

# Mediterranean Agronomic Institute of Chania

MASTER OF SCIENCE IN

2023 / 2024

## GEOINFORMATION IN ENVIRONMENTAL MANAGEMENT

The programme of Geoinformation in Environmental Management focuses on the ever-growing demand for highly specialized and effectively educated scientists to tackle significant environmental issues in today's natural environment, with the assistance of geoinformation and relevant tools leading to a Master of Science (**120 ECTS**).

In the first year, graduates, professionals and specialists from the Mediterranean and Balkan regions, majoring in a compatible discipline with background knowledge on environmental issues have the opportunity to specialize in (a) the management of Mediterranean ecosystems, (b) Geographical Information Systems and Remote Sensing, and their application to environmental management, and (c) the use of decision support tools for strategic and environmental impact assessment within the environmental policy and legislative framework of the European Union. In the second year, students who have successfully completed the first year according

to the CIHEAM/MAICH specific regulations develop a thesis based on research.

The Master of MAICH (60ECTS) is awarded to those students who successfully complete the first year requirements but do not satisfy the additional required conditions which allow them to be accepted into the second year of the M.Sc. programme (120 ECTS) as stated in the CIHEAM/MAICH specific academic regulations.

The attainment of the M.Sc. degree certifies in-depth academic knowledge and practical skills in Environmental Management and the use of Geoinformation, enabling the pursuit of doctorate studies and/or a career in both the public and private sector.

### M.Sc. RESEARCH TOPICS

- ▶ Land Cover / Land Use Change
- ▶ Environmental Resource Management
- ▶ Climate Change Impact Monitoring
- ▶ Landscape Ecology
- ▶ Soil Erosion Risk Assessment
- ▶ Land Surface Phenology
- ▶ Precision Agriculture
- ▶ Coastal Zone Management
- ▶ Forest Fire Risk Assessment and Fire Behaviour Modelling
- ▶ Management of Mediterranean Ecosystems
- ▶ Regional and Rural Development

### INFORMATION

For more information, visit our website at: [www.iamc.ciheam.org](http://www.iamc.ciheam.org) or send inquiries to [chariton@maich.gr](mailto:chariton@maich.gr)



### HOW TO APPLY

Applications to study at CIHEAM MAICH must be made through the online application form that can be accessed by this link: <http://apply.maich.gr/>

### REQUIREMENTS

Applicants must have the academic level that qualifies them to undertake postgraduate level studies in their home country or equivalent to a minimum of four years undergraduate studies. Their degree must also be in a discipline compatible with the area of specialization requested. Additional conditions may be required for certain programmes.

The working language of MAICH is English. Selection is made on the basis of the files submitted by applicants – priority being given to applicants from CIHEAM member countries, and takes account of their academic results, professional experience acquired in the chosen field of specialization, reference letters and their competence in English.

The documentation required by CIHEAM MAICH includes:

- ▶ Academic records and transcripts
- ▶ Graduation degree
- ▶ Proof of English language competence
- ▶ Two letters of recommendation.

### SCHOLARSHIPS

Qualified candidates may be eligible for scholarship covering fully or partly: tuition, teaching material, board, lodging, health insurance and compensation.

## EDUCATIONAL SEQUENCE

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### First-year Studies Programme

The first-year Studies Program of the Curriculum is organised in 7 Units (60 ECTS).

**SEMESTER I** (October 2023 – February 2024)

#### ENM510.41515.0 GIS & Spatial Statistics (10 ECTS)

- ▶ Introduction to Statistics
- ▶ Geographical Information Systems
- ▶ Applied Spatial Analysis

#### ENM530.21515.0 Remote sensing and image processing (11 ECTS)

- ▶ Remote Sensing
- ▶ Digital Image Analysis
- ▶ Basic Geodesy and Digital Photogrammetry

#### ENM520.5915.0 Management of Mediterranean Ecosystems (9 ECTS)

- ▶ Introduction to the Mediterranean Environment
- ▶ Landscape Ecology
- ▶ Agriculture Modeling under Climate Change

**SEMESTER II** (February 2024 – June 2024)

#### ENM550.3814.0 Environmental Assessment Processes (8 ECTS)

- ▶ Environmental Legislation
- ▶ Environmental Assessment Theory
- ▶ Environmental Assessment Applications

#### ENM560.1 Specialised Topics in Geoinformation Applications (10 ECTS)

- ▶ Environmental modeling
- ▶ Decision support systems using GIS
- ▶ Scientific Writing on GIS/RS case studies

#### ENM540.51017.0 Advanced Remote Sensing Topics (9 ECTS)

- ▶ Radar and Lidar Applications
- ▶ ICTs for Agriculture and Water Resources Management
- ▶ Remote Sensing of Urban Environments

#### ENM500.1312.0 Extended Essay (3 ECTS)

### Second year - The Master of Science Programme

(Project - 9 months duration, 60 ECTS)

Students who qualify for the second year (Master of Science Degree candidates) pursue their research thesis under the supervision of visiting and/or MAICh faculty in an environment fully equipped with modern facilities. Research addresses spearhead topics supporting national and EU environmental policies within an interdisciplinary international scientific network.



## FACILITIES

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### GIS/RS Laboratory

An extensive range of hardware (over 25 networked PCs, input, output, storage devices) and software (ArcGIS, ERDAS Imagine, ENVI, Definiens and other ancillary supportive software packages) is available to support formal teaching and research activities.

### Automated Cartography Unit

The ACU is dedicated to capturing (digitizers and scanners), processing, integration, archiving and printing (printers and plotters) of imaging and non-imaging datasets.

### In situ remote sensing data collection

The GIS/RS laboratory employs a portable spectroradiometer (ASD Filedspec) for high spectral resolution reflectance measurements collected on the ground, as well as a Remotely Piloted Aircraft System (RPAS) equipped with a Parrot Sequoia camera, for high spatial resolution multi-spectral image acquisition.

### Field Survey Unit

The Field Survey Unit is dedicated to supporting fieldwork and field campaigns with all the necessary equipment and tools.

### Forest Fire Wind Tunnel Simulator Unit

The wind tunnel facility of MAICh is used in different research projects related to forest fires. It meets all the international specifications for simulated fire and wind experiments.



**CIHEAM  
MAI CHANIA**

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