

ECU22041 — Economic Issues A

Module Information	
Module Code	ECU22041
Module Title	<i>Economic Issues A – Economics of Innovation: Data and AI</i>
Department	<i>Economics</i>
Year Group	<i>Senior Fresh</i>
Module Personnel	<i>Prof. Marvin Suesse</i>
Academic Year	<i>26-27</i>
Credit Weighting	<i>5 credits</i>
Semester	<i>Semester 01</i>
Contact Hours	<i>2 lectures per week</i>

Module Content	
Module Description	<i>This module consists of two parts and it is likely to include the following topics (as time permits): Part 1. Economics of Innovation: • The Nature and Importance of Innovation • Innovation, Market Failures, and Public Policy • The Basics of Intellectual Property Rights • The Measurement of Innovation, Productivity, and Growth Part 2. Economics of Data and AI: • Digitization, Datafication, and AI: Overview for Economists • Data-driven Markets o Network Effects and Competition o Case study: Big data and search engines • Automation and prediction at work: o Human Decisions versus Machine Prediction o Human Decisions with Machine Prediction o Case studies: Algorithmic Risk Assessment Tools for Criminal Justice • Macroeconomics of AI and Automation: o Task-based model of economy + AI technology o Effects of AI on production, wages, inequality • Discussion: Sources of positive and negative welfare effects of datafication and AI; Proposed policy interventions</i>
Module Learning Aims	<i>This module aims to: • Provide an introduction into the economics of innovation. • Examine the latest examples of innovative technologies, in particular, digital technologies and artificial intelligence (AI), thinking as economists and using</i>

Module Content

	<i>economic models. • Offer an overview of frontier research in economics (both theoretical and empirical) on the impact of data and AI on the broader economy</i>
Learning Outcomes	<i>Upon successful completion of this module, you will be able to:</i> <i>• Explain fundamental concepts and economic theories related to innovation, including its role in economic growth, public policy, and intellectual property.</i> <i>• Analyse the economic impact of recent advancements in digital technologies and artificial intelligence.</i> <i>• Critically evaluate empirical and theoretical research concerning the effects of datafication and AI on productivity, labour markets, inequality, and overall welfare.</i> <i>• Assess existing and proposed policy interventions addressing the opportunities and challenges posed by digitization, datafication, and AI in the modern economy.</i>
Indicative Reading / Resources	<i>The following texts are useful for different parts of the course:</i> <i>• Greenhalgh, Christine, and Mark Rogers. "Innovation, intellectual property, and economic growth." Innovation, intellectual property, and economic growth. Princeton University Press, 2010. Key chapters will be made available on Blackboard.</i> <i>• Agrawal, Ajay, Joshua S. Gans, and Avi Goldfarb. "Exploring the impact of artificial intelligence: Prediction versus judgment." Information Economics and Policy 47 (2019). https://www.sciencedirect.com/science/article/pii/S0167624518301136</i> <i>• Kleinberg, Jon, et al. "Human decisions and machine predictions." The quarterly journal of economics 133.1 (2018). https://academic.oup.com/qje/article-abstract/133/1/237/4095198</i> <i>• Acemoglu, Daron. "The simple macroeconomics of AI." Economic Policy 40.121 (2025). https://economics.mit.edu/sites/default/files/202404/The%20Simple%20Macroeconomics%20of%20AI.pdf</i> <i>Other references will be provided, as relevant, for particular topics.</i>

Assessment

Assessment Components	<i>Precise assessment information, including timing, will be provided at the start of the module. Assessment is broadly allocated as follows:</i> <i>• Quizzes: 30% - Two online quizzes/tests (15% each of the overall grade);</i> <i>• Final exam: 70% of the overall grade.</i>
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Assessment

Assessment Details

Any additional information about assessment

Additional Information

Prerequisites

No specific module is a formal prerequisite for this module. However, it is expected that students have a basic understanding of general economic concepts and probability theory. Students who have not previously completed (1) an Introduction to Economics and/or (2) Mathematics and Statistics modules (such as ECU11011/ECU11012/ECU11022/ECU11024 at Trinity) are encouraged to review appropriate introductory material.

Co-requisites

None

Any other information