

POSTGRADUATE PROGRAM AND MASTER'S DEGREE SPECIALIZATION

Geographic Information Systems and Science

The program prepares professionals to design, develop, and manage Geographic Information Systems tailored to organizational needs, applying spatial analysis and modeling methodologies that support decision-making in complex and dynamic environments.

Partnership
UNIGIS 

Accreditation
USGIF
United Nations Geospatial Information Framework

novaims.unl.pt

NOVA IMS was awarded 5 Stars in all categories by QS Stars - a mark of global excellence



Geographic Information Systems and Science

Offered in two formats – Postgraduate Diploma and Master's Specialization in Geographic Information Systems and Science, the program is developed within the framework of the UNIGIS International Association, a global university network offering master's degrees in Geospatial Information Systems (GIS). Taught in both e-learning and blended formats, the course provides a strong technical and scientific foundation in geographic information analysis and technology, with particular emphasis on spatial data modeling and analysis, as well as the design and planning of GIS within organizations. The program also grants access to the Geospatial Intelligence (GEOINT) Certificate, accredited by the United States Geospatial Intelligence Foundation (USGIF).

Program goals

This program provides the knowledge and skills needed to:

- Develop appropriate strategies, methodologies, and tools of geographic information management, for the analysis of questions raised when using this type of information;
- Model, monitor, and simulate geographic, demographic, and environmental phenomena in diverse analysis contexts;
Use exploration and analysis methodologies and tools, to reduce the levels of uncertainty related to the resolution of problems of a geographical nature;
- Design and develop information systems and technologies that meet the needs of geographic information within an organizational context.

Who is it for?

The program aims to train managers and technical professionals capable of leading and guiding the design and development of Geographic Information Systems tailored to the needs of both public and private organizations. It is intended for professionals and students located across Portugal, Brazil, Portuguese-speaking African countries, Timor-Leste, and Portuguese-speaking communities around the world who wish to pursue studies at a Portuguese higher education institution.



Format

Available in b-learning or e-learning formats.



Length

The Postgraduate Program takes place over two semesters, in a total of 60 ECTS. The Master's degree extends over four semesters, in a total of 120 ECTS.

Calendar/Schedule

The e-learning course units include four synchronous sessions (real-time virtual classes held online), always scheduled in the evening (from 8:00 p.m. to 10:00 p.m. GMT). In addition to an exam, all e-learning course units require an individual or group project and participation in online activities – the project must be presented individually at the end of each semester during the two annual Seminars. On-campus course units also take place in the evening.



For more information or to apply, please visit:
www.novaims.unl.pt/CDG

Admission Requirements

- ⦿ Holding higher education level conferred on the 1st cycle of studies (undergraduates) under the Bologna legislation, by an adherent European country;
- ⦿ Holding a foreign academic degree, approved by the Scientific Council of NOVA IMS, for achieving undergraduates' goals;
- ⦿ Holding a relevant academic, professional and scientific curriculum, approved by the Scientific Council of NOVA IMS, for being able to conduct this study program.

Course Units

To obtain the Postgraduate Diploma, students must complete 60 ECTS credits, of which 7.5 are mandatory. The course units offered in this program are:

- ⦿ Cartographic Sciences and Data Acquisition;
- ⦿ Geographical Information Systems and Science ⁽¹⁾;
- ⦿ Geospatial Databases;
- ⦿ Geospatial Data Mining;
- ⦿ Geospatial Intelligence (GEOINT);
- ⦿ Geospatial Programming;
- ⦿ GIS Modeling;
- ⦿ GIS in Organizations;
- ⦿ Programming for Geospatial Web Services;
- ⦿ Remote Sensing;
- ⦿ Spatial Data Analysis and Visualization;
- ⦿ Spatial Statistics.

In the Master's format, students must complete 60 additional ECTS distributed between the Final Project Supervision course unit (2 ECTS) and the development of either a scientific dissertation, an original project, or a professional internship accompanied by a final report (58 ECTS).

⁽¹⁾ Mandatory Course Unit

Program Coordinator



Prof. Dr. Marco Painho

GIS Software

As part of this program, students are given free access to Esri's ArcGIS software and, upon request, to Hexagon software. The program also places strong emphasis on open-source GIS software, which is introduced and encouraged for use across several course units.

GEOINT Certificate

The Graduate Certificate in Geospatial Intelligence (GEOINT), accredited by the United States Geospatial Intelligence Foundation (USGIF), provides advanced training in geospatial methods and technologies applied to addressing global challenges – from natural disasters and humanitarian crises to environmental risks and public health. USGIF, a world leader and the only organization that grants academic accreditation in GEOINT, promotes professional excellence and collaboration among Industry, Academia, and Government.

Partnership Accreditation



Contacts

For more information about this program, please contact our Admissions Office:

admissions@novaims.unl.pt
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EDUNIVERSAL

Best Masters Ranking 2025

#1 IN THE WORLD

MASTER'S PROGRAM

Information Management

Specialization
Business Intelligence

SEVEN TIMES IN A ROW Best. Again.

Nine NOVA IMS programs are among the best in the world. The Master's in Information Management – Business Intelligence is #1 worldwide in its category for the 7th edition in a row.

WORLD	#2	#7		
EUROPE	#2	#5	#1*	#1*
PORTUGAL	#1	#2	#1	#1

MASTER'S PROGRAMS

Statistics and Information Management
Specialization:
Risk Analysis and Management

Data-Driven Marketing
Specialization:
Marketing Intelligence

Data Science and Advanced Analytics

Information Management
Specialization:
Information Systems Management

WORLD	#2	#3		
EUROPE	#2	#3	#2*	#11*
PORTUGAL	#1	#1	#1	#2

POSGRADUATE PROGRAMS

Information Management and Business Intelligence in Healthcare

Enterprise Data Science & Analytics

Digital Marketing and Analytics

Digital Enterprise Management

*Western Europe

ACCREDITATIONS AND CERTIFICATIONS



Computing
Accreditation
Commission



CO-FINANCED

