

Modern Systems and Equipment in Energy Production and Usage

1. Admission Requirements:

• Prerequisites:

- Graduates with a bachelor's degree from a bachelor's degree course or graduates with an equivalent degree from a long-term university course may apply for admission to the master's degree course.
- Non-EU Citizens - Contingent upon the presentation of the Graduation Certificate from the preparatory year (excluding those who have completed their previous studies in the Romanian language) and obtaining the Letter of Acceptance issued by the Ministry of Education.
- EU Citizens + Swiss Confederation - Contingent upon the presentation of the Graduation Certificate from the preparatory year (excluding those who have completed their previous studies in the Romanian language) and the recognition of their studies by the National Centre for Recognition and Equivalence of Diplomas (CNRED).

• Entrance Exams:

- The admission process includes a structured interview on a predetermined topic.
- Admission to the Master's programmes, both for free and fee-based studies, is strictly in descending order of the admission averages obtained by the candidates, within the limit of the places for which the admission competition is organised.

2. Degree Levels:

- Master's Degree: 2-year program following a bachelor's degree.

3. Curriculum:

• Core Courses:

Mandatory courses that all students in the program must take:

- Electrical Engineering Complements.
- Risk Management in Electrical Power Systems.
- Photovoltaic Systems.
- Optimisation of Electrical Machines.
- Design of Renewable Energy Systems.
- Applied Thermoelectric Systems.
- Micro-technologies Used in Solar Energy.
- Electromagnetic and Thermal Modelling in Electrical Systems.
- Unconventional Electrical Machines.

- Nano-magnetism: Materials, Technologies and Applications.
- Research Methodology.
- Ethics and Academic Integrity.

• **Electives:**

- Modernisation of Electricity Systems.
- Advanced Electric Shareholder Management.
- Intelligent Switching Equipment.
- Computer-Aided Design of Electrical Installations.

• **Major/Concentration:**

- Analysis of methods for assessing, analysing and optimising the reliability of electrotechnical equipment, the design and operation of electrical and power installations, the use of complex electrical equipment and systems, their design, manufacturing technology and installation.

• **General Education Requirements:**

- Successful completion of the mandatory courses, seminars and labs, completion of the three internships and the dissertation thesis.

4. **Credits:**

- Each semester carries a weight of 30 ECTS, with a total of 120 ECTS required for graduation.

5. **Internships and Practical Experience:**

- Professional practice and research are present in all 4 semesters and is credited with 40 ECTS.
- Students have the opportunity to carry out their internship in companies and enterprises in Dambovita county and its surroundings, as well as in the teaching and research laboratories of the faculty or the Institute for Scientific and Multidisciplinary Research.

6. **Research Requirements:**

- In the last semester, students carry out research internships as well as research for the completion of their dissertation.

7. **Academic Advising:**

- A supervising professor is assigned to each year of study and partially assisted activities are coordinated by supervising professors.
- The semester-long professional practice activity is carried out under the supervision of two coordinating professors.
- The dissertation thesis is also supervised by a scientific supervisor.

8. **Extracurricular Activities:**

- Students have the option to participate in clubs, organizations, or extracurricular activities related to their field of study or personal interests.

9. Examinations:

- The courses will span 14 weeks during each semester and conclude with oral, written, or practical examinations. Successful completion of these exams is mandatory to earn study credits.

10. Thesis Defense:

The prerequisites for presenting a dissertation thesis before a committee include:

- Attainment of 120 ECTS credits throughout the program.
- Obtaining the approval of the scientific supervisor to present the dissertation thesis.

11. Graduation Requirements:

- Graduation necessitates the fulfilment of all program requirements, encompassing the completion of the required credit hours and the successful completion of the dissertation thesis.

12. Degree Awarding:

- Master's Degree in Modern Systems and Equipment in Energy Production and Usage.