

## PhD PROGRAMMES

### PhD in Agri-Food Engineering

The PhD in Agri-Food Engineering provides a solid foundation in advanced research and innovation in the fields of Automation, Construction and Landscape, Rural Development, Water Management and Energy, Design Projects. Students have the opportunity to engage in international R&D projects.

### PhD in Biotechnology and Plant Genetic Resources and Associated Microorganisms

The aim of this programme is to train specialists in the latest developments and knowledge in fields such as Plant Biotechnology, Biochemistry, Molecular Biology, Genomics and Microbiology. These scientists will be able to lead research and development activities and technological innovations in academy and the corporate sector.

### PhD in Complex Systems

Students will be scientifically trained in Complex Systems, a growing interdisciplinary research area. The research lines range from non-linear dynamics and chaos theory to fractals, cellular automata, number theory, complex networks theory, and their applications.

### PhD in Project Planning for Rural Development and Sustainable Management (ERASMUS MUNDUS)

The programme trains specialists in the field of development and its sustainable management. Therefore, the PhD is a strategic tool for the development and sustainability of rural areas worldwide, especially in developing countries.

### PhD in Agro-Environmental Technology for Sustainable Agriculture

Students will acquire an interdisciplinary curriculum in sustainable agriculture with research options in plant production, animal production, rehabilitation of degraded areas or agricultural and environmental economics.

## INFORMATION

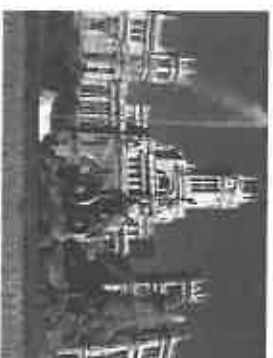
School of Agricultural Engineering  
TECHNICAL UNIVERSITY OF MADRID  
Secretaría de Agronomía y Biotecnología  
Tel: +34 91 336 5500 / 3631 / 5897

[www.etsia.upm.es](http://www.etsia.upm.es)

## STUDENT LIFE IN MADRID

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## SCHOOL OF AGRICULTURAL ENGINEERING

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## DEGREES

### UNDERGRADUATE

Agricultural and Science Engineering  
Food Engineering  
Agro-Environmental Engineering  
Biotechnology

### POSTGRADUATE

12 Professional and Research University  
Masters  
5 Doctorate Programmes

# UNIVERSITY MASTERS DEGREE



## Agr-Food Engineering

**Objectives:** Training professionals in advanced technologies in the fields of Automation, Mechanisation, Robotics, Construction and Landscape, Rural Development, Water Management and Energy Design Projects, applied to agricultural food production and processes  
**Duration:** 60 ECTS (1 year)  
**Languages:** English/Spanish.  
**Contact:** c.mellamonasterio@gmail.com

## Biotechnology in Agroforestry

**Objectives:** Training professionals in new biotechnologies applied to Agriculture, Forestry and Food sectors  
**Duration:** 60 ECTS (1 Year)  
**Language:** Spanish/English.  
**Contact:** master.bioteologia.agronomos@upm.es

## Agricultural, Food and Natural Resource Economics

**Objectives:** To acquire methodological tools and advanced training in agricultural production, policy and natural resources management in the context of a globalised economy.  
**Duration:** 60 ECTS (1 year)  
**Language:** English/Spanish.  
**Contact :** master.ecoagro.agronomos@upm.es

## Physics of Complex Systems

**Objectives:** Training professionals in the new ideas and techniques of non-linear dynamics and complexity with guidance towards interdisciplinary research.  
**Duration:** 60 ECTS (1 year)  
**Language:** Spanish/English.  
**Contact:** gl.gsc@upm.es

## Ag Food-based Engineering

**Objectives:** Offers a comprehensive scientific and technical training in agricultural engineering, offering a wide range of topics to specialise in.  
**Duration:** 120 ECTS (2 years)  
**Language:** English/Spanish.  
**Contact:** subdirector.je.agronomos@upm.es

## Food Engineering Applied to Health

**Objectives:** This programme is designed to provide students with the best knowledge in food science, engineering, health, nutrition and management to start a successful career in the food industry.  
**Duration:** 60 ECTS (1 Year)  
**Language:** Spanish.  
**Contact:** antonio.morata@upm.es

## Landscaping and Gardening

**Objectives:** To educate students in planning and project design as well as assessment and management of landscape, environmental and gardening works.  
**Duration:** 90 ECTS (1.5 years)  
**Language:** Spanish  
**Contact:** mjardineira.agronomos@upm.es

## Project Planning for Rural Development and Sustainable Management (ERASMUS MUNDUS)

**Objectives:** To train specialists in planning and evaluation of rural and local development projects and in sustainable management of territories and their biodiversity.  
**Duration:** 60 ECTS (1 year)  
**Language:** English/Spanish  
**Contact:** mdrags.agronomos@upm.es

## Animal Production and Health

**Objectives:** The aim of this Masters degree is to provide a comprehensive training in the fields of animal production and health.  
**Duration:** 60 ECTS (1 year)  
**Language:** Spanish  
**Contact:** nuria.nicodemus@upm.es

## Plant Genetic Resources

**Objectives:** The programme provides practical and theoretical skills required to conserve plant diversity.  
**Duration:** 60 ECTS (1 year)  
**Language:** English/Spanish  
**Contact:** depbv.agronomos@upm.es

## Agro-Environmental Technology for Sustainable Agriculture

**Objectives:** To train students in project planning and development, combining the production of agricultural systems and the mitigation of environmental impacts.  
**Duration:** 60 ECTS (1 year)  
**Language:** Spanish/English  
**Contact:** mastertapas.agronomos@upm.es

## Technology for Human Development

**Objectives:** To educate students in the identification and implementation of solutions in both technical and social areas related to problems of development and international cooperation.  
**Duration:** 90 ECTS (1.5 years)  
**Language:** Spanish  
**Contact:** e.lopez@upm.es



Apply Online

**Contact Details:**

Department of Agricultural Economics  
and Social Sciences  
School of Agricultural Engineering  
Tel. +34 91 336 5616  
[master.ecoagro.agronomos@upm.es](mailto:master.ecoagro.agronomos@upm.es)



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MASTER  
AGRICULTURAL,  
FOOD AND NATURAL  
RESOURCE  
ECONOMICS

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# MASTER DEGREE

## MSc PROGRAMME

**The aim** of this Master programme is to acquire methodological tools and practical training on agricultural production, policy and natural resources management in the context of a globalised economy.

The students will:

- Understand the concepts of agricultural economics and natural resources management.
- Be familiar with methods and tools currently used in risk management decision-making in agro-food firms, and rural development.

### The programme (60 ECTS):

- Combines lectures, case studies, practical sessions and individual study
- It is internationally connected with exchange programmes.
- It is designed in collaboration with the CEIGRAM ([www.ceigram.upm.es](http://www.ceigram.upm.es)) to provide challenging multi-disciplinary interaction.
- Students will have the choice to complete the entire programme in English.
- After graduation, students can access the PhD programme.

### 1<sup>st</sup> Semester

- Introduction to research \*\*
- Applied microeconomics \*
- Econometric models \*
- Mathematical programming \*
- Decisions making in agrofood business \*
- Analysis of agricultural policies \*
- Rural development
- Economics of climate change
- Efficiency and productivity
- Financial markets in agro-food business
- Statistical methods for markets research
- Spatial econometrics
- Industrial organisation

### 2<sup>nd</sup> Semester

- Market research and food quality management \*
- Environmental economics \*
- Cooperation for development \*
- Advanced Seminars \*\*\*
- Risk management in agriculture
- Valuation methods in agro-food business
- Aquaculture & fisheries economics & management
- Water economics and policies

### MASTER THESIS (15 ECTS)

Type of course: \* required, \*\* optional  
Credits of the courses: \*\* 2 ECTS, \*\*\* 3 ECTS rest 4 ECTS

**ceigram**  
Research Centre for the Management  
of Agricultural and Environmental Risks



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Apply Online

**Contact Details:**

Department of Rural Engineering  
School of Agricultural Engineering  
Tel: +34 91 336 5855 / 56  
Carlos.mejia@upm.es  
Margarita.ruizaltisent@upm.es



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## M A S T E R AGRI-FOOD ENGINEERING



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# MASTER DEGREE

## MSc PROGRAMME

This Master degree prepares students in areas related to Agri-Food Engineering like project planning and design, construction, water management, energy, mechanisation, bio-mechatronics, control and automation.

The teaching staff includes more than 30 bilingual (English-Spanish) professors with relevant research and professional experience.

It is a one-year degree (full-time, commencing September to August, 60 ECTS), including practical experience in a company and/or participating institutes and presentation of the final thesis.

Upon completion of the Master, students have access to a PhD in Agri-Food Engineering at UPM.

### 1st Semester

Research methodology (3 ECTS), in English

Automation and control of agri-food processes (3 ECTS), in English

Applied electronics (3 ECTS), in English

Robotics applied to agriculture (3 ECTS), in English

Web services and applications in the agro-food systems (3 ECTS), in English

Precision agriculture (3 ECTS), in English

Physical properties and quality of agriculture products (3 ECTS), in English

### 2nd Semester

Electrical systems in agri-food facilities (3 ECTS), in English

Geographical Information Systems (3 ECTS), in English

Oral presentation and communication techniques (3 ECTS), in English

Systems dynamics and modeling (3 ECTS), in English

Practical training (12 ECTS)

Master Thesis (15 ECTS)

Other options are also available in Spanish: design, construction, water management.





[etsia.upm.es/master\\_biotechnology](http://etsia.upm.es/master_biotechnology)



Apply Online

**Contact Details:**

Department of Biotechnology  
School of Agricultural Engineering  
Tel: +34 913363265  
[master\\_biotechnology.agronomos@upm.es](mailto:master_biotechnology.agronomos@upm.es)



STUDENT LIFE  
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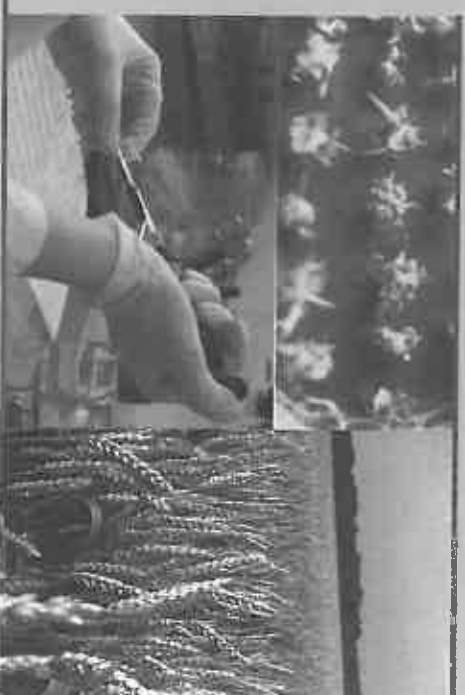
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M A S T E R

BIOTECHNOLOGY IN  
AGROFORESTRY



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# MASTER DEGREE

## MSc PROGRAMME

The **Master in Biotechnology in Agroforestry** is orientated towards Engineers or graduates in Biotechnology, Agroforestry, Biology or related Degrees.

The main objective of the Master is to educate and train professionals in new biotechnologies applicable to the Agroforestry and Food sectors.

The programme also provides an introduction to research in the field of Molecular Biology of Plants and Microorganisms, and is associated with the Excellent Doctorate Programme in Biotechnology and Genetic Resources of Plants and Associated Microorganisms.



### 1st Semester

Virus: Explorers of Cellular Processes in Plants (4 ECTS) Spanish

Advances in Genetic Engineering in Plants (4 ECTS) Spanish

Genomics of Plant-Associated Microorganisms (4 ECTS) English

Protein Engineering (4 ECTS) Spanish

Plant Biophysics (4 ECTS) English

Structural and Functional Plant Genomics (4 ECTS) Spanish

Bioinformatics and Computational Biology (4 ECTS) Spanish

Molecular Biology of Plant Development (4 ECTS) Spanish

Scientific Seminars (9 ECTS) Spanish/English

### 2nd Semester

Plant-Insect Interactions: Control Strategies (4 ECTS) English

Plant Immunity and Resistance to Pathogens (4 ECTS) English

Virulence Factors in Plant Pathogens (4 ECTS) English

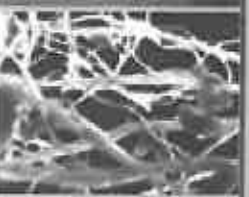
Molecular Basis of the Response to Abiotic Stress in Fungi (4 ECTS) Spanish

Current Trends in Plant Disease (4 ECTS) Spanish

Biotechnological Applications of Rhizobacteria (4 ECTS) English

Molecular Aspects of the Biological Nitrogen Fixation (4 ECTS) Spanish

**MASTER THESIS (15 ECTS)**





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#### Contact Details:

Department of Physics and Mechanics  
School of Agricultural Engineering  
Tel: +34 91 336 56 46  
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## MASTER PHYSICS OF COMPLEX SYSTEMS



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# MASTER DEGREE

## MSc PROGRAMME

The **Master Degree in Physics of Complex Systems** is aimed at providing a solid foundation of education to a large group of graduates in Science and Engineering. Students who partake in this **Masters Degree** will gain thorough knowledge of current research methodologies, wide ranging skills in computational modeling of complex systems in any field of science and technology, and will be prepared to join diverse Research & Development teams.

This Master Degree brings together the skills and knowledge by specialized lecturers from different research areas of the **Complex Systems Group**.

Master graduates will have the opportunity to continue to the associated **PhD programme in Complex Systems** of the Technical University of Madrid.



### 1st Semester

Numerical and Computational Methods (6 ECTS, compulsory)

\*Chaos Workshop (6 ECTS, compulsory)

Scientific Communication (3 ECTS, compulsory)

Hamiltonian Mechanics and Chaos (6 ECTS, optional)

Quantum Mechanics (6 ECTS, optional)

Statistical Physics of Disordered Systems (6 ECTS, optional)

\*Complex Network Models (3 ECTS, optional)

Cellular Automata (3 ECTS, optional)

Fractal and Multifractal Geometry: Applications (3 ECTS, optional)

(\*) Also available at 2<sup>nd</sup> semester

### 2nd Semester

Quantum Chaos (6 ECTS, optional)

Semiclassical Methods in Chaotic Systems (3 ECTS, optional)

Complex Networks in Ecology (3 ECTS, optional)

Fractal Growth (3 ECTS, optional)

Biophysics (3 ECTS, optional)

Nonlinear Wave Dynamics in Optics (3 ECTS, optional)

\*Advanced Seminar on Complex Systems (3 ECTS, optional)

\*Seminar on Advanced Methods of Numerical Computation (3 ECTS, optional)

\*Advanced Seminar on Chaos and Dynamical Systems (3 ECTS, optional)

**MASTER THESIS (15 ECTS)**

(\*) Also available at 1<sup>st</sup> semester





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#### Contact Details:

Department of Crop Production  
School of Agricultural Engineering  
Tel: +34 91 4524900 ext 1650  
mjardinera.agronomos@upm.es



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## MASTER LANDSCAPING AND GARDENING

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# MASTER DEGREE

## MSc PROGRAMME

Since 1990 the Master in Landscaping and Gardening has educated more than 400 professionals in the field of landscape, gardening and environment. Currently, most of them are working in these areas.

Our students require a high level of knowledge and training to work with the technical difficulty that the degree demands. Therefore, our programme offers subjects and studies in design, project, planning, landscape support and management, environmental and gardening works at internationally-recognised level.

This is a one and a half year course (90 ECTS) which is orientated towards graduates of Forestry, Agronomy, Architecture, Environment, Landscape and Biology.

### Module I: History

- History of gardening (4 ECTS)
- Historic Gardens of Madrid (2 ECTS)

### Module II: Elements of Plant and Gardening Techniques

- Applied Botany (3 ECTS)
- Plant Elements (5 ECTS)
- Establishment of Gardens (6 ECTS)
- Garden Maintenance (8 ECTS)

### Module III: Landscaping

- Landscape Ecology: Environment (4 ECTS)
- Landscape Analysis: Climatic and Soil Factors (4 ECTS)
- Landscaping I (2 ECTS)
- Landscaping II (2 ECTS)

### Module IV: Facilities and Infrastructure

- Infrastructure: Earthworks, Drains and Drainage (4 ECTS)
- Facilities: Electrics and Lighting (3 ECTS)
- Irrigation Facilities I (2 ECTS)
- Irrigation Facilities II (2 ECTS)
- Civil Work and Garden Furniture (3 ECTS)

### Module V: Design and Projects

- Project Documents, Calculation Programmes (3 ECTS)
- Manual and Computer Aided Drawing (5 ECTS)
- Workshops: The Family Garden (2 ECTS)
- Workshops: The Urban Garden (2 ECTS)
- Workshops: The Public Park (2 ECTS)
- Gardening Companies (2 ECTS)

### Internship (10 ECTS)

### Final Master Project (10 ECTS)





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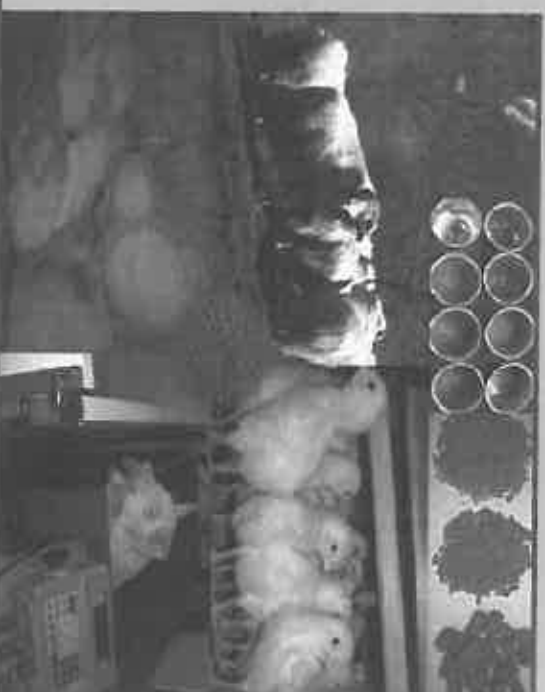
Department of Animal Production  
School of Agricultural Engineering (UPM) and  
Veterinary Faculty (UCM)  
Tel: +34 91 336 5616  
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## MASTER ANIMAL PRODUCTION AND HEALTH



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# MASTER DEGREE

## MSc PROGRAMME

This programme offers comprehensive training in the fields of animal production and health. The training received can be used as a solid foundation to allow students to continue with a PhD degree or to develop a professional career.

The MSc is designed for graduates of Agronomy, Health Sciences, Experimental Sciences, Food Sciences or equivalent qualifications from any country.

The joint involvement of the School of Agricultural Engineering of the UPM and the Veterinary Faculty of the UCM guarantees the presence of an excellent group of teachers, involved in numerous national and international research projects in collaboration with many companies and institutions.



### 1<sup>st</sup> Semester (Compulsory, 21 ECTS)

- Experimental Design and Data Analysis in Animal Production and Animal Health (6 ECTS).
- Introduction to Animal Production and Animal Health Research (3 ECTS).
- Livestock Housing and Facilities Design (2 ECTS).
- Legislation in Animal Production and Animal Health (1 ECTS).
- Trends and Challenges in Animal Production and Animal Health (1.5 ECTS).
- Advances in Animal Production and Animal Health (1.5 ECTS).
- Animal Protection and Animal Welfare (1.5 ECTS).
- Animal Production and Environment (1.5 ECTS).
- Biosecurity in Animal Production and Animal Health (1.5 ECTS).
- Quality and Marketing of Livestock Products (1.5 ECTS).

### 2<sup>nd</sup> Semester (18 ECTS elected by species or areas)

- Animal Health in Swine, Poultry and Rabbits (6 ECTS).
- Feeding and Nutrition, Management and Hygiene in Swine, Poultry and Rabbits (6 ECTS).
- Reproduction, Genetics and Economic Management in Swine, Poultry and Rabbits (6 ECTS).
- Animal Health of Ruminants (6 ECTS).
- Feeding and Nutrition, Management and Hygiene of Ruminants (6 ECTS).
- Reproduction, Genetics and Economic Management of Ruminants (6 ECTS).
- Animal Health of Other Interesting Species: horses, hunting, aquaculture, pets (6 ECTS).
- Feeding and Nutrition, Management and Hygiene of Other Interesting Species: horses, hunting, aquaculture, pets (6 ECTS).
- Reproduction, Genetics and Economic Management of Other Interesting Species: horses, hunting, aquaculture, pets (6 ECTS).
- Practices in companies or in research groups (6 ECTS). Compulsory
- MASTER THESIS (15 ECTS). Compulsory



M A S T E R

## PLANT GENETIC RESOURCES CONSERVATION



STUDENT LIFE  
IN MADRID

Contact details.  
Department of Plant Biology  
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Tel. +34 91 336 5616  
depyv.agronomos@upm.es



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# MASTER DEGREE

## MSc PROGRAM

Biodiversity loss is increasing due to overexploitation, pollution, degradation or destruction of habitats, introduction of alien species, climate change, etc. Cultivated and wild species are suffering genetic erosion. Biodiversity conservation remains a critical point in the challenge to guarantee world's demand for food. An adequate management of the genetic resources, assisted by molecular and genetic technologies, is an essential starting point for breeding programs.

The Department of Plant Biology U.P.M. has extensive experience in conservation, and holds the Seed Bank "César Gómez Campo" that maintains a significant collection of Spanish endangered species and of wild crucifers.

The main objective of this program is to train students in the area of conservation, management, access and use of plant genetic resources, developing skills such as biodiversity evaluation, characterization and documentation of the genetic diversity of plant species, mainly crops and their wild relatives.

### 1st Semester

*Ex situ* conservation of plant genetic resources (6 ECTS) English

Plant genetic resources: origin and systematics (6 ECTS) English

Habitat conservation and characterization (4 ECTS) English

Techniques in biotechnology (4 ECTS) Spanish

Seminars (9 ECTS)

### 2nd Semester

Plant genetic resources characterization I (4 ECTS) English/Spanish

Plant genetic resources characterization II (4 ECTS) English/Spanish

*In vitro* culture techniques applied to plant genetic resources conservation (4 ECTS) English

*In situ* conservation of plant genetic resources (4 ECTS) Spanish

Genetics and breeding for crop quality (4 ECTS) Spanish

Design and analysis of experiments (4 ECTS) English

**Master Thesis  
(15 ECTS)**





Apply Online

**Contact Details:**

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M A S T E R

**AGRO-ENVIRONMENTAL  
TECHNOLOGY FOR  
SUSTAINABLE  
AGRICULTURE**



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I N M A D R I D**

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# MASTER DEGREE

## MSc PROGRAMME

Our objective is to develop experienced specialists for the sustainable production of farming systems.

The Master comprises different modules, including methodological and instrumental courses, whilst offering a wide range of educational options for students with different professional interests, involving ten research groups from seven departments of the College of Agriculture.

It is a one-year course for 60 ECTS credits. Once completed, students have access to the Doctorate programme on Agro-Environmental Technology for Sustainable Agriculture.

### 1<sup>st</sup> Semester

Agricultural chemical analysis (4 ECTS)  
English/Spanish

GIS applied to soil evaluating and soil resource inventories (3 ECTS) Spanish.

Models for analysis of Agro-Environmental systems (5 ECTS) English

Crop ecology and technology: productivity and resources uses (4 ECTS) English/Spanish

Process of soil degradation (3 ECTS)  
English/Spanish

Diffuse agricultural pollution (4 ECTS)  
English/Spanish

Integrated pest management in plant protection (3 ECTS) English/Spanish

Advanced seminars (9 ECTS) English/Spanish

### 2<sup>nd</sup> Semester

Agricultural reuse of organic residuals (4 ECTS)  
Spanish

Bioenergy: plants for a sustainable development (4 ECTS) Spanish

Risk management in agriculture in a context of global change (4 ECTS) English/Spanish

Pedometrics: mathematical techniques and modelling (4 ECTS) English/Spanish

Experimental design and statistical data analysis (4 ECTS) English/Spanish

Resource valorisation (4 ECTS) Spanish

Soil quality and growing media (5 ECTS)  
English/Spanish

MASTER THESIS (15 ECTS)







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Development Centre  
School of Agricultural Engineering  
Tel. +34 91 356 5805  
itd@upm.es



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Madrid has something for everyone, from world-famous museums such as the Prado and Reina Sofia, to the beautiful Retiro Park nearby. Puerta de Alcalá, bustling street markets such as El Rastro, as well as an energetic nightlife throughout the city.



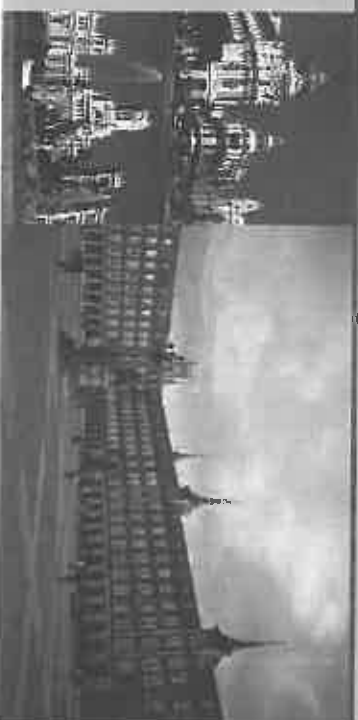
MASTER  
TECHNOLOGY  
FOR HUMAN  
DEVELOPMENT

OFFERED IN SPANISH



INTERNATIONAL  
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EXCELLENCE

We engineer Life, Food and Environment



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# MASTER DEGREE

## MSc PROGRAMME

This programme focuses on innovation and technology for development, meeting the new sector trends and connecting with an international network of experts

### Specialisation:

- Basic services delivering: water and sanitation, energy, environment
- ICT
- Rural Development and Agroforestry
- Planning and Urban Development

### Students can benefit from:

- 6-month internship in leading organisations
- UFM professors and visiting staff from other universities
- Collaboration with NGOs, development agencies or companies

### 1st Semester

Fundamentals of theory and development policy  
(6 ECTS) Spanish

The international cooperation and development system  
(6 ECTS) Spanish

Networks and partnerships for development  
(6 ECTS) Spanish

Aid methodologies: cycle  
(6 ECTS) Spanish

Geographical Information Systems  
(6 ECTS) Spanish

Research methodologies  
(6 ECTS) Spanish

### 2nd / 3rd Semesters

Water, Energy and Environment module  
(18 ECTS) Spanish

ICT module  
(18 ECTS) Spanish / English

Rural Development and Agroforestry module  
(18 ECTS) Spanish

Planning and Urban Development module  
(3 ECTS) Spanish

Optional subjects  
(12 ECTS)

Professional Practice and Master Thesis



[etsia.upm.es/master\\_viticulture\\_enology](http://etsia.upm.es/master_viticulture_enology)



Apply Online

**Contact Details:**

Department of Food Science and Technology  
School of Agricultural Engineering  
Tel: +34 91 336 5745  
[fernando.calderon@upm.es](mailto:fernando.calderon@upm.es)



STUDENT LIFE  
IN MADRID

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MASTER  
VITICULTURE  
AND ENOLOGY

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# MASTER DEGREE

## MSc PROGRAMME

The Master in Viticulture and Enology of the UPM opens up opportunities to top level managerial positions such as directors or managers of wine & wine research stations and laboratories; cellar managers, consultants or advisors in viticulture and enology; market & trade consultants, research, teaching & lecturing. The Master is designed to provide graduates with a solid foundation in science, economics and management.

The Master in Viticulture and Enology joined a new programme 'Vinifera Eurormaster' in 2006 providing our students with the chance to obtain a 2-year double diploma programme in 6 European Universities: Montpellier Sup'Agro, Geisenheim, Udine, Torino, Lisbon and Madrid.



**GRACIE MASTER VIN**  
**Viticultura y Enología**



**EMAVE**

### 1st Semester (30 ECTS)

Wine Engineer and Enology

Grape and wine Chemistry and Microbiology

Sensory Analysis

Wine Physiology and Ecology

Vine Pathology and Pest control

Viticulture

Wine Sector Economy

### 2nd Semester (30 ECTS)

Wine stabilization and ageing in dry regions

Wine Chemistry and Microbiology and warm areas

Vineyard management and dry regions

Varieties and Ecophysiology in dry regions

Wine Marketing and trade tendencies in Spain

Study trips (3 one-week trips) and several one-day

**MASTER THESIS (15 ECTS)**





[www.upm.es/helios/](http://www.upm.es/helios/)

Apply Online

#### Contact Details

Department of Projects and Rural Planning  
School of Agricultural Engineering  
Tel: +34 91 336 3986  
[mdrgs.agronomos@upm.es](mailto:mdrgs.agronomos@upm.es)



## STUDENT LIFE IN MADRID

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M A S T E R S

# PROJECT PLANNING FOR RURAL DEVELOPMENT AND SUSTAINABLE MANAGEMENT



OFFERED IN ENGLISH AND SPANISH



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Ingeniería y Tecnología

INTERNATIONAL  
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**POLITECNICA**  
"Ingenieramos el futuro"



**AGRÓNOMOS  
ETSIAUPM**



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# MASTERS DEGREE

## MSC PROGRAMME

The general objective of the Masters is to train students in the planning and evaluation of rural and local development projects and in sustainable management of territories and their biodiversity.

The Masters Programme is open to students who hold a bachelors degree from any country. Over 70 percent are international students.

The masters can be studied in two programmes:

- **UPM programme** Get the official degree of one of the 10 most sought-after masters at the Technical University of Madrid
- **AgrisMundus programme** Join the master during the second year of an European ErasmusMundus joint masters degree ([www.agrismundus.eu](http://www.agrismundus.eu)).

The Masters allows access to the UPM Doctorate programme, accredited with the "Doctorate of Excellence" award

### 1st Semester

Rural / Local Development Project Management (5 ECTS) COMPULSORY

Evaluation design: Methods and tools (5 ECTS) COMPULSORY

Rural Planning with ecological basis: Development models (5 ECTS) COMPULSORY

Writing the Thesis and scientific articles (3 ECTS) COMPULSORY

Competence baseline in project management (2 ECTS) OPTIONAL

Collaborative, participatory and empowerment evaluation (2 ECTS) OPTIONAL

Planning in the public domain: From to knowledge to action (2 ECTS) OPTIONAL

Human Development (3 ECTS) OPTIONAL

### 2nd Semester

Technologies for studying the territory: Remote sensing and GIS (3 ECTS) COMPULSORY

Socioeconomic assessment of sustainability (3 ECTS) COMPULSORY

Decision support system (4 ECTS) COMPULSORY

Sustainable management of agroforestry soils and water (3 ECTS) COMPULSORY

Techniques and models of sustainable management and biodiversity conservation (4 ECTS) COMPULSORY

Application of socially intelligent complex systems for rural development (2 ECTS) OPTIONAL

Natura 2000 Network: concepts and evaluation of habitats conservation (3 ECTS) OPTIONAL

### MASTERS THESIS (15 ECTS)

All compulsory subjects must be attended plus five optional subjects

