Data is the new science. Big data holds the answers.

Pat Gelsinger, CEO, VMware

Information is the oil of the 21st century, and analytics is the combustion engine.

Peter Sondergaard, SVP, Gartner Research

Why Data Science?

Data Science is the study of data through computational and statistical techniques, in order to answer questions, develop explanatory and predictive models, perform analyses and communicate the results in revealing ways. Data science draws from a wide variety of disciplines, such as computer science, statistics, economics, and operations research. It applies quantitative methods to uncover relationships in data drawn from business, medicine, financial, social or other domains. It is a key driver of improvements to all aspects of business, including strategy, operations, marketing, finance, and human resource management.

A data scientist is someone who can obtain, scrub, explore, model and interpret data, blending hacking, statistics and machine learning. Data scientists not only are adept at working with data, but appreciate data itself as a first-class product.

Hillary Mason, Data Scientist, Accel, Scientist Emeritus, bitly, co-founder, HackNY

The Master of Science in Data Science

Our program, the first of its kind in Greece, offers students in-depth focus in data science while allowing them to tailor their studies to their particular interests. The program focuses on computation and quantitative techniques and offers students new opportunities for building sustainable competitive advantage through data analysis. Students will be interacting with diverse faculty members and other students, given the opportunity to complete innovative data science projects and be exposed to industry needs and real-life data science challenges.

The Informatics Department of the Athens University of Economics and Business

The program is offered by the Department of Informatics of Athens University of Economics and Business. The Department has been in existence, in its present form, since 1984 and is focused on providing innovative undergraduate and postgraduate education, along with research for the information and computing professions.

Athens University of Economics and Business (AUEB) was founded in 1920. It is considered one of the most competitive universities, at the European level, in the fields of Economics, Business Administration, Informatics, Statistics, Marketing, Accounting and Finance. AUEB was the first Greek University to establish postgraduate studies, at the Master’s as well as the doctoral level. Today it enrolls over 2000 students in 35 part-time and full-time Master’s level postgraduate programs with a duration of 1 to 2 years.

Program’s Target audience

Excellent recent graduates, or midcareer professionals looking to upskill, with strong technical/math skills, from engineering, mathematics, statistics, finance, economics, operations research, and computer science. Prospective students get excited about gathering, measuring and analyzing information and want to focus on quantitative, computational methods to unlock the potential of data assets to reveal patterns, make predictions and improve decision-making.
Basic programming skills and facility with basic mathematical concepts and quantitative techniques are necessary. All applicants should have demonstrated academic success as evidenced by undergraduate courses and grades. The admissions committee considers the totality of a candidate’s experience, skills, personality and potential to reach a decision, aiming for a diverse class of motivated students who can most benefit from and contribute to our rigorous program of study.

*A significant constraint on realizing value from Big Data will be a shortage of talent, particularly of people with deep expertise in statistics and machine learning, and the managers and analysts who know how to operate companies by using insights from Big Data.*

*Big data: The next frontier for innovation, competition, and productivity, McKinsey report*

**Program Structure**

The Full Time (FT) program is a 1-year program. Students need to complete 60 units of coursework, of which 46 units of core courses and 14 units of electives. Full courses are worth 5-7 units, half courses are worth 3 units. After completion of coursework, students undertake an intense 3-month integrated Capstone Project in collaboration with industry, with joint academic and industrial supervision, for 15 units.

Before the beginning of classes students are required to complete 1-3 preparatory courses in Statistics, Mathematics, and Computer Science, as decided by the Admissions Committee. Each course comprises 4 3-hour lectures and a final exam.

Attendance of lectures and laboratory sessions is mandatory. The maximum number of students per academic year is forty (40).

**Tuition Fees**

The Full Time (FT) program fees are €6000.

**Curriculum:**

**Core courses:**

- Probability and Statistics for data analysis
- Practical Data Science
- Large Scale Data Science
- Machine Learning and Computational Statistics
- Numerical Optimization and Large Scale Linear Algebra
- Text Analytics
- Legal, ethical and policy issues in data science

**Electives (indicative list):**

- Data mining
- Bayesian Statistics and Simulation Methods
- Advanced Large Scale Data Management
- Big Data Systems and Techniques
- Time series and Forecasting methods
- Optimization
- Marketing and Sales Analytics
- Financial Information Systems