

Master Programme in Innovation and Technological Entrepreneurship

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5 Years Accreditation
A3ES 31MAR2014

Value Proposition

Integrated training in the innovation process and in technology, promoting the creation of new technology-based businesses. Our students go through a rigorous hands-on training that covers the entire venture creation process.

Short description

In a group setting, the exposure to different thinking styles and people promotes what is called creative abrasion, which, if properly managed, can greatly enhance the innovation potential. This is the philosophy behind MIETE, which was conceived to promote innovation and entrepreneurship with multidisciplinary teams. With this in mind, MIETE aims at adapting itself to the profiles of candidates from different

areas including, amongst others, Management, Engineering, Biotechnology, Sciences and Design. Throughout the programme, the teams develop key integrated competencies on innovation, entrepreneurship and technology that will ultimately enable the students to create and develop new technology-based businesses.

People who should follow this programme: anyone with a strong will to creating new businesses.

People attending MIETE are usually middle managers from the private sector, faculty staff and researchers or recent graduate students wishing to major on innovation and entrepreneurship. Students applying to MIETE should have completed their 1st cycle – cf. Bolonha.

U.PORTO Course Plan for 2015/2017

2nd Cycle - Bolonha

1st YEAR		2nd YEAR	
1st Semester	2nd Semester	3rd Semester	4th Semester
Elective <div style="background-color: #808000; color: white; padding: 2px;">6 ECTS</div>	Elective <div style="background-color: #808000; color: white; padding: 2px;">6 ECTS</div>		
Introduction to Entrepreneurship <div style="background-color: #008000; color: white; padding: 2px;">6 ECTS</div>	Project for Opportunity identification and Evaluation <div style="background-color: #4B0082; color: white; padding: 2px;">6 ECTS</div>	Business Construction Project <div style="background-color: #D62728; color: white; padding: 2px;">9 ECTS</div>	
Product and Services Development Management <div style="background-color: #FFD700; color: white; padding: 2px;">6 ECTS</div>	Innovation Management <div style="background-color: #008000; color: white; padding: 2px;">6 ECTS</div>	Business Law <div style="background-color: #FF8C00; color: white; padding: 2px;">3 ECTS</div>	
Marketing Management <div style="background-color: #0000FF; color: white; padding: 2px;">6 ECTS</div>	Startup's Strategy <div style="background-color: #D62728; color: white; padding: 2px;">6 ECTS</div>	Finance and Capital Budgeting <div style="background-color: #D62728; color: white; padding: 2px;">6 ECTS</div>	
Introduction to accounting and financial management <div style="background-color: #D62728; color: white; padding: 2px;">3 ECTS</div>	Quantitative Methods <div style="background-color: #4682B4; color: white; padding: 2px;">3 ECTS</div>	Research Methods and beginning of the preparation of the Dissertation / Project /Internship <div style="background-color: #4682B4; color: white; padding: 2px;">12 ECTS</div>	
Technology Commercialization <div style="background-color: #008000; color: white; padding: 2px;">3 ECTS</div>	Marketing Research <div style="background-color: #4B0082; color: white; padding: 2px;">3 ECTS</div>		Dissertation / Project /Internship <div style="background-color: #008000; color: white; padding: 2px;">30 ECTS</div>

AREAS	
	Product design
	Innovation Mgt.
	Management
	Marketing
	Marketing Research
	Law
	Research Methods

Learning Outcomes - By the end of each course the student should be able to...

Electives: Optional courses from any 2nd Cycle at U.Porto. However, students with no technological background will have to choose courses from technology areas.

Examples of U.Porto of electives that may be selected are (*): “Creativity” and “Organizational Behaviour and Leadership”.

Introduction to Entrepreneurship: Understanding and analysing the entrepreneurial process and the entrepreneurs’ way of thinking, reasoning and acting. Applying different methods for generating Innovative products and services (user-driven and technology push); Being able to effectively interact with the Inventor and/or Research Team.

Product and Services Development Management: Create confidence in your own ability to create a new product/service; Raise awareness of the role of the customer and multiple functions/stakeholders in creating a new product; Develop the ability to coordinate multiple, interdisciplinary tasks, in order to achieve a common objective; Enhance team working skills; Learn how to manage a product development project.

Marketing Management: Demonstrate the ability to thoroughly and creatively analyse information using marketing frameworks to make decisive recommendations for action in a given marketing situation. Accurately identify marketing problems, create strategic solutions, and recommend effective tactical plans that demonstrate knowledge of integrated marketing concepts. Show awareness and sensitivity for the global nature of marketing and markets, by considering diverse points of view, and adapting to unique market requirements.

Technology Commercialization: The focus of this course is high technology, particularly radical innovation. Many organizations possess technology and intelligence that is not used or is used only for captive applications. An effective method of technology transfer can produce: Technological products in the form of licenses or rights to use, which can be sold repeatedly with a relatively low cost of goods sold resulting in a continual stream of income. Technological products that are one of the few articles of commerce for which governments provide and sanction monopoly rights for an extended period of time.

Introduction to accounting and financial management: Equip students with a set of skills that allows them elaborate and interpret the different financial statements that are produced

by the accounting, basis of all economic and financial analysis, and are part of decision-making process. Acquaint students with financial analysis techniques that enable company diagnosis based on financial information

Project for Opportunity identification and Evaluation: Generate product or service concepts that have the potential for addressing the market. Recognizing an opportunity for technology valorization. Executing a Feasibility Study (Description of the Project, Market Feasibility, 1st approach to Technical Feasibility).

Innovation Management: Assess and interpret innovation processes; Develop and formulate managerial strategies to shape innovative performance; Utilise tools of innovation management to map and measure innovative activities; Diagnose different innovation challenges and make recommendations for resolving them.

Startup’s Strategy: To endow students with fundamental concepts of entrepreneurial Strategy development for the commercialization of a technology-based product/service. To develop and extend the knowledge (i) on Business Models (BM) and on the relevance of its implementation in the specific reality of each business.(ii) on the reality of setting-up a Startup, understanding the major differences with an established company. To endow students with the use of previously acquired concepts on financial evaluation of investment projects and on funding a new technology based venture. To endow students with the capability of: a) Creating and implementing a complete, concise and well founded (i) strategic plan and (ii) BM compatible with the strategy, both adequate for a technology based venture. b) Having an holistic and integrated vision of a business venture, involving all its resources and stakeholders; c) Assuming and executing the setting up of a startup based on a Business Plan with adequate financial structure

Quantitative Methods: Inference and statistical significance (Estimating confidence intervals, Parametric tests and Non-parametric tests); Multivariate analysis and causality (Multiple linear regression, Binary logistic regression); Multivariate analysis of latent structures (Cluster analysis and Principal components and factor analysis) Scale analysis: reliability and composition of scales

Learning Outcomes (continued)

Marketing Research: Define and study research questions; Plan the marketing research steps; Comprehend and identify the various data sources; Understand and compare different qualitative and quantitative techniques for data collection; Design a questionnaire; Analyse the data.

Business Construction Project: Executing a Feasibility Study. Producing a Business Plan supported by all adequate primary and secondary sources of information. Producing a business pitch presentation.

Business Law: The course objective is to enable the knowledge of the key financial and legal aspects to be taken in consideration when developing and implementing a business plan adjusted to the reality of a new company.

Finance and Capital Budgeting: This course seeks to equip students with a set of skills that allows them elaborate a business plan, project a firm financial statements and interpret the valuation criteria.

Research Methods and beginning of the preparation of the Dissertation / Work Project /Internship: At the end of the course, the student should be able to: understand some basic concepts of research and its methodologies; identify appropriate research topics and a research problem; prepare a project dissertation proposal. At the final essay, the student is expected to: clearly identify the research question(s) and discuss the gap/opening question he wants to study in its master dissertation; fully perform a literature review and systematize the relevant literature in a main framework; justifiably identify the methodology suitable to analyze the problem in research (based in the relevant literature); plan the research work through a chronogram.

(*) The offer of electives from other Master Programs may depend on the enrollment of a nimum number of students in that Program.

Cultural Project

Training and New Business Construction

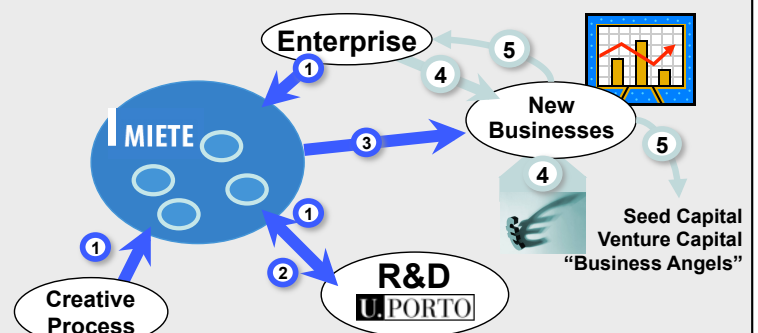
This 2nd Cycle promotes and innovative combination of training in technology (any topic from the University of Porto), Creativity, Development of New Products and Services and management, promoting, whenever appropriate, the valorisation of technologies through the construction of commercialisation strategies and their implementation through licensing or through the creation of new businesses. In this context, where innovation is approached as a conscious and consistent effort for identifying new opportunities, MIETE aims at bridging the gap between the technology discovery – conducted at Faculties, Research Institutes, Research Unites and Enterprises – and the commercialisation of innovative technology-based products and services, both through the constructions of new businesses or through the transfer of technology to existing companies.

MIETE as Pivot in the Technology Transfer Process

The model with which MIETE started in Sep/04 relied heavily on the interaction of MIETE teams and R&D groups at the University of Porto. In Sep/06 the new MIETE students faced an increment in training in the usage of creative processes and techniques to support the early ideation phases.

In parallel, the course started the establishment of bridges to the enterprises. This connection is crucial for the role that MIETE aims at playing in the Portuguese society. The picture below illustrates the current MIETE operations model where MIETE multidisciplinary teams play an interface role in Training, Technology Transfer, R&D and established enterprises.

By promoting this close relationship with R&D groups and Enterprises, MIETE wishes to explicitly position itself as a Pivot in the innovation process, technology transfer and new venture creation.



Advisory Board

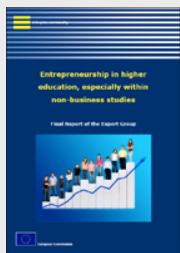
Mission

The MIETE Advisory Board has as its main mission evaluating and suggesting improvements to MIETE in order to make it more relevant to the enterprises. With this objective in mind, the Advisory Board should make comments to the actual course contents and make its own evaluation of MIETE graduates, and finally on the MIETE positioning as a pivot on the innovation process between the enterprise world and the University.

Members of the Advisory Board

- António Câmara - Chief Executive Officer YDREAMS (www.ydreams.com)
- Fernando Santo - President of the Portuguese Engineers Society (www.ordemengenheiros.pt)
- José António Ferreira de Barros - President of Portuguese Business Association (www.aeportugal.pt)
- Ludgero Marques – President of CIFIAL (www.cifial.pt)
- Mário Pinto - President of Change Partners – Venture Capital (www.changepartners.pt)
- Paulo Azevedo - Chief Executive Officer of Sonae SGPS (www.sonae.pt)
- Pedro Peixoto - Manager / Entrepreneur
- Peter Prud'homme - Director of Cross-Cultural Organisations Consulting, The Netherlands
- René Cordeiro - Managing Partner, Strategy Process International (www.strategypi.com)
- Robert Meyer - Austin, Texas, USA
- Robin Lowe - Principal Lecturer at Sheffield Hallam University / Organisational Competitiveness, UK (<http://www.shu.ac.uk/research/ciod/>), United Kingdom

Example of Good Practice



The report produced for the European Commission “Entrepreneurship in higher education, especially within non-business studies – Final Report of the Expert Group”, features MIETE (page 51) in its Chapter 5 (“SOME EXAMPLES OF GOOD PRACTICE”) under the topic: “Building integrated competencies on innovation, entrepreneurship and technology, enabling students to create and develop new technology-based businesses, and ultimately bridging the gap between technology discovery and the commercialisation of innovative products and services.”

Further Information

<http://www.fe.up.pt/miete> - MIETE Homepage

<http://tv.up.pt/users/miete/> - Video 10 years of MIETE History / Presentation of MIETE Program Structure

<http://paginas.fe.up.pt/miete/blog> - MIETE Blog (2004-2014, 10 years of stories)