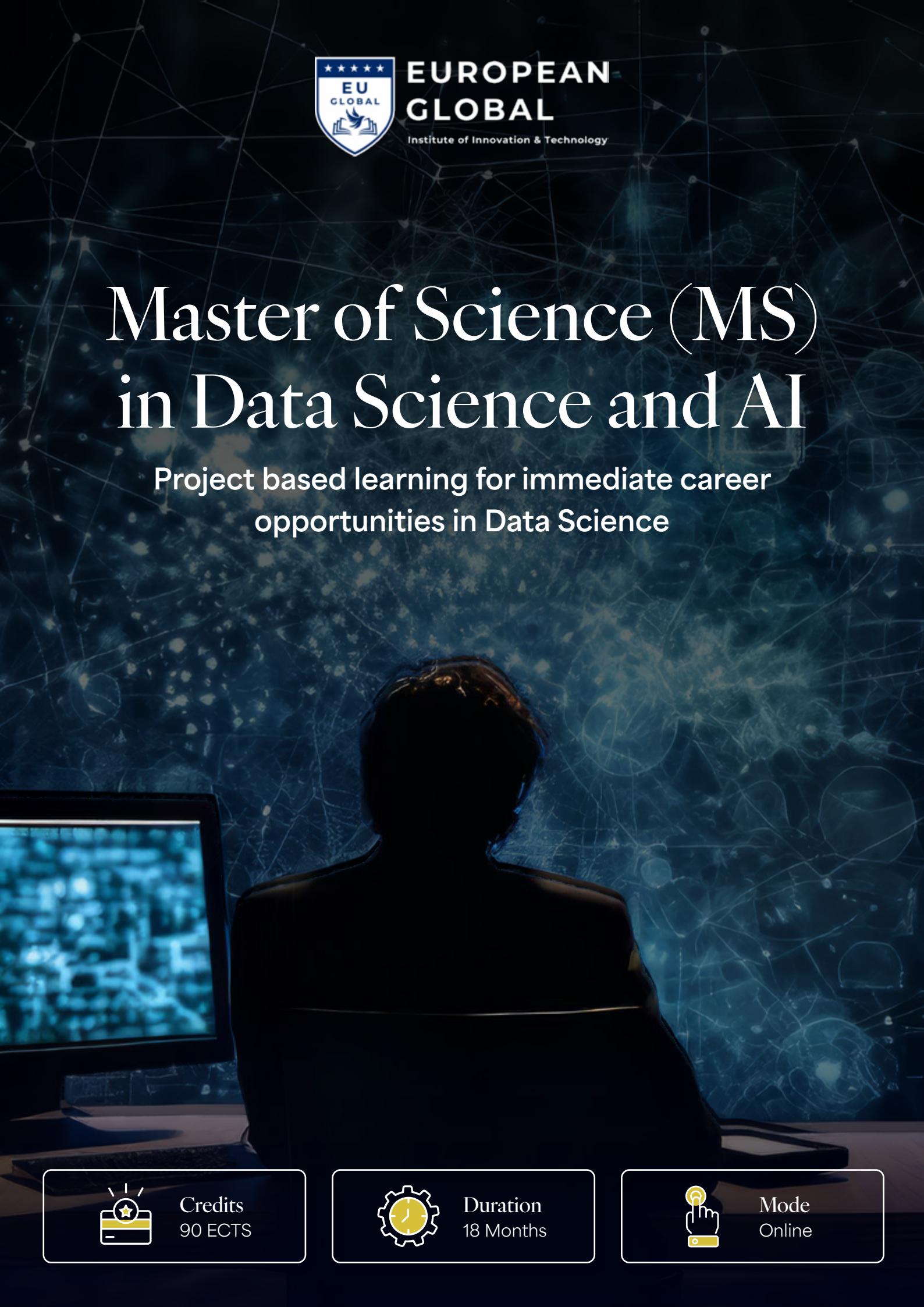
EUROPEAN GLOBAL
Institute of Innovation & Technology

Master of Science (MS) in Data Science and AI

Project based learning for immediate career opportunities in Data Science



Credits	Duration	Mode
90 ECTS	18 Months	Online

About the programme

The MS in Data Science & AI offers exceptional career growth, with the field rapidly expanding and job opportunities expected to grow by 36% by 2031. As data and technology become central to industries like healthcare, digital marketing, finance, technology, retail, media, and telecommunications, the need for skilled professionals to interpret and manage data is on the rise.

Our MS Data Science & AI programme, developed and rigorously reviewed by doctoral and post-doctoral professors alongside industry experts, includes 12 modules and a Capstone Consulting Project guided by an industry mentor. Each module is assessed through project-based assignments, concluding with a Capstone Consulting Project and a Master's Thesis with industry mentorship.

Additionally, all learners gain access to our Competency Lab, where they develop career, research, entrepreneurial, and digital skills. We support students in creating public portfolios, such as publications or GitHub profiles, to enhance their professional presence and employability.

Key information

Teaching

Asynchronous,
Live Residencies

Weekly Hours

15-40 Hours per week

Language

English

Programme accreditation

MS Data Science & AI is a 90 ECTS, European Qualifications Framework (EQF) full-degree Level 7 programme. This programme is fully accredited by Council for Higher Education Development, USA and is also fully approved by Malta Further & Higher Education Authority (MFHEA).

EU Global accepts both experiential Recognition of Prior Learning (RPL) and credit transfer through the use of learning outcomes for either an advanced entry into the programme, or module exemptions for an advanced progression in a programme.

Learning outcome

Knowledge and outcomes

The learner will be able to:

PA1 Demonstrate a deep understanding of core concepts in Data Science and Artificial Intelligence, including statistical modelling, machine learning algorithms, neural networks, big data technologies, natural language processing and computer vision.

PA2 Implement programming languages commonly used in data science and AI, such as Python and R, and be proficient in using relevant libraries and frameworks.

PA3 Develop expertise in data preprocessing, cleaning, and feature engineering to prepare data for analysis and modelling.

PA4 Design and develop research-based solutions for complex problems in data science, artificial intelligence and machine learning industry through appropriate consideration for the public health, safety, cultural, societal, and environmental concerns.

Skills

The learner will be able to:

PA5 Design and implement machine learning models for various applications, such as classification, regression, clustering, and recommendation systems.

PA6 Utilise tools like Matplotlib, Seaborn, and Tableau to create compelling visualisations that aid in decision-making processes.

PA7 Apply NLP and computer vision techniques to process and analyse human language data, image recognition, object detection, and image generation tasks.

PA8 Apply theoretical knowledge and work on capstone projects that showcase the ability to solve complex problems using data science and AI methodologies.

Highlights

1 Internationally Recognized Masters Degree

Many global companies prioritize degrees that are recognized across borders and meet globally accepted educational standards. An internationally recognized Master's degree helps broaden one's perspective, increases adaptability, provides access to a broad professional network and improves employability and career progression opportunities.

2 Alumni Status of an International Business School

Upon successful completion of the programme, get awarded with an authentic MS degree and gain the same Alumni status as EU Global's regular on campus students.

3 Exposure to key Data Science and AI Tools and Concepts

Students of this course get an opportunity to master in-practice Data Science and AI tools such as Matplotlib, Pandas, NumPy, Scikit-learn, TensorFlow, R, Python etc., and concepts such as Data science and statistical concepts, Programming with Python, SQL, NoSQL, Artificial Intelligence, Machine Learning, Big Data, Natural Language Processing, Deep Learning and Computer Vision.

4 Practical and Experiential Learning

Benefit from 1 to 1 interaction with Data Science Mentor and gain hands-on practical exposure through 12+ mini-projects and a Consulting Project with Thesis.

5 Qualification on Opted Exit

EU Global's strategic accreditation allows every learner to earn ECTS credits for every module they study. This allows students to take deferrals, exits and re-join studies and use same ECTS credits for an advanced entry into the programme. If a candidate is not completing the degree or chooses to exit in between, then candidate may be eligible to get a Certificate or Diploma depending upon extent of modules completed.

Curriculum

Students will discover the concepts and gain expertise in the usage and applications of algorithms of Data Science and Artificial Intelligence. They will have abundant opportunities to plunge into advanced concepts. Through hands-on projects, students will gain experience on the concepts behind search algorithms, clustering, classification, optimization, reinforcement learning and other topics such as deep learning, computer vision, natural language processing techniques and incorporate the learning in Python.

This programme would enable students to embrace the concepts of DS and AI and understand their extension to its application. Students will work on projects involving AI in healthcare, education, finance, manufacturing sectors etc. Meticulously designed curriculum suitable to the industry needs with a high focus on practical applications.

Model/Unit Title	Compulsary/ Elective	ECTS
Statistics of Data Science	Compulsary	6
Mathematics for Data Science	Compulsary	6
Programming for Analytics using Python	Compulsary	6
Data Virtualization and Storytelling with Tableau	Compulsary	6
Artificial Intelligence and Machine Learning	Compulsary	6
Machine Learning Methods using Python	Compulsary	6
Convolution and Recurrent Neural Networks	Compulsary	6
Computer Vision and Image Recognition	Compulsary	6
Natural Language Processing	Compulsary	6
Big Data and NoSQL	Compulsary	6
Data Warehousing and Management	Compulsary	6
Research Methods	Compulsary	6
Capstone Consulting Projects	Compulsary	18

Tools covered

tableau · SQL · python · blueprism · NoSQL

Eligibilty

Scanned copies of the following documents are required to be submitted to be eligible to enrol.

- Bachelor's academic transcript and degree certificate in any discipline OR equivalent completion of Level 6 qualification with at least 180 ECTS. The applicant must have studied Mathematics (Undergraduate Diploma/Certificate) or equivalent knowledge of mathematics (for instance, linear algebra, calculus).
- Mathematics as a course in Graduation OR equivalent knowledge of mathematics (for instance, linear algebra, calculus) etc. is a mandatory prerequisite.
- English Proficiency - Medium of instruction during school and graduation or work experience should be English OR IELTS score of 6 or equivalent.
- 200-300 words Statement of Purpose/Motivational Letter
- Scan of passport size photograph

From theory to practice

Real-world AI skills

Andragogy

To promote learning in accordance with the desired levels of the further higher education framework, EU Global uses modern teaching aids to facilitate learning such as flipped classrooms where learners are provided content access to pre-read to allow better understanding and promote engaging discussions on application of the concept. Active learning strategies are adopted to ensure development of cognition of learners so that they develop analytical, critical thinking and creative skills.

The following are key teaching aids employed within our didactic model:

1. Personality test

The goal of the MBTI is to allow respondents to further explore and understand their own personalities including their likes, dislikes, strengths, weaknesses, possible career preferences, and compatibility with other people. This survey is conducted via Truity (https://www.truity.com/) for all our new admissions. This reflationary exercise helps the mentors and students set the expectations and targets for self-development for the further academic duration of study.

2. Learning resources

a. **Case studies:** Case studies from Harvard and other sources, and caselets like daily business news set the base for almost every course. Case studies help in review of real-life scenarios and the way a conceptual framework is related to real-life scenarios to provide solutions and recommendations.

b. **Simulations:** A simulation helps students imitate the real-life scenario, and to take probabilistic decisions to witness the results in terms of efficiency of the decision.

c. **Research papers:** Literature and conclusions derived from research papers is a very important source of learning from other scholars. These provide wider perspective and apprises of what have been already researched in the field of study. Books are an essential source of study to learn concepts in a systematic manner and to practice exercises.

d. **Audio-video learning:** Audio-video learning has been considered as one of the imperative tools that suits well with varied learning personalities. It includes podcasts, videos from Professors, documentaries from BBC, etc.

e. **Research Projects:** Seminars aim to thoughtfully design research activities such as surveys, etc so that students can learn primary research to investigate a business problem.

f). **Miscellaneous activities:** We promote innovation which every faculty brings. The faculty is advised to prepare academic delivery in an engaging manner. They are motivated to bring in activities like role-plays, presentations, etc.

3. Use of technology

EU Global has a very well-developed Learning Management System which is instrumental in exchange of information between the School's administration, faculty and the students. Each student will be provided an access to our learning management system from day 1 of their enrolment. The system will have the following key components:

a. **Induction -** The induction module is called "Student Services" which allows access to all the School's regulations and policies, where students can ask questions, academic writing resources, and all essential information that are instrumental in getting the students to start with us.
b. **Course-wise resources -** All the information, and learning resources related to the chosen courses are provided via our learning management system. This provides better communication.
c. **Assessments -** The students are required to upload all submission-type assessments via the learning management system.
d. **Capstone consulting project & thesis -** Research on a real business problem with an industry expert and write a Master thesis.
e. **Career coaching and academic coaching -** The students are also provided additional modules to enhance employability via our learning management system.

Assessments

EU Global follows continuous and end of the module assessment. Continuous assessment is conducted within various units studied by the learner, and counts towards the final grades, the weightage of continuous assessment is 40%. The nature of continuous assessment is normally multiple choice questions.

End of the module assessment is the final assessment, consisting of 60% weightage. The nature of final assessment is the report submission. The report can be a project, analysis, case study, research paper, etc.

Formative assessments are also integrated which does not contribute to the final grade but rather helps in peer to peer learning and reflecting on the concepts used.

Programme fee

For students of India

USD 5379 / EUR 4600

Connect with our Program Managers to know more about Scholarship and Payment options

Industry expert message

"Welcome to this programme on MS Data Science & Artificial Intelligence. I have the honour of reviewing the curriculum and teaching "Computer Vision Course".

Overall, I am impressed with the depth of curriculum. More so, I find the hybrid style of teaching highly effective.

The courses are well and thoughtfully designed with the tools taught that are used in the industry. I being the founder of the Creo Group, an IT consulting company in Hungary takes this immense pleasure to mentor future generation, learners enrolled in this programme.

Best Wishes,
László Grad-Gyenge,
Managing Director, Creo Group
Professor, European Global

About EU

The European Global Institute of Innovation & Technology (EU Global) is an accredited higher education institution, established with the vision of delivering high-quality, and accredited education to learners worldwide, enhancing both their employability and global mobility. Our teaching approach emphasizes project-based learning, centered on evidence-based reflection, allowing students to apply conceptual frameworks to real-world decision-making.

We are deeply committed to developing future competencies through quality education that fosters lifelong employability on a global scale. Our Competency Lab offers a range of programmes in research, entrepreneurship, sustainability, and professional development, nurturing the soft skills necessary for leadership and effective interaction.

European Global Varsity, part of the same education group, facilitates partnerships between European universities and institutions around the world, expanding opportunities for global collaboration.

EUROPEAN GLOBAL
Institute of Innovation & Technology

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