Industrial Energy

1. **Admission Requirements:**
    - **Prerequisites**:
        - Successful completion of high school studies and obtaining a baccalaureate degree or equivalent.
        - 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 average of registered candidates is made up of:
        - Average of the baccalaureate exam - weight 100%.
2. **Degree Levels:**
    - **Undergraduate Level: Industrial Energy**
        - Bachelor's Degree: 4-year program.
3. **Curriculum:**
    - **Core Courses:**
        - Linear Algebra and Analytic and Differential Geometry
        - Mathematical Analysis
        - Chemistry
        - Computer Graphics
        - Computer Programming and Programming Languages
        - Applied Informatics
        - General Energy
        - Physics
        - Special Mathematics
        - Basics of Electrotechnics
        - Electrotechnical Materials
        - Numerical Methods
        - Electronics
        - Mechanics and Resistance of Materials

- Thermodynamics
- Hydraulic Basics
- Electrical and Non-Electrical Measurements
- Automatic Regulation Theory

- **Electives:**
  - Power Lines / Numerical Driving Systems
  - Management of Energy Processes / Heat Exchangers
  - Power Electronics / Static Converters
  - Optimization Techniques in Energetics / Pumping and Ventilation Installations
  - Reliability of Energy Installations / Thermal Equipment and Installations
  - Industrial Automation and Protection / Distributed Production of Electricity
  - Ethics and Academic Integrity / General Economy
- **Major/Concentration:**
  - Electric Machines and Actuators
  - Heat and Mass Transfer
  - Virtual Instrumentation
  - Hydraulic Machines
  - Electrical Equipment
  - Production of Electrical and Thermal Energy
  - Energy and the Environment
  - Use of Electricity
  - Transformation Stations
  - Electrical Networks
  - Specialized Practice
  - Power Supply
  - Use of Thermal Energy
  - The Quality of Electricity
  - Data Acquisition Systems in Energy
  - The Electrical Part of Power Plants and Stations
  - Renewable Sources
- **General Education Requirements:**
  - Successfully fulfilling mandatory and optional courses and seminars, actively participating in research within student circles, and contributing to scientific conferences.

4. **Credits:**
   - Each semester carries a weight of 30 ECTS, with a total of 240 ECTS required for graduation.

5. **Internships and Practical Experience:**
    - Students have the opportunity to undertake internships at companies such as SC ARCTIC SA, SC AUTOMOBILE DACIA SA, SPEEH HIDROELECTRICA SA, SC INFOBIT CONSULT SRL, SC LIN IMPEX SRL, and SDEE.
6. **Research Requirements:**
    - Each bachelor thesis will encompass both a theoretical component and a case study, whether theoretical or practical, within the specified field of specialization, with the guidance of an advisory professor.
7. **Academic Advising:**
    - Throughout each academic year, a dedicated tutor is assigned to assist every student in course selection, academic planning, and addressing any concerns that may arise.
8. **Extracurricular Activities:**
    - Students may 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. Successful completion of these exams is mandatory to earn study credits.
    - For each discipline, examinations may take the form of written, oral, or practical exams, as outlined in the discipline sheet at the start of each academic year.
    - Examinations are conducted during the scheduled exam sessions announced at the commencement of each academic year.
10. **Thesis/Dissertation Defense:**
    - The preparation of the Bachelor's Thesis is conducted under the guidance of a scientific coordinator.
    - The committee responsible for assessing the dissertation thesis is appointed by the decision of the rector and includes a president, three members, and a secretary, all of whom are specialized teaching staff.
    - In order to submit the thesis, each student must have accrued 240 ECTS from the mandatory and elected subjects.
    - The bachelor thesis topic must pertain to the field of Energy Engineering.
11. **Graduation Requirements:**
    - Graduation requires students to fulfill all program requirements, including achieving the prescribed number of ECTS credits and successfully completing a final examination.
12. **Degree Awarding:**
    - Bachelor's Degree (Engineer) in Industrial Energy.