

Examination regulations of the RE Grid Integration Specialization

This document contains the rules related to the assessment process of the Renewable Energy Grid Integration and Distributed Generation Specialization of the European Master in Renewable Energy (EUREC), which is hosted in the University of Zaragoza and the CIRCE Mixed University Research Institute. This regulation applies to the students attending such specialization.

1. Purpose of the evaluation process.

RE Grid Integration specialization deal with the task to offer a complete education, not just in new renewable generation technologies, but also in the smart grids complex world, with concepts like grid stability, grids quality, and supply guarantee; in present problems and solutions for renewable energy integration into the grid; and in electric markets, laws and standardization.

The contents of the course are highly technical, and the focus is practical, including the direct participation of facilities and other entities involved in the course topics.

The main objective of the examination process is to evaluate the understanding level acquired by the student concerning the fundamental topics explained during lessons. No emphasis is placed on memorization of equations, but on the most important concepts that students should have gained. The reached technical knowledge will provide the students with the ability to start professional work and apply all the contents in a real professional environment.

2. Organization and Methodology of the RE Grid Integration specialization

The course runs from February to June. Lectures, laboratory hours, and activities will be scheduled Monday to Friday from 9:00 to 13:00, though on some special occasion this could be changed. Each session will have an approximate duration of 4 hours. The students will be provided with all the necessary teaching material.

Part of the course will be supported by practical training that will be given in the computer laboratories, combining the explained theory with computer simulations and programming. Practical training will include the next sessions:

- Applications and power system simulation using PSCAD/EMTDC
- Active and reactive power control in RE systems using PSCAD/EMTDC
- FACTS simulation and control using PSCAD/EMTDC
- Power flow simulation using DlgSILENT/PowerFactory
- Wind farm simulation using DlgSILENT/Power Factory
- Distributed Generation and Electric Vehicle impact using DlgSILENT/Power Factory

The academic program is divided into seven units. "Module Handbook" describes in detail each one but they are listed here briefly:

- Module 1. Introduction to electric power systems (EPS) and power electronics
- Module 2. Distributed Energy Resources (DER)
- Module 3. Renewable energy integration
- Module 4. DER impact on EPS
- Module 5. Smart grid solutions
- Module 6. Energetic markets
- Module 7. Project

Every module of the specialization will have a mandatory test and a "project presentation". They are developed and organized by the master responsible and the academic staff involved. These examinations are subject to the next general regulations.

3. Examinations general regulations

- During tests, every additional material needed will be supplied by the exam supervisor. Therefore, if a student is using any kind of additional help that hasn't been provided previously, the student will automatically fail the corresponding evaluation.
- Communication between students will be totally forbidden during the test. If during an exam any kind of communication between students is noticed, all the students involved will automatically fail the corresponding evaluation.
- Mobile phones are not allowed, and then there must be turned off during the exam. Any class of mobile phone utilization will be censured with the test failure.

4. Examiners

Examinations and assessment of each module are organized by the module coordinator in collaboration with the rest of the personnel involved (invited professors, academic staff, or professional guests). Information about the list of persons included in each module is available for students and included in the corresponding Syllabus.

5. 5.Type of module examinations

Module test

There is one test for each module that takes place at the end of it. The content of this exam will include the different topics enclosed in the corresponding module. The exam duration is 2 hours. Each exam could consist of a survey of different choices or an open question test depending on the criteria of the module coordinator.

Additional work:

Some modules could include additional work based on practical training. It will include exercises, deliverables from practical sessions, or from the different activities carried out during lessons.

Topic presentation

In modules from 2 to 6, the student will do an oral presentation related to a topic related to the contents explained during the module. The student will choose one of the topics provided by the module coordinator or propose a new one. The work will be developed and also presented in a 15 min session. In this presentation, the student must demonstrate that he or she has understood the topic, and be able to explain fundamental concepts to the questions of the rest of the students.

No topic should be repeated; therefore, each student must communicate the topic of the presentation to the module coordinator before the established deadline. The coordinator must give the student approval for the topic in advance.

Criteria to evaluate presentations will be difficulty and grade of learning of the shown contents as well as structure and clarity of the whole presentation. Questions to other students' presentations will be as well considered for evaluation. The final assessment will be done by each module's coordinator.

The evaluation process will include also an opinion survey that will be given to the students in order to evaluate the applied methodologies, adequacy of materials, program structure, exposition clarity, and evaluation system; In this sense, they will contribute with any suggestions for continuous improvement of the specialization course.

6. Absence, withdrawal, deceit

Exam performance is assessed as "not passed" if the student without substantiated reasons:

- a) does not appear at an examination date,
- b) withdraws from the exam after the beginning of the exam,
- c) does not accomplish a repetition of an exam performance within the determinate period.

Asserted reasons for withdrawal or absence must be indicated in written form and justified to the master responsible; otherwise, the concerning examination performance will be stated as "not passed". In case of an illness, a medical certificate has to be presented. If the reasons are accepted, a new date will be appointed.

If a student tries to influence the results of his examination performance by deceit or use of not admitted accessories, the concerning examination performance will be stated as "not passed". A person committing an offense against examination regulations can be excluded from the continuation of the respective examination performance; in this case, the respective examination performance is stated as "not passed".

7. Repetition of module examinations

Not passed module examinations can be repeated twice. If the module examination is not assessed as "passed" in the second repetition or is stated as "not passed", the concerning module examination is assessed irrevocably as not passed. There are no more possibilities for repetition.

The first repetition examination should be taken within the last month, of course, June. Further repetition could be taken on the next call that will be in September.

8. Final grades

The value of final grades will be an average of marks for each module taking into account the number of ETCS credits. The course will be completed successfully if at least the mark "sufficient" is achieved in the final grade.

Examination results and final marks will be communicated to each student as soon as possible. Core providers will be also officially informed about the grades of their corresponding students.