



**DOCTORAL PROGRAMME  
IN  
ELECTRICAL AND COMPUTER  
ENGINEERING**

**2011-2012**

**Annual Annex to the  
Programme Guidelines**

**Scientific Committee**

**Programme Director**

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# 1 INTRODUCTION

This document is the 2011-2012 annex to the general document "PROGRAMME GUIDELINES". This annex presents relevant and specific information for the academic year 2011-2012, including:

- Important dates, fees and other information
- Calendar
- Streams and courses offered in 2011-2012

## 1.1 Important dates for application to the programme

For 2011 -2012 academic year, the important dates are the following:

### 1<sup>st</sup> PHASE

Application.....	26.APR to 01.JUL.2011
Results .....	22.JUL.2011
Registration .....	05.SEP to 02.DEC.2011

### 2<sup>nd</sup> PHASE

Application .....	03.OUT to 02.DEC.2011
Results .....	22.DEZ.2011
Registration .....	05.JAN to 10.JAN.2012

The selected candidates should start the studies in the semester immediately after being notified.

## 1.2 Fees

Full Time: 3000 €/per academic year

Part Time: 1800 €/ per academic year (60% of Full Time Tuition)

## 1.3 How to apply

For application the candidates should submit electronically through the FEUP website <http://www.fe.up.pt>. The application should include the following documents:

1. GRE – Graduate Record Examinations (<http://www.ets.org/gre/>).
2. TOEFL – Test of English as a Foreign Language (<http://www.ets.org/>).
3. Final marks obtained in study programs and degrees held by the candidate. Individual final marks relative to 1st and 2nd cycles will be weighted by the number of years in each cycle when computing the final mark.
4. Candidates whose final mark, computed as above, is below 14/20 will be considered only if relevant curricular information is available, e.g. the explicit support of a professor of FEUP.
5. Motivation statement.
6. Curriculum Vitae of the candidate.
7. Recommendation letters.

The PDEEC Scientific Committee may require an interview to the candidate.

For the evaluation of the applications, the PDEEC Scientific Committee will take into consideration the following items:

- GRE Test Results Certificate.
- TOEFL Test Results Certificate.
- Certified transcripts of grades obtained in all courses and of final marks in degrees held by the candidate.
- Motivation statement.
- Curriculum Vitae of the candidate.
- At least two recommendation letters should be sent directly by electronic means by the persons who write them to [pdeec@fe.up.pt](mailto:pdeec@fe.up.pt).

The PDEEC Scientific Committee may require an interview to the candidate. For any additional information you may contact the PDEEC Secretariat.

**PDEEC Secretariat:**

José António Nogueira ([jan@fe.up.pt](mailto:jan@fe.up.pt)) ; Tel.: +351.225081870

## 2 Streams and Courses offered in 2011-2012

PDEEC courses are organized in two semesters. First year students typically select two main streams plus two electives. Each main stream is composed of two courses (one course per semester). The electives are chosen within PDEEC or other doctoral programmes at FEUP. Seminars and Individual Topics are additional courses intended to help the student start the research work, and to prepare the thesis research plan under the supervision of a professor. Students must find a thesis supervisor during the first semester. The research plan needs to be discussed and approved by the Supervisory Committee at the end of the first year.

The general organisation of the programme is as follows:

1 <sup>st</sup> Semester	2 <sup>nd</sup> Semester
Seminars	Individual Topics
Main Stream 1 (two courses)	
Main Stream 2 (two courses)	
Elective 1	Elective 2

The PDEEC courses offered for 2011-2012 are shown in the following table. The student's course plan needs to be approved by the PDEEC Scientific Committee.

The streams opened in 2011-2012 are the following:

- Energy Markets (**ENMAR**)
- Power System Dynamics and Control (**PSDCO**)
- Communication Technology (**COTEC**)
- Discrete Event and Hybrid Systems (**DEHSY**)
- Image Recognition and Machine Learning (**IMRML**)
- Microelectronics and Microsystems (**MICRO**)
- Test Technology and Design for Testability (**TTDTE**)
- Operations Research (**OPRES**)
- Robotics (**ROBOT**)
- Embedded Real-Time Systems (**ERTS**)

The students can select as Electives the courses in the other streams or from other Doctoral Programmes at FEUP with similar number of ECTS, namely:

1. Doctoral Programme on Sustainable Energy Systems (PDSSE)  
<http://paginas.fe.up.pt/~pdsse/>
2. Doctoral Programme in Informatics Engineering  
<http://paginas.fe.up.pt/~prodei/site/presentation.php>
3. Doctoral Programme in Telecommunications (MAP-TELE)  
<http://www.map.edu.pt/tele>

This selection needs approval from the PDEEC Scientific Committee and requires acceptance from the PhD Programme from which the student has selected the elective(s).

The courses offered in 2010-2011 are listed in the following table.

STREAM	COURSES	
	Course coordinator, Other lecturers (the list of course professors will be updated briefly)	
	1 <sup>st</sup> Semester	2 <sup>nd</sup> Semester
Energy Markets ( <b>ENMAR</b> )	<b>Markets and Regulation</b> J. Tomé Saraiva	<b>Market Simulation</b> (a)
Power System Dynamics and Control ( <b>PSDCO</b> )	<b>Signals, Dynamics and Control</b> J. Peças Lopes Maria Helena Vasconcelos	<b>Systems with Renewables</b> Carlos Moreira Cláudio Monteiro
Communication Technology ( <b>COTEC</b> )	<b>Mobile Communications Systems</b> Manuel Ricardo	<b>Advanced Optical Communications Systems</b> Henrique Salgado
Discrete Event and Hybrid Systems ( <b>DEHSY</b> )	<b>Discrete Event Systems</b> Fernando Lobo Pereira	<b>Hybrid Systems</b> Fernando Lobo Pereira João Sousa
Image Recognition and Machine Learning ( <b>IMRML</b> )	<b>Machine Learning</b> Jaime Cardoso (c)	<b>Image Analysis and Recognition</b> Aurélio Campilho Pedro Quelhas
Microelectronics and Microsystems ( <b>MICRO</b> )	<b>Microelectronic and Microelectromechanical Technologies</b> (c) Vítor Tavares Luís Rocha (UM)	
Operations Research ( <b>OPRES</b> )	<b>Decision Support</b> José Fernando Oliveira	<b>Optimization Techniques</b> Bernardo Almada Lobo Maria Cristina Ribeiro
Robotics ( <b>ROBOT</b> )	<b>Robotic Manipulators</b> Paulo Gomes da Costa	<b>Mobile Robotics</b> Paulo Gomes da Costa
Embedded Real-Time Systems ( <b>ERTS</b> )	<b>Real-Time Embedded Systems</b> Luís Almeida Stefan Petters (ISEP) (b)	<b>Parallel and Distributed Embedded Systems</b> Eduardo Tovar (ISEP) (b) Pedro Souto (b)
	ELECTIVES	
	<b>Computational Intelligence and Power Systems</b> Vladimiro Miranda	<b>Grid Computing</b> A. Pimenta Monteiro
	<b>Signal Analysis, Classification and Processing</b> Aníbal Ferreira (b) Diamantino Freitas (b)	<b>Non-linear Control</b> Maria Rosário Pinho Fernando Lobo Pereira
		<b>Hardware/Software System Development</b> José Carlos Alves João Cardoso
	<b>Special Topics</b> Aurélio Campilho	<b>Special Topics</b> Aurélio Campilho
	INDIVIDUAL TOPICS	
	<b>Seminars</b> Jaime Cardoso Ricardo Morla	<b>Individual Topics</b> Aníbal Matos

ISEP – Instituto Superior de Engenharia

UM – Universidade do Minho

a) to be defined;

b) to be confirmed

c) Accredited course under dual PhD program Carnegie-Mellon - Portugal

### 3 Faculty in 2011-2012

#### PROFESSORS

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