Visiting professors 2014/2015
List of courses available

1. Smart Grid (EDD 304-A)

Duration

20 hours during 1 or 2 weeks to be scheduled between October 2014 and January 2015

Objectives

The objective of this course is to introduce the concept of Smart Grid which is a bi-directional electric and communication network that improves the reliability, security, and efficiency of the electric system for small to large-scale generation, transmission, distribution, and storage. It included software and hardware applications for dynamic, integrated, and interoperable optimization of electric system operations, maintenance, and planning; distributed generation interconnection integration; feedback and controls at the consumer level".

Suggested coursework

- PIntroduction and Definitions
- Conceptual Mode
- Stakeholders & Drivers
- Applications & Technologies
  - Advanced Metering Infrastructure
  - Smart Meter
  - Distribution Grid Management
  - Advanced Control systems
  - Renewables Integration
  - Energy Storage
  - Electric Vehicle Integration.

Contact person : Dr Yacine Azzouz (yacine.azzouz@esigelec.fr)

2. Control of Machines (GET 307-F)

Duration

20 hours during 1 or 2 weeks to be scheduled between October 2014 and January 2015

Objectives

To study principles of control in flux

Suggested coursework

- Park transformation, modelling using the D-axis and the Q-axis
- Control loop, advantages of the method for various applications
- Machine variators

Contact person : Dr Christophe Kandas (christophe.kandas@esigelec.fr)

3. Alternating Current Power Distribution (GET 206-A)

Duration

14 hours during 1 week to be scheduled between February and May 2015

Objectives

To study alternating current in saturated operating conditions

Suggested coursework

- o Circle diagrams of asynchronous machines
- o Potier diagrams
- o Blondel diagrams

Contact person : Dr Christophe Kandas (christophe.kandas@esigelec.fr)

4. Java/JEE programming (GSI204-A)

Duration

17 hrs of co-teaching which are part of a bigger module (70 hrs in total). The module can be taught within one week to be scheduled between February and May 2015.

Lectures will be taught in English to about 50 students, while labs will be taught in parallel either in French (by a faculty from ESIGELEC) or in English.

It is meant to have : 4 sessions of 1 Hr lecture + 3 hrs lab.

Then a 1 hr assessment will be done.

This 17hrs session takes place after another 1 week session dedicated to the following learning outcomes : Implement graphical user interfaces using a framework for GUIs, Given a specification implement a client server program using standard components in Java with threads, Implement programs using a framework for database manipulations from a problem description

The main learning outcome expected is :

- o Provide a comprehensive introduction to server-side programming with Java Servlets and Java server pages (JSP)

Contact person : Dr Christine Rouèche (christine.roueche@esigelec.fr)

5. Embedded Java (MSTSEE25)

Duration

40 hours during 2 week to be scheduled between February and June 2015

Objectives

Acquire initial practice in a computer language which can be used to develop graphic applications under Windows for personal embedded systems such as a Pocket PC.

Suggested coursework

- o Learn the Java ME environment: interface and syntax.
- o Basics of programming in the Java ME environment.

Contact person : Dr Jean-Jacques Delarue (delarue@esigelec.fr)

6. Embedded Android Development (new course)

Duration

25 hrs to 30hrs entirely in laboratory during 2 week to be scheduled in April or May 2015

Objective

The objective is to give students competencies about the implementation of Android system and development of application which could be deployed on embedded platform.

Suggested coursework

The students have knowledge of basic Java programming on computer. They have also knowledge in microcontroller systems with C language development. They will have also a course about embedded Linux (on Beaglebone black platform).

The exact contents of the covered topics have to be discussed. They could be adapted in function of your background and existing course you already give.

Contact person : Dr Jean-Jacques Delarue (delarue@esigelec.fr)