# Advanced Topics in Applied Economics

Code: 43791
ECTS Credits: 9

2025/2026

| Degree | Type | Year |
|---|---|---|
| Applied Research in Economics and Business | OT | 0 |

## Contact

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## Teachers

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## Teaching groups languages

You can view this information at the end of this document.

## Prerequisites

Modules 1 and 2 of MAREB

## Objectives and Contextualisation

To provide a broad understanding of advanced techniques and topics for empirical research in economics.

## Competences

- Analyse, synthesise and critically evaluate a certain matter of scientific interest and/or real problem case, considering its different perspectives and supporting the results and conclusions obtained.
- Possess and understand knowledge that provides a basis or opportunity for originality in the development and/or application of ideas, often in a research context
- Produce and draft projects, technical reports and academic articles in English, making use of the appropriate terminology, argumentation, communication skills and analytical tools for each context, and rigorously evaluate those produced by third parties.
- Select and apply different and adequate models and/or theoretical frameworks, methodologies and techniques for scientific research, data sources and IT tools for research applied to business and economics.

- Student should possess an ability to learn that enables them to continue studying in a manner which is largely self-supervised or independent
- Understand, analyse and evaluate the main scientific advances and existing lines of research in the fields of contemporary applied and public economics in a globalised context in order to integrate this in scientific research, projects and/or public or private policy. (Speciality in Research in Applied Economics)
- Work in international and inter-disciplinary teams.

## Learning Outcomes

1. Analyse, synthesise and critically evaluate a certain matter of scientific interest and/or real problem case, considering its different perspectives and supporting the results and conclusions obtained.
2. Correctly apply the advanced econometric techniques needed to obtain empirical results that are valid for the practical problem being studied.
3. Possess and understand knowledge that provides a basis or opportunity for originality in the development and/or application of ideas, often in a research context
4. Produce and draft projects, technical reports and academic articles in English, making use of the appropriate terminology, argumentation, communication skills and analytical tools for each context, and rigorously evaluate those produced by third parties.
5. Propose empirical problems and solve them using the most suitable quantitative methodologies in terms of macroeconomic questions and territorial economy.
6. Recognise and discern theoretical and empirical knowledge related to the macroeconomic functioning of the labour market.
7. Recognise and distinguish the theoretical and empirical knowledge associated to public economics both in its most advanced microeconomic fundaments and in application to questions such as tax design and environmental economics and the social evaluation of projects.
8. Recognise and distinguish the theoretical and empirical knowledge associated to questions of efficiency and equity in economics, and how they can contribute to the economic development of societies.
9. Resolve global socio-economic problems and challenges in a context of the increasing integration of the global economy by applying economic analysis.
10. Student should possess an ability to learn that enables them to continue studying in a manner which is largely self-supervised or independent
11. Work in international and inter-disciplinary teams.

## Content

Advanced Econometrics

Topics:

1. Specification and Heteroskedasticity

2. Autocorrelation and ML Estimator

3. Endogeneity, IV and 2SLS

4. Univariate Time Series Models

5. Multivariate Time Series Models

6. Static Panel Data Models

7. Dynamic Panel Data Models

8. Discrete Choice Models

9. Tobit Models and Sample Selection

10. Policy Evaluation: RCT, Diff-in-Diff, and RDD

Public Economics

Topics:

1. A framework for normative analysis

2. Commodity taxation

3. Income taxation

4. Tax evasion

5. Intertemporal efficiency

6. Social security

7. Taxation and economic growth

Labour Macroeconomics

Topics:

1- Labor supply and labor demand

2- Wage Rigidities and the New Keynesian Model

3- NAIRU models

4- Chain reaction theory and structuralism

5- Old and new Phillips curve

6- Wages curve

## Activities and Methodology

| Title | Hours | ECTS | Learning Outcomes |
|---|---|---|---|
| Type: Directed | | | |
| Directed | 56.25 | 2.25 | 1, 2, 4, 5, 3, 10, 7, 8, 6, 9, 11 |
| Type: Supervised | | | |
| Supervised | 33.75 | 1.35 | 1, 2, 4, 5, 3, 10, 7, 8, 6, 9, 11 |
| Type: Autonomous | | | |
| Autonomous | 124.2 | 4.97 | 1, 2, 4, 5, 3, 10, 7, 8, 6, 9, 11 |

Classes, essay writing, tutorials, study and research activities.

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

## Assessment

## Continous Assessment Activities

| Title | Weighting | Hours | ECTS | Learning Outcomes |
|---|---|---|---|---|
| Exams | 70% | 4.8 | 0.19 | 1, 2, 4, 5, 3, 10, 7, 8, 6, 9, 11 |
| Presentation and discussion of essays and problems | 30% | 6 | 0.24 | 1, 2, 4, 5, 3, 10, 7, 8, 6, 9, 11 |

The grade for each unit will be based on an exam (70%) and a research project/an essay/exercises (30%).

The overall grade for the module will be determined as the average of the final grades obtained for the individual units of the module, weighted by their ECTS. In particular, the overall grade for the module will be computed as a weighted average between the grades for the courses on Advanced Econometrics (with the weight of 7/9) and Public Economics (with the weight of 2/9). If a student does not take the course on Public Economics but instead takes the course on Labor Economics, the grade for the course on Labor Economics (with the weight of 2/9) instead of the grade on Public Economics will be used for the computation of the overall grade.

The overall grade will be computed with the following conditions:

• None of the final grades for the individual units is less than 3.5;
• Not more than one of the final grades for the individual units is less than 5.0.

In case any of these conditions are not fulfilled, the student will be given an opportunity to recover the corresponding units. Also, in the case that the conditions are fulfilled but the overall, weighted-average grade for the module is less than 5.0, the student will be given an opportunity to recover the individual unit graded with less than 5.0.

The format of the recovery of a unit will be determined by the professor of the unit and the maximum grade that can be obtained for each recovered unit is 5.0.

*Calendar of evaluation activities*

The dates of the evaluation activities of the module (final exams, exercises in the classroom, assignments,...) will be announced well in advance during the semester.

"The dates of evaluation activities cannot be modified, unless there is an exceptional and duly justified reason why an evaluation activity cannot be carried out. In this case, the degree coordinator will contactboththe teaching staff and the affected student, and a new date will be scheduled within the same academic period to make up for the missed evaluation activity." Section 1 of Article 264. Calendar of evaluation activities (Academic Regulations UAB). Students of the Faculty of Economics and Business, who in accordance with the previous paragraph need to change an evaluation activity (mainly final exam/s) date must process the request by filling out an Application for exams' reschedule (https://eformularis.uab.cat/group/deganat_feie/nou-reprogramacio-de-proves).

*Grade revision process*

After all grading activities of the module have ended, students will be informed of the dateand way in which the module grades will be published. Students will be also be informed of the procedure, place, date and time of grade revision following University regulations.

*Retake Process*

"To be eligible to participate in the retake process of the module, it is required for students to have been previously evaluated for at least two thirds of the total evaluation activities of the module." Section 2 of Article 261. The recovery (UAB Academic Regulations). Additionally, it is required that the student will have achieved an average grade of the module of at least 3.5.

The date of the retake exam will be duly announced by the coordination of the program. Students who take this exam and pass, will get a grade of 5 for the module. If the student does not pass the retake, the grade will remain unchanged, and hence, student will fail the module.

*Irregularities in evaluation activities*

In spite of other disciplinary measures deemed appropriate, and in accordance with current academic regulations, "in the case that the student makes any irregularity that could lead to a significant variation in the grade of an evaluation activity, it must be graded with a 0, regardless of the disciplinary process that can be instructed. In case of various irregularities occur in the evaluation of the same module, the final grade of this module is 0". Section 11 of Article 266. Results of the evaluation. (UAB Academic Regulations).

*Not Assessed Grade*

A student can obtain "Not Assessed" grade in the module only when he/she has not participated in any of the evaluation activities within it. Therefore, students who perform even only one evaluation component cannot obtain "Not Assessed" grade in the module.

## Bibliography


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- Verbeck, M. (2004), A Guide to Modern Econometrics, 2nd edition, John Wiley and Sons
- Wooldridge, J. (2003), Introductory Econometrics, Thomson
- Train, K. (2009), Discrete choice methods with simulation, 2nd edition, Cambridge University Press
- Atkinson, A.B. and J.E. Stiglitz (1980), Lectures on Public Economics, McGraw-Hill.
- Hindriks, J. and G.D. Myles (2006), Intermediate Public Economics, MIT Press.
- Jha, R. (2010), Modern Public Economics, Routledge, 2nd edition.
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- Henry, B.; Karanassou, M. and D. Snower (2000), "Adjustment Dynamics and the Natural Rate: an Account of UK unemployment", Oxford Economic Papers¸ 52. pp. 178-203.
- Karanassou,M., Sala, H. and D. Snower (2007), "The macroeconomics of the labor market: Three fundamental views", Portuguese Economic Journal, vol. 6 (3), pp. 151-180.
- Lindbeck, A. and D. Snower (1988), "The Insider-Outsider Theory of Employment and Unemployment". Cambridge, Massachussets: MIT Press. Chapter 2.
- Layard, P., Nickell, S. and R. Jackman (1991), " Unemployment: Macroeconomic Performance and the Labor Market", Oxford University Press. Chapters 1 and 9.
- Karanassou, M., Sala, H. and D. Snower (2009), "Phillips Curves and Unemployment Dynamics: A Critique and a Holistic Perspective", Journal of Economic Surveys, vol. 24 (1), pp. 1-51.
- Blanchard, O. and L. Katz (1999), "Wage Dynamics: Reconciling Theory and Evidence", American Economic Review Papers and Proceedings, vol. 89, 2. (NBER Working Paper 6924.)

## Software

- Text editors (Word, Pages, LaTeX, ...).
- Spreadsheets (Excel, Numbers, LaTeX, ...).
- Slide show presentations (PowerPoint, Keynote, LaTeX, ...).
- Statistical/Econometric software and/or for data management (Stata, R, Eviews, Python, ...).

## Groups and Languages

Please note that this information is provisional until 30 November 2025. You can check it through this link. To consult the language you will need to enter the CODE of the subject.

| Name | Group | Language | Semester | Turn |
|---|---|---|---|---|
| (PLABm) Practical laboratories (master) | 30 | English | second semester | afternoon |
| (TEm) Theory (master) | 30 | English | second semester | afternoon |