

COURSE SYLLABUS

Advanced Applied Econometrics, 10 credits

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Course Code: J2AAET	Education Cycle: Second-cycle level
Confirmed: Mar 30, 2026	Disciplinary domain: Natural sciences (50%) and Social sciences (50%)
Valid From: Aug 31, 2026	Subject group: Economics
	Specialised in: A1N Second cycle, has only first-cycle course/s as entry requirements
	Main field of study: Economics

Intended Learning Outcomes (ILO)

On completion of the course you will be able to:

Knowledge and Understanding

1.1 Demonstrate current, advanced, and specialised knowledge (concepts, theories, frameworks) in the course content, applying and integrating this expertise to solve complex problems.

Skills and Abilities

2.3 Independently manage and carry out a substantial research or project assignment, including data collection and using appropriate research methodologies, within given time frames.

2.4 Critically assess the reliability of, and ethical implications arising from, the methods, tools, and techniques used to generate insights from data.

3.1 Produce well-structured, professional materials that demonstrate academic proficiency and adapt style and terminology to the target audience.

3.2 Deliver compelling oral presentations relating to complex problems and critically discuss and defend their findings in academic and professional settings.

Content

This course provides you with advanced tools for empirical analysis in economics, focusing on modern econometric techniques used to identify causal relationships. It integrates econometric theory with applied research practice and replication of published studies, equipping you to design and implement credible empirical strategies that allow economists to infer cause-and-effect relationships from real-world data.

The course covers key methods in applied microeconometrics, including randomised and social experiments, instrumental variable estimation, difference-in-differences techniques for panel data, regression discontinuity designs, and synthetic control methods. Each method is introduced through a combination of lectures, replication exercises, and discussions of seminal and recent papers from leading economics journals. Emphasis is placed on understanding the assumptions underlying each method, evaluating their validity, and interpreting results critically.

A central component of the course is the application of these methods to your own research question. You will design an empirical study, identify relevant data, and apply appropriate econometric techniques to analyse causal effects. By engaging directly with frontier research, you will strengthen your ability to critically evaluate empirical work and apply advanced econometric tools in both academic and professional contexts.

After completing the course, you will be able to design and execute modern microeconometric analyses, replicate and extend empirical estimations, and critically assess the credibility of causal claims in applied

economic research. You will also be proficient in using statistical software for advanced econometric modeling, preparing you for independent empirical work at the master's thesis level and beyond.

Connection to Research

The course is research-oriented and based on recent academic journal articles. You will complete two advanced replication assignments reproducing core results and will also independently develop extensions (e.g., alternative specifications, robustness analyses, or heterogeneity tests).

In addition, you will conduct an independent empirical study: formulate a research question, identify and retrieve data, develop a credible identification strategy, implement the analysis in STATA (or other software of your choice, e.g. Python or R), and present the results in an examination seminar. The course is strongly embedded with research practices in applied economics.

Connection to Practice

The course links econometric methods to real-world policy and business problems. You will work with microdata similar to those used in public agencies, international organisations, and private-sector analytics.

Through replication assignments and an independent project, you practice defining problems, selecting data, implementing empirical strategies, and communicating findings—skills directly transferable to professional practice.

Connection to Ethics, Responsibility, and Sustainability (ERS)

ERS perspectives are integrated through the emphasis on responsible causal inference, transparency, and critical assessment of assumptions and limitations. Issues of data integrity, confidentiality, and reproducibility are addressed in connection with empirical assignments.

Type of Instruction

The course is taught on campus and consists of lectures, combined lecture-lab sessions, and examination seminars. Course work is primarily individual. Active participation is expected. Attendance at examination seminars is mandatory.

Attendance is expected for scheduled on-campus sessions and may be compulsory for some sessions.

Language of instruction is English.

Entry Requirements

The applicant must hold the minimum of a Bachelor's degree (i.e, the equivalent of 180 ECTS credits at an accredited university). At least 60 ECTS must be in Economics. Also, a minimum of 15 ECTS in mathematics, statistics and/or econometrics is required. Proof of English proficiency is required.

Examination and Grades

The course is graded A, B, C, D, E, FX or F.

Individual written report and oral presentation (ILOs: 1.1, 2.3, 2.4, 3.1, 3.2), representing 8 credits. You formulate a research question, identify and retrieve data, develop a credible identification strategy, conduct the empirical analysis, write the report and present the results in an examination seminar on campus.

Individual written assignments (ILO 2.4), representing 2 credits. The assignments consist of replications, reproductions and extensions of empirical results published in leading journals.

All parts of the compulsory examination in the course must receive a passing grade before a final grade can be set. Grades are set in accordance with JIBS grading policy.

Registration of examination:

Name of the Test	Value	Grading
Individual written report and oral presentation ¹	8 credits	A/B/C/D/E/FX/F
Individual written assignments	2 credits	G/U

¹Determines the final grade of the course, which is issued only when all course units have been passed.

Course Evaluation

The course evaluation is important for the continuous improvement of JIBS' courses and degree programmes. The examiner is responsible for ensuring that each course is evaluated, but as a student you are essential in this process. We rely on your input to understand how we can improve. At the outset of a course the student representatives are identified. In the middle of the course there should be an opportunity for the student representatives (or a larger group of students) to share reflections on how the course is progressing. At the end of the course, you will get a course evaluation survey to fill in. The examiner will then host a debrief meeting with the student representatives to discuss improvement opportunities, based on the course evaluation data and comments.

Other Information

As a JIBS student, you are expected to maintain strong academic integrity. You must act within the boundaries of academic rules and expectations relating to all types of teaching and examination.

Copying someone else's work is a particularly serious offence and can lead to disciplinary action. When you use someone else's work without proper citation or transparency about where it came from, you are committing plagiarism. Cutting and pasting without clearly acknowledging the original source is a textbook example of plagiarism.

You must also act responsibly when using Generative AI tools. Acting responsibly includes staying informed about the school's AI-policy, understanding what rules apply in each course, and properly declaring or disclaiming any use of generative AI. You are accountable for all content you submit, including AI-assisted material. Using AI without disclosure or beyond what is allowed in a course is a violation of academic integrity and will be subject to the same academic consequences as other forms of misconduct, which may include failing the assignment, failing the course, or further disciplinary action according to school policy.

The Jönköping University library offers online and in-person support for assisting you in identifying relevant sources, using and referencing literature, and creating texts that meet academic standards and integrity.

Other forms of academic misconduct include (but are not limited to) adding your name to a project you did not contribute to (or allowing someone to add their name), cheating during an examination, helping other students to cheat or submitting other students' work as your own, and using non-allowed electronic equipment during an examination. All such actions may result in disciplinary measures.

Course Literature

Please note that the course literature may be revised up to eight weeks before the start of the course.

Selection of academic journal articles presented during class

Cunningham (2021). Causal Inference: The Mixtape. Available online.

Huntington-Klein (2021). The Effect. Available online.

Angrist and Pischke (2009). Mostly Harmless Econometrics: An Empiricist's Companion. Available online.