponding articles before each class.

Module 1: Classical models on endogenous growth (Weeks 1-2)

Romer, Paul M. 1990. Endogenous Technological Change, Journal of Political Economy 98, S71-S102.

Jones, Charles I. 1995. R&D-based Models of Economic Growth, Journal of Political Economy, 103, 759-784.

Aghion, Philippe and Peter Howitt. 1992. A Model of Growth Through Creative Destruction, Econometrica, 60, pp. 323-351.

Grossman, Gene and Elhanan Helpman. 1991. Quality Ladders in the Theory of Growth, Review of Economic Studies, 58, pp. 43-61.

Module 2: Recent models on innovation and firm dynamics (Weeks 3-4)

Klette, Tor Jakob, and Samuel Kortum. 2004. Innovating Firms and Aggregate Innovation. Journal of Political Economy 112 (5): 986–1018.

Aghion, Philippe, Nick Bloom, Richard Blundell, Rachel Griffith and Peter Howitt. 2005. Competition and Innovation: An Inverted-U Relationship, Quarterly Journal of Economics, 120, pp. 701-728.

Andrew Atkeson, and Ariel Burstein. 2019. Aggregate Implications of Innovation Policy. Journal of Political Economy, 127(6):2625–2683.

Erzo Luttmer. 2007. Selection, growth, and the size distribution of firms. The Quarterly Journal of Economics, 122(3):1103–1144.

Erzo Luttmer. 2011. On the Mechanics of Firm Growth. Review of Economic Studies 78 (3): 1042–68.

Eaton, J. and Kortum, S., 2001. Technology, trade, and growth: A unified framework. European Economic Review, 45(4-6), pp.742-755.

Module 3: Heterogeneous firm innovation behavior (Week 5)

Garcia-Macia, Daniel, Chang-Tai Hsieh, and Peter J. Klenow. 2019. How Destructive Is Innovation? Econometrica 87 (5): 1507–41.

Akcigit, Ufuk, and William R. Kerr. 2018. Growth through Heterogeneous Innovations. Journal of Political Economy 126 (4): 1374–443.

Daron Acemoglu, Ufuk Akcigit, and Murat Alp Celik. Radical and Incremental Innovation: The Roles of Firms, Managers and Innovators. AEJ Macro forthcoming.

Jose Asturias, Sewon Hur, Timothy J. Kehoe and Kim J. Ruhl. 2017. Firm Entry and Exit and Aggregate Growth, AEJ Macro forthcoming.

Rasmus Lentz and Dale T. Mortensen. 2008. An Empirical Model of Growth Through Product Innovation. Econometrica, 76(6):1317–1373.

Module 4: Innovation, misallocation, and cross-country income difference (Weeks 6)

Hsieh, Chang-Tai, and Peter J. Klenow. 2014. "The Life Cycle of Plants in India and Mexico." Quarterly Journal of Economics 129 (3): 1035–84.

Bento, Pedro, and Diego Restuccia. 2017. "Misallocation, Establishment Size, and Productivity." American Economic Journal: Macroeconomics 9 (3): 267–303.

Acemoglu, Daron, Ufuk Akcigit, Harun Alp, Nicholas Bloom, and William Kerr. 2018. "Innovation, Reallocation, and Growth." American Economic Review 108 (11): 3450–91.

Peters, Michael. 2020. "Heterogeneous Markups, Growth, and Endogenous Misallocation." Econometrica 88 (5): 2037–73.

Akcigit, U., Alp, H. and Peters, M., 2021. Lack of selection and limits to delegation: firm dynamics in developing countries. American Economic Review, 111(1), pp.231- 75.

König, Michael, Kjetil Storesletten, Zheng Song and Fabrizio Zilibotti. 2021. From Imitation to Innovation: Where Is all that Chinese R&D Going? Econometrica forthcoming.

Francisco J. Buera and Roberto N. Fattal Jaef. 2018. The Dynamics of Development: Innovation and Reallocation. Working Paper 8505, The World Bank Group.

Michael Peters and Fabrizio Zilibotti. 2021. Creative destruction, distance to frontier, and economic development. Working Paper 29333, National Bureau of Economic Research.

Ufuk Akcigit, Salomé Baslandze, and Francesca Lotti. 2018. Connecting to power: Political connections, innovation, and firm dynamics. Working Paper 25136, National Bureau of Economic Research.

Module 5: Firm dynamics and secular trends (Weeks 7)

Ufuk Akcigit and Sina T. Ates. 2021. Ten Facts on Declining Business Dynamism and Lessons from Endogenous Growth Theory. American Economic Journal: Macroeconomics, 13(1): 257–98.

Ernest Liu, Atif Mian, and Amir Sufi. 2022. Low interest rates, market power, and productivity growth. Econometrica, 90(1):193–221.

Philippe Aghion, Antonin Bergeaud, Timo Boppart, Peter J Klenow, and Huiyu Li. 2019. A Theory of Falling Growth and Rising Rents. Working Paper 26448, National Bureau of Economic Research.

Michael Peters and Conor Walsh. 2021. Population Growth and Firm Dynamics. Working Paper.

Jane Olmstead-Rumsey. 2020. Market Concentration and the Productivity Slowdown. Working paper.

Module 6: Innovation, knowledge diffusion, and international trade (Weeks 8)

Atkeson, A. and Burstein, A.T., 2010. Innovation, firm dynamics, and international trade. Journal of political economy, 118(3), pp.433-484.

Ufuk Akcigit, Sina T Ates, and Giammario Impullitti. 2018. Innovation and Trade Policy in a Globalized World. Working Paper 24543, National Bureau of Economic Research.

Jesse Perla, Christopher Tonetti, and Michael E. Waugh. 2021. Equilibrium technology diffusion, trade, and growth. American Economic Review, 111(1):73–128.

Thomas Sampson. 2016. Dynamic Selection: An Idea Flows Theory of Entry, Trade, and Growth , The Quarterly Journal of Economics, Volume 131, Issue 1, Pages 315–380.

Nicholas Bloom, Paul Romer, Stephen J Terry, John Van Reenen. 2021. Trapped Factors and China's Impact on Global Growth, The Economic Journal, Volume 131, Issue 633, Pages 156–191.

Giammario Impullitti and Omar Licandro. 2018. Trade, Firm Selection and Innovation: The Competition Channel. The Economic Journal, 128(608):189–229.

Chang-Tai Hsieh, Peter J Klenow, and Ishan B Nath. 2019. A global view of creative destruction. Working Paper 26461, National Bureau of Economic Research.

Chang-Tai Hsieh, Peter J Klenow, and Kazuatsu Shimizu. 2022. Romer or Ricardo? Working paper.

Module 7: Innovation, firm financing, and financial frictions (Weeks 9)

Ates, Sina T., and Felipe E. Saffie. 2021. "Fewer but Better: Sudden Stops, Firm Entry, and Financial Selection." American Economic Journal: Macroeconomics, 13 (3): 304-56.

Albert Queralto. 2020. A model of slow recoveries from financial crises. Journal of Monetary Economics, 114(C):1–25.

Murat Alp Celik. 2022. Does the Cream Always Rise to the Top? The Misallocation of Talent in Innovation. JME forthcoming.

Module 8: Endogenous growth and industrial policies (Weeks 10)

Daron Acemoglu and Ufuk Akcigit. 2012. Intellectual Property Rights Policy, Competition and Innovation. Journal of the European Economic Association, 10(1):1–42, 02.

Daron Acemoglu, Ufuk Akcigit, Douglas Hanley, and William Kerr. 2016. Transition to clean technology. Journal of Political Economy, 124(1):52–104.

Laurent Cavenaile, Murat Alp Celik, and Xu Tian. 2021. The dynamic effects of antitrust policy on growth and welfare. Journal of Monetary Economics, 121:42–59.

V. Course Policy

The University Regulations on academic dishonesty will be strictly enforced! Academic dishonesty is behaviour in which a deliberately fraudulent misrepresentation is employed in an attempt to gain undeserved intellectual credit, either for oneself or for another. It includes, but is not necessarily limited to, the following types of cases:

a. Plagiarism - The representation of someone else's ideas as if they are their own. Where the arguments, data, designs, etc., of someone else are being used in a paper, report, oral presentation, or similar academic project, this fact must be made explicitly clear by citing the appropriate references. The references must fully indicate the extent to which any parts of the project are not one's own work. Paraphrasing of someone else's ideas is still using someone else's ideas, and must be acknowledged. Please check the University Statement on plagiarism on the web: http://www.hku.hk/plagiarism/

b. Unauthorized Collaboration on Out-of-Class Projects - The representation of work as solely one's own when in fact it is the result of a joint effort.

c. Cheating on In-Class Exams - The covert gathering of information from other students, the use of unauthorized notes, unauthorized aids, etc.

d. Unauthorized Advance Access to an Exam - The representation of materials prepared at leisure, as a result of unauthorized advance access (however obtained), as if it were prepared under the rigors of the exam setting. This misrepresentation is dishonest in itself even if there are not compounding factors, such as unauthorized uses of books or notes.

You are expected to do your own work whenever you are supposed to. Incident(s) of academic dishonesty will NOT be tolerated. Cheating or plagiarism of any kind would result in an automatic FAIL grade for the course plus strict enforcement of all Faculty and/or University regulations regarding such behaviour.