

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 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 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 Thursday afternoon, and Friday morning, though in some special occasion this could be changed. Each session will have an approximate duration of 4 hours. The students will be provided with all necessary teaching materials.

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 next sessions:

- AC/DC Drives Control
- Applications and power system simulation using PSCAD/EMTDC
- Electric Systems Modelling

- Micro Grids

Academic program is divided into seven units. “Module handbook” describes in detail each one but they are listed here briefly:

- Module 1. Distributed generation
- Module 2. Generation and storage technologies
- Module 3. Control techniques and renewable energy integration systems
- Module 4. Power grid analysis
- Module 5. Smart grids
- Module 6. Standards and electric 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 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. Type of module examinations

Main test

There is one test for each module which 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 module coordinator.

Additional work:

Some modules could include an additional work based on practical training. It will include exercises developed during practical hours that could be completed and delivered to the lecturer. This additional work could count a maximum of 10% in the module's mark.

Project presentation

In every module of the specialization, the student will have to do an oral presentation related to any topic explained during the module. The student has the possibility to choose one of the topics and summarize it, expand it, 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 should talk to the module coordinator to suggest him a topic. The coordinator must give the student the 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. Final assessment will be done by each module's coordinator.

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 a continuous improvement of the specialization course.

6. Module 7: End of section project

It is compulsory to carry out an "End of Section" project to finish the specialization. Themes could be chosen for the specialization academic responsible or could be proposed by the student and accepted by a tutor. This tutor will guide and help the student with the project.

This project must have enough complexity and be related to any of the modules. It could have any format and length (report, paper, etc.).

Criteria to evaluate the project will be difficulty and grade of learning of the shown contents as well as structure and clarity of the whole text. Evaluation will be done by a committee.

Students will have two official announcements to send their projects to the specialization secretary, therefore projects should be sent before 21st June or 13th September.

In case a student does not send his or her project on time, it will be considered that he will present the "End of Section Project" in the next course, being compulsory for the student to register again.

7. Absence, withdrawal, deceit

An 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 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".

8. 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.

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 on September.

For Module 7 if the "End of Section Project" has been evaluated as "not passed" or stated as "not passed", after the submission of the final report and the oral presentation, it can be repeated once in a new appointed date.

9. Final grades

Final grades will be calculated as:

$$\text{Final Grade} = 0.75 \cdot \text{Module's Grades} + 0.25 \cdot \text{Project's Grade}$$

The value of Module's 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.



Miguel García-Gracia
Head of Department
Electrical Power Systems (GISEP)
RE Grid Integration specializ. responsible