Study Guide 2025-2026

MSc in Applied Economics & Data Analysis
Department of Economics
University of Patras

UNIVERSITY OF PATRAS
ΠΑΝΕΠΙΣΤΗΜΙΟ ΠΑΤΡΩΝ

Preface

Welcome to the Department of Economics at the University of Patras.

This guide provides essential information about the postgraduate program “Applied Economics & Data Analysis”, offered by the Department of Economics at the University of Patras, Greece. It is intended for current and prospective postgraduate students from Greece and abroad who are interested in pursuing advanced studies in applied economics and data analysis.

“Economics powered by data”

Within this guide, you will find details about the University of Patras, the Department of Economics, and the structure and content of the MSc program. It is designed to serve as a practical reference for navigating the academic requirements, available resources, and professional opportunities related to the program. For further information about the University of Patras, the Department of Economics, and postgraduate programs, please visit:

- www.upatras.gr
- www.econ.upatras.gr
- http://postgrad.econ.upatras.gr

Nicholas Giannakopoulos, Professor
MSc Program Director

University of Patras – General Information

The University of Patras, founded in 1964, is a leading institution in higher education and research in Greece. Located in Rio, just outside the city of Patras, it comprises seven Schools: Agricultural Sciences, Economics & Business, Engineering, Health Sciences, Health Rehabilitation Sciences, Humanities & Social Sciences, and Natural Sciences. The University hosts more than 30,000 undergraduate and 3,700 postgraduate students, supported by a strong academic and research staff. Its modern campus includes a central library, research laboratories, clinics, a university hospital, residence halls, sports and cultural facilities, and other student-centered services and infrastructure.

The University of Patras is internationally recognized for its research achievements in fields such as health sciences, biotechnology, informatics, environmental science, and social sciences. Many departments have been designated as centers of excellence. The university maintains an outward-looking academic policy, encouraging collaboration with international institutions and participation in networks and programs such as Erasmus+. It publishes a monthly newsletter highlighting research output and academic events. Through its commitment to innovation, academic excellence, and global partnerships, the University fosters a vibrant academic community that supports both education and knowledge production at a high level.

The city of Patras, the biggest city in the region of Western Greece, blends a rich cultural heritage with a modern urban lifestyle. With a population of about 200,000, it serves as a major commercial and industrial hub and a gateway to Western Europe. Patras offers a variety of cultural activities, including music, theater, and its famous annual carnival. Along Patras' attractive coastline, there are many picturesque seaside villages perfect for day trips. Major archaeological sites such as Ancient Olympia and Delphi are nearby. Visitors can also explore nearby Ionian islands like Zakynthos, Kefalonia, and Ithaka, making Patras an ideal academic and travel destination.

Department of Economics – General Information

The Department of Economics at the University of Patras was established in 1985. It is part of the School of Economics & Business which has expanded over the years, and currently includes five departments: Economics, Business Administration, Tourism Management, and Management Science and Technology. The expansion of the School of Economics & Business reflects the University's commitment to economic education and research.

With approximately 2,000 enrolled students, the Department of Economics offers a comprehensive undergraduate program covering key areas in economics, providing students with both theoretical knowledge and practical skills. In addition to the bachelor's degree, the Department offers a one-year full-time MSc in Applied Economics & Data Analysis, which focuses on combining economic insight with modern data analytics. A Doctoral Program in Economics is also available, with around 20 students per year. The Department's curriculum emphasizes both hard and soft skills, aiming to prepare graduates for careers in academia, business, and policy analysis.

The Department is housed in a modern building located northwest of the University's Administration Building. Facilities include two large lecture halls, five smaller classrooms, four computer labs with up-to-date statistical and analytical software, and a departmental library. The University provides full access to leading economics journals and specialized publications through its Central Library, which also hosts a European Documentation Centre. These resources support both student learning and faculty research, fostering an active academic environment within the Department of Economics.

Certified Postgraduate Studies Program

Hellenic Quality Assurance and Accreditation Agency

The Council of the Hellenic Quality Assurance and Accreditation Agency (HQA) has awarded the MSc Program Applied Economics and Data Analysis at the Department of Economics of the University of Patras with the accreditation of its Postgraduate Studies Program, for a duration of 4 years. The accreditation was awarded after performing the relevant procedures ensuring the compliance of the postgraduate study program with the principles of the model quality postgraduate program of the HQA and the quality assurance principles of the European Higher Education Area (ESG).

Εθνική Αρχή Ανώτατης Εκπαίδευσης
Hellenic Authority for Higher Education

ACCA Accreditation

The MSc Program in "Applied Economics & Data Analysis" of the Department of Economics at the University of Patras has been granted a five-year accreditation (2022–2026) by the Association of Chartered Certified Accountants (ACCA). This is an international recognition that ensures the professional qualifications of the program's graduates are acknowledged both in Greece and abroad.

Academic Staff (Department of Economics)

Name	Position	Research Area
Efthalia Dimara	Professor	Statistics and Informatics
Nikolaos Giannakopoulos	Professor	Applied Microeconomics
Konstantinos Kounetas	Professor	Applied Industrial Organization
Dimitrios Skuras	Professor	Regional Economics
Maria Tsabra	Professor	Economic Geography and Regional Development
Konstantinos Tsekouras	Professor	Industrial Organization
Emmanouil Tzagarakis	Professor	Information Management Systems
Dimitrios Tzelepis	Professor	Business Economics and Accounting
Ioannis Venetis	Professor	Econometrics
Sotirios Papaioannou	Associate Professor	Applied Macroeconomics
Athanasse Polymenis	Associate Professor	Statistics
Athanasios Tagalakis	Associate Professor	Macroeconomics
Eleftherios Goulas	Assistant Professor	Economic Analysis
Ioannis Laliotis	Assistant Professor	Applied Microeconomics
Emmanouil Manioudis	Assistant Professor	Economic History, History of Economic Thought
Spyridon Stavropoulos	Assistant Professor	Regional Economics and Rural Development
Nikolaos Chatzistamoulou	Assistant Professor	Microeconomics

MSc in Applied Economics & Data Analysis – About the program

The MSc degree “Applied Economics and Data Analysis” merges economics with data analytics using advanced econometric and statistical tools. Students gain solid theoretical knowledge across economic fields and acquire skills in handling and interpreting large datasets. Emphasis is placed on understanding, applying, and critically evaluating contemporary methods used in economic research. Throughout the program, students engage with empirical techniques to address real-world economic issues, enhancing their analytical thinking and practical problem-solving abilities. The curriculum bridges theory and data, preparing graduates to work confidently with economic models in both academic and professional settings.

This research-oriented postgraduate program introduces students to the latest developments in economics and trains them to design and conduct independent research. The first semester covers foundational topics such as microeconomics, macroeconomics, econometrics, big data, and business economics. In later stages, students explore advanced topics like finance, development economics, and business financial analysis. Collaboration with companies and institutions through interdisciplinary modules allows students to apply theory to real-world challenges. By the end of the program, graduates will be well-prepared to contribute to academic research, policy analysis, or data-driven decision-making roles across industries.

Throughout the program, students become proficient in tools such as R, Python, STATA, and Gretl for econometric analysis, data visualization, and model building. Emphasis is also placed on using LaTeX for academic writing and report preparation. Students apply modern empirical methods including simulations, time-series analysis, and big data techniques. The curriculum reflects the growing importance of data in economics, highlighting how digital tools are reshaping research and policy. As data-driven insights become more crucial, this program equips students with the quantitative and programming skills needed to thrive at the intersection of economics and data science.

MSc in Applied Economics & Data Analysis – Structure of the program

The MSc degree "Applied Economics and Data Analysis" is structured across two academic semesters, each comprising approximately thirteen weeks of teaching. During the fall semester, students complete four compulsory courses in applied economics and data analysis. In the spring semester, they choose two electives tailored to their interests. The program concludes in August with the submission and presentation of a Master Thesis to a three-member supervisory committee. This structure ensures students build a strong foundation in core topics before applying their knowledge to specialized subjects and independent research during the final stages of their postgraduate studies.

The curriculum is designed to balance theoretical grounding with practical application. In the 2024–2025 academic year, the program offers seven semester-long courses—three core and four electives—providing students flexibility while reinforcing essential knowledge. Teaching methods include lectures, seminars, tutorials, and practical sessions in the department's computer labs. Assessment is based on final written exams, with passing grades starting at five out of ten. Final degree classification is calculated as a weighted average of grades earned across all completed courses, based on ECTS credits. The curriculum also promotes critical thinking, social contribution, and the development of social capital.

To support diverse learning styles and real-world skill-building, the program incorporates various teaching formats: workshops for skill development, lectures for conceptual grounding, and seminars for discussion and presentation. Tutorials offer one-on-one guidance, while work-based and guided learning foster applied knowledge. Independent and autonomous learning are emphasized throughout the year, encouraging students to take ownership of their studies. Each student is also assigned a personal tutor—a full-time academic staff member—who provides academic guidance and personal support, helping students navigate both their coursework and broader university life.

MSc in Applied Economics & Data Analysis – Learning outcomes

To earn the MSc degree "Applied Economics and Data Analysis", students must successfully complete all compulsory and elective courses, as well as conduct original research for their Master Thesis. The curriculum is structured across two semesters: the first includes three compulsory courses and one elective, while the second semester includes two electives alongside thesis research. The program aims to train graduates who can navigate the complexities of the modern economic environment, apply analytical tools in economics and data analysis, lead with confidence, and utilize modern technologies to address practical economic challenges in academic, business, and policy-related contexts.

Graduates of the program acquire essential skills that extend beyond foundational economics. They develop critical thinking by learning how to evaluate economic issues using theoretical and empirical tools, analyze data using statistical software, and interpret results accurately. They enhance their problem-solving abilities through structured and open-ended economic problems, learning to propose reasoned solutions. In terms of communication, students are trained to present well-structured written arguments and communicate effectively about economic topics in both oral and written forms. These capabilities prepare them to approach complex real-world scenarios with analytical precision and academic integrity.

Career opportunities for graduates are diverse and competitive. Alumni are equipped to work as economists in public and private sector roles, including central banks, international organizations, government institutions, consulting firms, and research agencies. The program also provides an excellent academic foundation for those intending to pursue a Ph.D. in economics or a related field. With strong quantitative and analytical training, practical research experience, and communication skills, graduates leave the program ready to contribute meaningfully to both professional environments and academic research communities.

MSc in Applied Economics & Data Analysis – Postgraduate Curriculum 2024-2025

The MSc degree "Applied Economics and Data Analysis" is structured into two academic semesters and awards a total of 60 ECTS credits. In the first (fall) semester, students take three core courses—Applied Micro-econometrics, Applied Macro-econometrics, and Managing Big Data—along with one elective from the following courses: Special Topics in Business Economics, Special Topics in Macroeconomics, Theory of International Trade, totaling 30 ECTS credits. In the second (spring) semester, students select two electives from the courses: Business Financial Analysis, Special Topics in Finance, Development Economics, International Macroeconomics and Monetary Policy. In addition, students should complete the Master Thesis which accounts for 18 ECTS credits, bringing the total number of credits to another 30 ECTS credits.
Course details are available at https://postgrad.econ.upatras.gr/en/msc/courses.

All students are expected to maintain a high level of professionalism consistent with workplace standards. This includes attending all scheduled sessions punctually, participating actively in discussions and tasks, and submitting all assignments on time. Students must notify instructors in advance if they are unable to attend or meet deadlines. Leaving and re-entering classrooms without medical justification is discouraged. Mobile devices must be switched off unless used as part of instruction. These expectations ensure a productive learning environment, supporting each student's development and respecting the academic experience of their peers.

1st Semester (Fall)

Code	Course title	Type	Lecture Weekly Hours	ECTS credits
EFO-01	Applied Micro-econometrics	C	4	8
EFO-02	Applied Macro-econometrics	C	4	8
EFO-03	Managing Big Data	C	4	8
EFO-05	Special Topics in Macroeconomics	E	3	6
EFO-17	Theory of International Trade	E	3	6
EFO-29	Special Topics in Business Economics	E	3	6
Total ECTS credits				**30**

C: Compulsory; E: Elective (1)

2nd Semester (Spring)

Code	Course title	Type	Lecture Weekly Hours	ECTS credits
EFO-06	Business Financial Analysis	E	3	6
EFO-07	Special Topics in Finance	E	3	6
EFO-18	Development Economics	E	3	6
EFO-24	International Macroeconomics and Monetary Policy	E	3	6
EFO-39	Master Thesis	C	-	18
Total ECTS credits				**30**

C: Compulsory; E: Elective (2)

MSc in Applied Economics & Data Analysis – Master Thesis

The Master Thesis is a key component of the MSc program, offering students the opportunity to conduct an independent research project in a relevant area of interest. It allows students to apply advanced research techniques and engage deeply with a specific field of economic inquiry. Through this process, students develop critical skills in analysis, writing, and presentation. Working under the guidance of a faculty supervisor, each student is expected to demonstrate autonomy and academic maturity, producing a well-structured, research-driven thesis that reflects competence in academic writing and an understanding of current economic research.

The thesis process begins with selecting a research topic. Each January, academic staff provide a list of suggested topics, though students are also encouraged to propose their own, pending supervisor approval. While most of the research and writing takes place between June and August, early preparation is highly recommended. Once the topic is confirmed, students should begin gathering sources and outlining their methodology. This planning stage is essential to ensure a well-executed project and timely completion. Regular communication with the supervisor supports academic progress and ensures alignment with the program's research standards.

The thesis should not exceed 15,000 words and is assessed by a three-member committee, including the supervisor and two additional faculty members. Students must submit a hard copy of the thesis by August 31st, with oral presentations scheduled in early September. To ensure academic integrity, all theses are checked via Turnitin, a plagiarism-detection software. This process upholds the program's commitment to original research and ethical scholarship. Successfully completing the thesis demonstrates the student's ability to conduct independent economic research and marks the culmination of the MSc journey.

MSc in Applied Economics & Data Analysis – Career Opportunities

The MSc degree "Applied Economics and Data Analysis" provides graduates with a strong foundation for careers requiring advanced analytical, statistical, and methodological skills. Equipped with these capabilities, graduates are well-prepared to work closely with decision-makers in both public and private sector organizations. Their training enables them to process and interpret complex datasets, build models, and communicate findings clearly to colleagues, managers, and policy makers. The program emphasizes practical, data-driven economic analysis, which is highly valued in today's job market, particularly in fields that rely on empirical insight and data-informed decision making.

Graduates typically find employment in roles such as data analysts, business strategists, research consultants, and business developers. They may work for international organizations, public institutions, governmental bodies, or private sector firms. Opportunities exist across industries, including finance, consulting, technology, and policy. Common employers include agencies like the European Commission, the OECD, central banks, and various government ministries. Graduates are trained to address real-world problems through quantitative reasoning and economic modeling, positioning them as valuable contributors in any data-oriented professional environment.

In addition to entering the workforce, graduates may pursue further academic qualifications. The MSc degree qualifies them to apply for doctoral programs in economics, including the PhD program offered by the Department of Economics at the University of Patras. Each year, the program committee conducts a graduate survey to track career progress and gather feedback.

MSc in Applied Economics & Data Analysis – Contact Information

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Annex – MSc in Applied Economics & Data Analysis – Course Information

Fall semester

- Applied Microeconometrics ΕΦΟ-01, Compulsory, ECTS 8
Instructor: Nicholas Giannakopoulos

- Applied Macroeconometrics ΕΦΟ-02, Compulsory, ECTS 8
Instructor: Ioannis Venetis

- Managing Big Data ΕΦΟ-03, Compulsory, ECTS 8
Instructor: Manolis Tzagarakis

- Special Topics in Macroeconomics, ΕΦΟ -05, Elective, ECTS 6
Instructor: Sotiris Papaioannou

- Theory of International Trade, ΕΦΟ-17, Elective, ECTS 6
Instructor: Spyridon Stavropoulos

- Special Topics in Business Economics, ΕΦΟ-29, Elective, ECTS 6
Instructor: Konstantinos Kounetas

Spring semester

- Business Financial Analysis, ΕΦΟ-06, Elective, ECTS 6
Instructor: Tzelepis Dimitrios

- Special Topics in Finance, ΕΦΟ-07, Elective, ECTS 6
Instructor: Filis George

- Development Economics, ΕΦΟ-18, Elective, ECTS 6
Instructor: Goulas Eleftherios

- International Macroeconomics and Monetary Policy, ΕΦΟ-24, Elective, ECTS 6
Instructor: Athanasios Tagkalakis

- Master thesis/Dissertation, ΕΦΟ-39, Compulsory, ECTS: 18
Instructor: Staff of the Department