MS ECE & MBA
DOUBLE DEGREE PROGRAM
2015-2017
Carnegie Mellon University

Carnegie Mellon University is a global research university with more than 11,000 students, 86,500 alumni, and 4,000 faculty and staff. ECE is the largest department within the Carnegie Institute of Technology. ECE has over 100 faculty members, including research, adjunct, and courtesy faculty. The department serves about 450 undergraduate and approximately 400 graduate students.

// Exciting new research is taking place in ECE. Cutting edge research areas include cybersecurity, information processing and storage, and nano-enabled technologies. Many interdisciplinary research centers and laboratories have a home in the ECE Department.

// The ECE Department collaborates with partners from academia and industry both locally and worldwide. While the majority of the work takes place on the Carnegie Mellon Pittsburgh campus, collaborations extend far beyond. ECE is constantly engaging in global collaborative research and teaching efforts through extension of academic programs and research agreements.
UNIVERSITY OF PORTO

The University of Porto is over 100 years old and is among the largest and best education and research institutions in Portugal.

Over 31,000 students, 2,300 faculty and researchers along with 1,000 administrative staff are part of its 15 schools and 69 scientific research units, spread across 3 university campuses located in the city of Porto. Every year, over 3,500 international students choose this university to complete their education. U.Porto is responsible for over 23% of the Portuguese articles indexed each year in the ISI Web of Science, and its innovation has generated more than 120 national and international patents. The U.Porto is considered the best Portuguese university and is listed in the Times Higher Education Ranking.

PORTO BUSINESS SCHOOL

Porto Business School is the business school of U.Porto. Its unique governance structure involves top business leaders and 35 large corporations, ensuring also a practical approach to management education.

The Faculty of Engineering is the largest school at U.Porto, with over 7,000 students and more than 400 teaching and research scholars. The ECE Department offers several graduate programs at master and doctoral level, while developing cutting edge research in collaboration with several national and international partners.

The school is currently listed in the Financial Times Executive Education worldwide ranking and its MBA programs have been internationally accredited by AMBA and EFMD/EPAS.

Porto Business School receives around 1,800 students annually and offers a wide array of executive education programs. This includes 15 annual postgraduate programs and shorter courses on all areas of Management, as well as applied research services and in-company training programs.
2. THE PROGRAM

OVERVIEW

1. ESSENTIALS
   - A two-year double degree international program that includes:
     - Professional MS in Electrical & Computer Engineering (awarded by CMU)
     - Master of Business Administration (awarded by Porto Business School)

2. VALUE PROPOSITION
   - Delivered by a leading US university (CMU) and a foremost EU academic institution (U.Porto)
   - A curriculum focusing on technology and management
   - State-of-the-art contents with a global perspective

3. TARGET PUBLIC
   - Undergraduates or graduates with an engineering or science background
   - Minimum of two years of work experience

STRUCTURE

- The program runs for 2 semesters at the CMU campus, and 1 full year at the U.Porto campus;
- There are 2 possible configurations, allowing 2 intakes per year, one in the Fall semester and another one in the Spring semester;

- The MS in ECE (96 units) corresponds to a total of 8 ECE courses (12 units each), with 6 courses typically taken at the CMU campus and 2 courses typically taken at FEUP (U.Porto);
- The full-time MBA program (689 lecture hours, 77 ECTS – European Credit Transfer and Accumulation System) is fully run at the Porto Business School campus and further includes an international week delivered at a foreign business school.
COURSEWORK

MS ELECTRICAL & COMPUTER ENGINEERING

CMU

CMU (2 SEMESTERS)
AT LEAST 6 COURSES WITH THE FOLLOWING REQUIREMENTS:

COURSES

Courses must be at the ECE 600-level or higher (http://www.ece.cmu.edu/prospective/graduate/courses.html) or CS 700-level or higher

12 units may be graduate project units

The following ECE/CS courses may NOT be used as part of these 60 units: 18-601, 18-603, 18-605, 18-606, 18-700, 18-703 and 15-894

Any ECE course at 18-500 or above

Any course from one of the following colleges or programs (with restrictions noted below)

Any course from one of the following colleges or programs:

- XX-600 or above from the following colleges: CIT, SCS, MCS, provided such a course outside of ECE does not cover essentially the same material as an undergraduate course in ECE or CS

- XX-600 or above from the following departments and programs:
  - H&SS: Center for the Neural Basis of Cognition (86-XXX)
  - Heinz School of Information Systems & Management (95-XXX)

At most 12 units numbered XX-499 or below from the above colleges, departments and programs.

Provided the course is not essentially the same in content as equivalent undergraduate courses in ECE or CS (i.e., courses below 18-500 or 15-600) AND less than 50% of the course grade is based on an individual project AND less than 20% of the course grade is based on attendance.

Petitions for exceptions to these criteria are seldom accepted.

FEUP

FEUP (UP TO 2 ELECTIVES MAY BE FROM THE LIST BELOW):

1ST SEMESTER

- NETWORK AND SYSTEMS ARCHITECTURE AND MANAGEMENT
- MACHINE LEARNING
- MICROELECTRONIC AND MICROELECTROMECHANICAL TECHNOLOGIES
- TEST AND DESIGN FOR TESTABILITY
- DISTRIBUTED SYSTEMS AND NETWORKING

2ND SEMESTER

- IMAGE ANALYSIS AND RECOGNITION
- DISTRIBUTED SYSTEMS AND NETWORKING
- COMPUTATIONAL LEARNING
- VLSI CIRCUITS DESIGN
- PROCESSING AND CODING FOR MULTIMEDIA INFORMATION OPTICAL
- COMMUNICATIONS EMBEDDED SYSTEMS MOBILE COMMUNICATIONS
- EMBEDDED SYSTEMS

*Changes in the actual offerings of each semester may occur after the publication of this brochure.
COURSEWORK

MASTER OF BUSINESS ADMINISTRATION (THE MAGELLAN MBA *)

PORTO BUSINESS SCHOOL

FOUNDATION PERIOD
Sep 16 — Oct 18 / 2015

• Introduction to General Management
• Quantitative Methods for Management
• Financial Accounting

FIRST TERM
Oct 19 — Dec 21 / 2015

• Economics for Managers
• Marketing
• Finance I
• Business Ethics
• Human Resources Management

SECOND TERM
Jan 12 — Apr 3 / 2016

• Strategic Management
• Change Management
• Finance II
• International Financial Statement Analysis
• Management Accounting and Control
• Logistics and Operations Management
• Information Systems for Managers

THIRD TERM
Apr 4 — Jul 3 / 2016

• International Business
• International Corporate Governance
• Value Based Management
• Marketing Simulation

INTEGRATIVE TERM
Jul 4 — Oct 15 / 2016

• 6 ELECTIVE COURSES

ELECTIVE COURSES
Six Elective Courses will be chosen from the following areas of specialisation or concentration:

FINANCE AND ACCOUNTING
• Mergers and Corporate Restructuring
• Financial Risk Management
• Financial Investments and Markets
• Project Finance

ORGANISATIONAL DEVELOPMENT
• Managing Small Businesses
• Innovation and Creativity Management
• Leadership
• Business and Sustainability
• COHTEC Technology Entrepreneurship and Commercialization programme*
• Change Management
• Managing Non-Profit Organisations
• Women Entrepreneurship
• Business 360°*

MARKETING
• Relationship Marketing
• Consumer Behaviour
• Digital Marketing
• Services Marketing
• Behavioural Economics and Decision Making
• Pricing

OPERATIONS
• Global Supply Chain Management
• Service Operations Management
• Technology Management
• Purchasing Management

FINALS PROJECT

INTERNSHIP or COHTEC Programme

Building your own Business Plan

COMMUNICATION TOOLS

• Talent Book
• Talent Promotion

PERSONAL SKILLS

• Communication Techniques
• Team Management I (Outdoor)
• Team Management II (Sailing with a CEO)

PERSONAL DEVELOPMENT

• Leadership
• Personal Development I
• Personal Development II

NEGLIGENCE SKILLS

• Negotiation

ENTREPRENEURIAL SKILLS

Workshops & Seminars

Entrepreneurship vs. Intrapreneurship • Creativity & idea generation • Trend watching • Testing products & services
• Market analysis insights & tools • Strategies & business model • Planning & Implementing
• Financials & Funding options • Risk analyses • Pitching sessions with BAs/VCs

Company Visits • Visits to Incubators (e.g. U.Porto/UPTEC) • Pitches by Entrepreneurs
• COHTEC Programme • Building your own Business Plan

BUSINESS PLAN

Business Plan Overview

“Business Accelerator” Consulting Week

People Forum • Career Evenings • Networking events (alumni, employers/recruiters, school ambassadors, etc.) • Career opportunities • Talent Link

Mentoring Programme

FOLLOWERS PROGRAMME

Self-assessment • Personal marketing plan

One-to-one interviews

COMMUNICATION TOOLS

• Talent Book • Talent Promotion

IMPROVING PROGRAMME (mock interviews)

IMPROVING PROGRAMME (mock interviews)
4. APPLICATION

**ELIGIBILITY**

ELIGIBLE CANDIDATES MUST:

- Hold a Bachelor's degree (or equivalent) from an accredited university in Electrical/Computer Engineering or related fields
- Be fluent in English (IELTS, TOEFL, etc.)
- Possess at least 3 years of work experience *
- Provide a GMAT/GRE test score

**ADMISSION**

- Applicants will be jointly selected by CMU and Porto Business School, following review of submitted documentation and an interview (via Skype) by The Magellan MBA Admissions Committee
- For the 2015-17 academic year applications can be submitted, until the 30th of June 2015, through www.ece.cmu.edu/programs-admissions/ms-mba/

**FEES**

- The annual tuition fee is 42,000 USD paid in installments at the beginning of each term

* exceptions may apply in the case the applicant shows an exceptionally strong academic and/or entrepreneurial background.

5. ACHIEVEMENTS & PARTNERSHIPS

**ACCREDTION & MEMBERSHIPS** (Porto Business School)

- Accredited by AMBA (Association of MBAs)
- Accredited by EPAS (EFMD Programme Accreditation System)
- Member of AACSB (The Association to Advance Collegiate Schools of Business)
- Member of UNICON (The University Consortium For Executive Education)
- Member of the Project Management Institute
- Member of PRME (Principles for Responsible Management Education)

**AWARDS**

- 1st Place in John Molson International MBA Case Competition 2011 (Montreal, Canada)
- 1st Place at the “idea to product” competition at the Cockrell School of Engineering, University of Texas at Austin, 2010
- MBA Student of the Year (AMBA, 2014)
- 2nd Place in the MBA Entrepreneurial Venture Award (AMBA, 2014)

**RANKINGS & AWARDS**

- FT European Business Schools Ranking 2014
- #37 América Economía Best Global Business Schools Ranking 2014
- The Magellan MBA
- CNN Expansión (Top 100 Business Schools Worldwide)
- CEO Magazine 2014 (Top 25 MBAs in Europe)
- ECE at CMU
- Times Higher Education World University Rankings
- Shanghai Jiao Tong University Engineering/Technology/C.S.
For more details about
the MS/MBA Double Degree Program please contact:

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