



POLITÉCNICA

ERASMUS MUNDUS PROGRAMME ▶

EM

Universidad
Politécnica
de Madrid

INTRODUCTION

The Technical University of Madrid (UPM, Universidad Politécnica de Madrid) is the oldest and largest of the Spanish Technical Universities, UPM has more than 3,000 faculty members, around 38,000 undergraduate students, and approximately 8,000 graduate and PhD students.

UPM's Schools cover most engineering disciplines including Aeronautical, Agronomical, Chemical, Civil, Electrical, Electronic, Environmental, Forestry, Geology, Industrial, Mechanical, Mining, Nuclear, and Naval Engineering, as well as Architecture, Computer Science, Materials Science, and Surveying, Geodesy & Cartography. In addition, UPM includes Centers for Physical Education and Sports, Fashion & Design, and Distance Education.

The Erasmus Mundus Programme is an inter university mobility post graduate programme which promotes the European Union as a centre of excellence in learning for students from around the world. It supports European top-quality Masters Courses and enhances the visibility and attractiveness of European higher education in third countries. It also provides EU-funded scholarships for third country nationals participating in these Masters Courses, as well as scholarships for EU-Nationals studying in third countries.

From the very beginning UPM has played a very active role in the European Union Erasmus Mundus programme. It is currently leading one Erasmus Mundus Master Course (EMMC) and taking part in four more as well as in two Erasmus Mundus Joint Doctorates (EMJDs). Moreover, UPM participates in three Erasmus Mundus Brand Name (EMBN) Master Courses although only one of them is being currently taught.

EMBNs are EMMCs that were successfully implemented over the last five years with funding from the Erasmus Mundus Programme. However, as a result of the highly competitive nature of the selection and the limited budget available, these courses are not currently selected for Erasmus Mundus scholarships.

Each of these EMMCs has demonstrated high quality throughout, and has therefore been awarded by the European Commission/EACEA an Erasmus Mundus Brand Name (EMBN), by which it commits itself to maintain the requirements and level of excellence expected from an Erasmus Mundus Master Course.

Candidate students interested in participating in one of these Erasmus Mundus Master Courses should visit its website for further information on the participation requirements and, if applicable, the availability of alternative scholarships.

For more information on the Erasmus Mundus programme, please consult
http://ec.europa.eu/education/external-relation-programmes/doc72_en.htm
More information on UPM can be obtained at <http://www.upm.es>



Erasmus Mundus Master Courses



EMSE

European Masters Course in Software Engineering

The objective of the two year European Masters in Software Engineering is to educate software engineers who meet the requirements of today's international software practice. EMSE is given by a network composed of UPM as Coordinator, Blekinge Institute of Technology (Sweden), University of Kaiserslautern (Germany) and the Free University of Bolzen (Italy). The partners' institutions have strong relationships with European software companies which guarantee that students of this programme will be able to deal with industry's real problems.

The EMSE programme is based on 45 ECTS credit points of fundamental SE compulsory modules taught by all of the partner Institutions; 37.5 ECTS credit points on Selected Advanced Modules which are based on the specific research strengths of each of the partner Institutions; a compulsory project of 7.5 ECTS credit points; and a master thesis of 30 ECTS credit points.

The language of instruction is English. Students can follow the EMSE programme at any two Institutions of the consortium (with half of the total academic load ECTS at each of the two Institutions), and receive the corresponding double degree provided by those two institutions. Students may move from one partner institution to another in any semester within the two-year study period (modules and project are the entities that must be done completely at a single partner institution). Student mobility is based on the fact that all master students, at whatever partner institution they study, will be brought to a comparable level of knowledge and skills (through the compulsory subjects) during the first year.

More information on the European Masters Course in Software Engineering can be obtained at

<http://emse.fi.upm.es/>



AGRIS MUNDUS

Sustainable Development in Agriculture Masters Course

The two year AGRIS MUNDUS Masters Course is a product of NATURA, the network of European Universities for Higher Education in tropical and subtropical agriculture. Since 1988, NATURA has collaborated closely with institutions in Asia, Africa and the Americas providing post graduate education and training opportunities. NATURA focuses on improving the management of rural and agricultural development for disadvantaged populations. This innovative approach is based on mobility of people, on exchanging experiences in different disciplines, and on the establishment of a common high quality standard in education and training.

The Institutions involved in AGRIS MUNDUS are the Wageningen University and Research Centre in the Netherlands, the Royal Veterinary and Agricultural University (KVL) in Denmark, the University of Cork in Ireland, the University of Catania in Italy, UPM, and the Coordinator, the Centre National d'Etudes Agronomiques des Régions Chaudes at Montpellier (France).

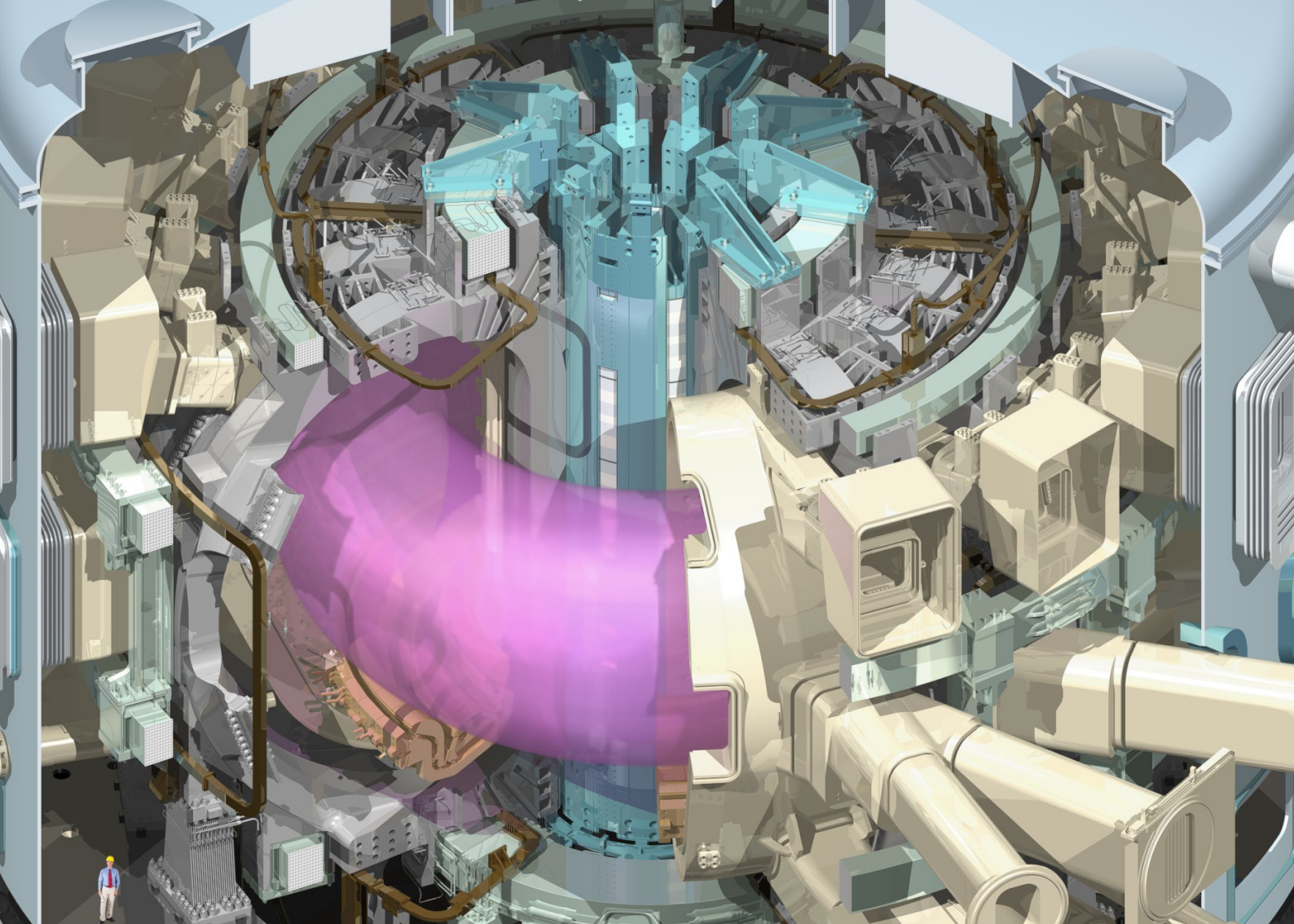
The programme involves one academic year in any of the Institutions, and another academic year in any (different) Institution in a different country, which gives 12 possible combinations.

Seven different specializations are offered: Agricultural systems research & development, Horticultural crops management, Livestock production & systems, Tropical rural forestry, Land & water management, Human Nutrition & Food Systems, and Rural local development & food security. The 4th and last semester of the program is entirely devoted to the thesis work.

More information on AGRIS MUNDUS can be obtained at

http://eacea.ec.europa.eu/erasmus_mundus/results_compendia/selected_projects_action_1_master_courses_en.php

and at <http://www.agrismundus.eu/agris-mundus>



FUSION-EP

European Master in Nuclear Fusion Science and Engineering Physics

The aim of this two year Masters programme is to provide a high-level multinational research-oriented education in fusion-related engineering physics, in close relation to the research activities of the partners, and with a well-integrated language and cultural experience.

The combined and harmonized teaching & research of the 7 universities participating in this program offers a great variety of competences in the field of fusion science and engineering physics. The Joint European Masters Programme offers a genuine European opportunity for Master level studies in a field which is of crucial importance to contribute to the solution of the ever more urgent and vital problem of world energy supply.

The partners in the Consortium are: Universiteit Gent (Belgium), Coordinator of the Masters programme; Université Henri Poincaré, Nancy (France); KTH (Kungliga Tekniska Högskola), Stockholm (Sweden); Universidad Complutense, Madrid (Spain); Universidad Carlos III, Madrid (Spain), UPM, and. Universität Stuttgart, Germany.

In view of the expertise of the partners, the programme offers three programme tracks to the students: Plasma physics (fusion-oriented), Computational methods in physics, and Instrumentation & Radiation. The programme structure is combined with a mandatory stay of the student at three universities in three different countries: semesters 1&2 at University A; semester 3 at university B; and semester 4 (Master thesis) at university C. Semesters 3&4 specialize in a particular track. After the second semester a summer event is organized in which the tracks and Master thesis topics are proposed. Student mobility is an inherent part of the programme structure and philosophy.

More information on FUSION-EP can be obtained at

http://eacea.ec.europa.eu/erasmus_mundus/results_compendia/selected_projects_action_1_master_courses_en.php

and at <http://www.em-master-fusion.org>



ME3

Masters of Science in Management and Engineering of Environment and Energy

The aim of the ME3 Programme is to provide the students with the technical and managerial knowledge and skills required for pursuing managerial careers in the environment and energy areas. The Consortium of the European joint Masters of Science in Management and Engineering of Environment and Energy is composed of 5 institutions: Escuela Técnica Superior de Ingenieros Industriales from Universidad Politécnica de Madrid (ETSII/UPM), Spain; Ecole Nationale Supérieure des Techniques Industrielles et des Mines de Nantes (EMN), France; Kungliga Tekniska Högskolan (Royal Institute of Technology) (KTH), Sweden; Budapest University of Technology and Economics (BUTE), Hungary; and Queen's University of Belfast (QUB), Northern Ireland, United Kingdom.

The ME3 programme (2 years-120 ECTS) is composed of an academic period which lasts 3 semesters, and an industrial or research project which covers the last semester. The first two semesters (part 1 at ETSII/UPM and part 2 at EMN) are well-balanced between Management Sciences and Environmental Process Engineering. To complete these two parts, two options are proposed during the 3rd semester, with a specialised teaching in either Sustainable Energy Engineering (Option 1-KTH) or in Rational Use and Design of Energy Technology (Option 2-EMN).

Either a research or an industrial project work can be performed, depending on the choice of the student. A research project work can be conducted in one of the Consortium universities, but the student can choose another institute. Industrial projects are geared towards solving company's environmental and/or energy problems and involve advanced engineering and management tasks.

More information on ME3 can be obtained at
<http://www.emn.fr/z-de/m-europe-me3/spip.php?article2>



VINIFERA EUROMASTER

European Master of Science of Viticulture and Enology

Vinifera EuroMaster (European Masters of Viticulture and Enology) offers a gateway to positions worldwide for executives and managers in vine and wine sectors. Vinifera EuroMaster Alumni students will create a network of international experts diffusing European visions on wine, providing international knowledge of the sector in all its diversities and specificities.

This EMMC is organized by EMaVE Consortium composed of partners from 5 European countries: France (Montpellier SupAgro / ENITA Bordeaux); Germany (Hochschule RheinMain, University of Applied Sciences / Forschungsanstalt Geisenheim / Justus-Liebig-Universität Gießen); Italy (Consorzio fra le Università degli studi di Udine / Padova / Verona ; Consorzio fra le Università degli studi di Torino / Milano / Palermo / Foggia / Sassari); Portugal (Universidade Técnica de Lisboa, ISA / Universidade do Porto, Fac. de Ciências); Spain (Universidad Politécnica de Madrid, ETSIA). Each of these partner universities has accreditation for a national Master Degree of Viticulture, Enology, and related Economic and Social Sciences. They deliver a joint degree after successful completion of Vinifera EuroMaster. Most lecturers and professors are experts and researchers in their disciplines thus guaranteeing high standard of education. Many lectures are given by professionals.

Vinifera EuroMaster is a two-year multidisciplinary Master course (120 ECTS). All the 32-34 students spend the first year in Montpellier, France; lectures are all in English. Second-year lectures are delivered in English in Germany and Portugal, but mainly in native languages in Italy and Spain. The curriculum includes elementary training of French in first year, and also of German or Portuguese if needed in second year; for students who choose Italy or Spain in second year, B2 level in local language is required, but language preparation is provided during first year

First year program is composed of common study core modules delivered by lecturers, professors, researchers, from all EMaVE institutions. Modules are sequential, except for Languages and Sensory Analysis. An initial immersion sequence facilitates students integration. Further sequences help them make the final choice of hosting country in year 2. The final module is a study trip to various terroirs in different European countries.

Second year programs are mainly composed of elective modules (30 ECTS) allowing students to build a specialized curriculum fitted to their professional goals. The last Semester is devoted to the Master thesis preparation (30 ECTS).

More information on the Erasmus Mundus Master course VINIFERA can be obtained at

<http://vinifera-euromaster.eu/>



***Erasmus Mundus Joint Doctorates
(EMJDs)***



AgTrain

Agricultural Transformation by Innovation

AgTrain is a fully integrated doctoral programme offered by six leading European universities and their worldwide associated partner institutions, in the field of agricultural development, commercialization and farmer innovation in developing countries. Development of the agricultural sector is one of the most effective ways to achieve equitable and pro-poor economic growth and increase food security. Improved understanding of production systems, value addition of products and commercialization are all necessary to unlock the development potential. AgTrain doctorates will be equipped with a wider set of competences, which match the requirements of the public and the private sector within agricultural development and facilitate the contact between scientists, practitioners and beneficiaries.

The AgTrain Programme offers an added value to existing programmes through linking and extending European academic networks through joint supervision and mobility periods for students and staff. The inclusion of third country partners in the consortium brings a wealth of contextual, academic expertise and local networks to farmer organizations, developers and agro-industries. Adopting interdisciplinary perspectives to the doctorates specialization through co-supervision and joint field campaigns with other researchers ensures the broadening of research foci as well as ensures relevance and applied perspectives through consultations with associated partners and external stakeholders. A key feature of the program is the involvement of key stakeholders in identifying research questions and participating in the project formulation. The involvement of stakeholders at this stage creates linkages with the program that creates opportunities for further research as well as opens up connections that may lead to employment of the doctorates.

The AgTrain programme has one annual call. AgTrain has common training modules and joint supervision as well as shared evaluation and quality assurance principles. All coursework can be completed in English. The mandatory mobility between two partner institutions will ensure exposure to two European languages and cultures during the doctoral training. The programme's cost model ensures that all doctorates have full funding for living, operational costs and study fees. All AgTrain doctorates will be employed on contracts, with social security measures matching national standards.

More information on the Erasmus Mundus Joint Doctorate Agricultural Transformation by Innovation can be obtained at

http://eacea.ec.europa.eu/erasmus_mundus/funding/2010/selection/documents/a1_emjd_2010selection-v3.pdf

and at <http://www.agtrain.eu>



EDIM

European Doctorate in Industrial Management

The European Doctorate in Industrial Management (EDIM) is a four-year state-of-the-art doctoral research program for doctoral training addressing managerial issues of significance for the future competitiveness and sustainability of the industrial companies of Europe. The mission of the program is to generate cutting edge knowledge at the intersection of engineering and management.

Our ambition is to produce doctors with a new European profile reflecting a wide scientific and international breadth in engineering and management. EDIM candidates will conduct research directed to in close cooperation with European industry as a means to foster deep insight into managerial challenges of globalization and a profound intercultural awareness. EDIM-graduates will be able to address challenging managerial issues of globalization in industrial endeavours as they arise in e.g. operations, research and development, industrial marketing, innovation, and entrepreneurship.

EDIM's uniqueness lies in the fact that it acknowledges the importance to integrate a management perspective with deep technical knowledge. The program is multi-disciplinary and empirically driven in order to gain a clearer understanding of the patterns and conditions for industrial endeavours in today's international environment.

Structure

EDIM will have an international group of PhD-candidates working with a coordinated set of research issues at the three partner universities simultaneously. A common EDIM curriculum, joint supervision, quarterly EDIM workshops, planned candidate mobility, a double doctoral degree, an international advisory board, and a joint scientific committee from the partners will hold the program together. The program will admit nine candidates annually, who will be equally distributed among the three partners. Each candidate will be based primarily at one "home" university, but work at least 12 month of the program at a "host" university. In addition, there will be extensive time spent on empirical fieldwork.

Eligibility and degree

EDIM only admits candidates with a M.Sc. in engineering. The EDIM candidates will graduate with a double doctoral degree. Consequently each candidate will be enrolled at two of the partner universities (“home” and “host”) and will have to fulfil all the requirements and meet the quality standards of both universities.

Program Consortium

EDIM is run by a consortium consisting of the industrial management departments of the most prominent and well-respected engineering universities in Sweden, Italy, and Spain.

Kungliga Tekniska Högskolan, KTH (Royal Institute of Technology), Stockholm, Sweden; Universidad Politécnica de Madrid, UPM, Madrid, Spain; Politecnico de Milano, POLIMI, Milan, Italy.

In addition there are three associate partners, representing Europe, Asia and Latin America: Swiss Federal Institute of Technology Zurich ETHZ, Switzerland; Universidade de São Paulo, USP, Brazil; Rajamangala University of Technology Thanyaburi, RMUTT, Thailand.

EDIM is endorsed by several companies and associations, e.g. Top Industrial Managers for Europe (T.I.M.E. Association); The Swedish Royal Academy of Engineering Sciences (IVA); and the Italian Association of Engineering and Contracting Organizations (ANIMP).

More information on the Erasmus Mundus Joint Doctorate in Industrial Management can be obtained at
http://eacea.ec.europa.eu/erasmus_mundus/funding/2010/selection/documents/a1_emjd_2010selection-v3.pdf
and at <http://www.kth.se/edim>



***Erasmus Mundus Brand Name (EMBN)
Master Courses***





International Master in Industrial Management

The International Master in Industrial Management (IMIM) is a degree in general management focused on technology based industrial and service companies. This Masters Course is coordinated by UPM and is operated in conjunction with Politecnico di Milano (Italy) and KTH (Kungliga Tekniska Högskolan), Stockholm (Sweden). The overall aim of the programme is to provide students with a primarily scientific or engineering based educational background with business skills relevant for pursuing managerial careers in internationally oriented manufacture and service industries.

The duration of the IMIM programme is four semesters. During the first semester, which takes place at UPM, a solid foundation comprising introductions to organizational behaviour, financial and managerial accounting, corporate finance, marketing, strategy and economics, is provided. The second semester, which takes place at the Politecnico di Milano, is designed to further develop the students' proficiency in operations, quality and supply-chain management techniques, at the strategic, tactical and operational levels. The third semester at KTH, Stockholm, comprises courses in management control, human resource management, industrial project management, industrial marketing and entrepreneurship. During the final semester, the student conducts project work in a company.

More information on IMIM can be obtained at

http://eacea.ec.europa.eu/erasmus_mundus/results_compendia/selected_projects_action_1_master_courses_no_scholarships_en.php
and at <http://www.imim.polimi.it>

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