Specialisation "**Territorial planning and local development**", pathway of Master 2

CLIMATE CHANGE, AGRICULTURAL AND TERRITORIAL MANAGEMENT - CGAT

Joint accreditation with Paul Valéry Montpellier 3 University (UPVM).
This Master's degree offers the possibility to pursue doctoral studies

MASTER OF SCIENCE
CLIMATE CHANGE, AGRICULTURAL AND TERRITORIAL MANAGEMENT

OBJECTIVE

This postgraduate course is designed for holders of a university degree with at least four years of higher education (M1 or engineering degree) and with an initial training and/or professional experience in the field of agricultural and rural development (agronomy/agriculture, economics, geography, ecology).
The programme investigates the impacts of climate change on the management of rural territories, their agriculture and their resources. It investigates the functions of territorial agriculture and its adaptation to new constraints and standards within the context of global change.
The objective is to provide professional training in the development of new technologies for agriculture and analyse territorial adaptation policies and projects in agricultural and rural sectors. In practical terms, the training prepares graduates for jobs such as development manager for local authorities and chambers of agriculture, project and research manager for international organisations, and software designer for training in private enterprises. It enables students to master the new models and tools that structure territorial public action and farm management decisions.
The CIHEAM Montpellier training course helps economists, ecologists, geographers and agricultural engineers to learn to work together, by providing them with the common language required for teamwork. It offers both an apprenticeship in theoretical and practical tools and the acquisition of professional experience (individual and group courses), bringing trainees into contact with local actors and real-life situations so that they may be operational by the end of the course.

The course teaches:

- **Knowledge:** through the analysis of the technical and economic operating of a farm and the diagnosis of an agricultural territory within the context of climate change.
- **Know-how:** implementation of decision-support methods, forward analysis and strategic steering in individual and collective advisory approaches. Conducting surveys, map construction, landscape and spatial analysis, statistical analysis of data, analysis of territorial policies. Development of optimisation models for production choices at farm and regional level. Coupling of biophysical and economic models for decision-making support in the management of natural resources and diffuse pollution in agriculture.
- **Soft skills:** working in a multidisciplinary team, at the interface between technical and socio-economic aspects.

MASTER 2 PROGRAMME (60 ECTS)

Prerequisites (September)

- Refresher training in economics: reminder of basic notions in micro-economics and management, accounting, macro-economics and statistics.
- Introduction to agronomy.

Module 1: Integrated and sustainable development of territories: from stakeholders to tools (September-December)

- The perspective of territorial and spatial planning and management.

ORGANISATION

→ **Master 2 (*Baccalaureat* +5 years)**

Theoretical and practical modules	**34 ECTS**
Internship and dissertation	**26 ECTS**

The training is organised by the CIHEAM Montpellier, in partnership with Paul Valery University Montpellier.
An internship in a professional environment is mandatory from mid-March onwards. Depending on the availability of places, the modules can be taken as short courses.

→ **Master of Science (*Baccalaureat* +6 years)**

Master of Science thesis	**60 ECTS**

ADMISSION

Places are awarded on the basis of an application file reviewed by a commission composed of representatives of the co-accredited institutions. The training is open to economists, agronomists, geographers and ecologists who want to specialise in agricultural and territorial management in the face of climate change. The admission level is at least Baccalaureate +4 or a level allowing access to postgraduate studies. Prerequisites in economics are required.
Training fees amount to 3 527 € (excluding registration, travel and accommodation costs) for candidates who are not citizens from the CIHEAM member countries.
Candidates are selected on the basis of an application file: **http://candidature.iamm.fr**.
The deadline for receipt of applications by post is **29th April 2022**.

DEGREES

Master 2 delivered by the CIHEAM Montpellier and UPVM
Master of Science from the CIHEAM

SCHOLARSHIPS

Scholarships are available for candidates from CIHEAM member countries to cover subsistence and training costs

Module 2: From sustainable development to territorialised climate policies, territorial agricultural vulnerability and adaptive capacity (September)

- Climate, sustainability and renewal of public action at the territorial level.
- Mobilising the concepts of vulnerability, adaptation and adaptive capacity.
- Approaches and analyses of territories and agricultural households based on multiple assets.

Module 3: Mediterranean agriculture in the context of climate change (October)

- Sustainability of Mediterranean agriculture under climate change.
- Landscape analysis and production systems typologies: field trips in the Cévennes and in Camargue.
- Public agricultural and rural policies in the context of climate change.

Module 4: Cartographic analysis applied to a territory in the context of climate change (October - November)

- Introduction to geographic information systems and thematic cartography for the territorial diagnosis.
- Understanding a rural territory based on vulnerability and adaptive capacity approaches
- Learning rapid diagnostic methods applied to a rural area.

Module 5: Data analysis, accounting and evaluation of territorial resources applied to rural territories in a situation of adaptation (November-December)

- Data analysis in the agricultural sector.
- Territorial ecological accounting.
- Economic valuation of non-market assets.

Module 6: Farm management (January)

- Mastering the techniques of farm business management using digital technology. Agri-environmental measures and management of externalities.
- Drawing up a development plan for a farming business using a multi-periodic simulator
- Operational experience in the field with farmers and professional representatives.

Module 7: Biophysical optimisation and simulation models (January)

- Optimisation and decision support model for farms.
- Biophysical models and bio-economic modelling

Module 8: Stakeholders and natural resource management (January-February)

- The economics of the environment and natural resources, environmental policy instruments.
- IWRM (Integrated Water Resource Management): irrigation techniques and control of inputs, management of water supply and demand.
- Use of spatial simulation models for decision support.
- The transition from farm models to regional aggregated models
- Analysis of the interaction between individual and collective choices at the regional level.
- Simulation game for negotiating and evaluating collective choices in a small agricultural region

Module 9: Research workshop: problematics and methods (October - March)

- Research methodology: formulation of a problematic, conceptual framework and development of a working methodology.
- Training in documentary research.

Module 10: English language course (October - March)

Oral and written expression adapted to an academic and/or professional context

Internship project (March)

Preparation of a research project to structure the different aspects of the individual internship: fieldwork and analysis.

Individual internship in a professional situation, writing and defending of the M2 dissertation (April - September)

This internship is carried out within the framework of development structures, consultancy firms, NGOs, etc. The internship continues on to the writing of a thesis and its presentation for the Master's degree.

MASTER of science (60 ECTS)

CIHEAM Master of Science thesis

Writing and presentation.

COORDINATORS

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