

Cultural profile

Electric energy, along with the amount of technologies and activities involved, is a fundamental element for economy and for industrial, civil and tertiary sector improvement.

Mechatronics and energetic technicians work on three main fields:

Mechanics, planning and production with particular concern in industrial production systems, realization of plants and maintenance techniques.

Technical and business-managerial knowledge is therefore important to properly evaluate the existing subjects concerning the business management in the production systems.

The second field is **electric energy production** and its **transmission**, with different procedures and constrains, at all levels (international, national and local), and with special attention to the rising free energy markets. Therefore it needs competences to face the analysis and the realization of components and electric systems and to study the energetic changes that involve electric, mechanic and thermal systems. Even business-managerial knowledge is important to evaluate, with competence, the current issues linked to the optimal management of the energy resources.

Another important field is the **electric energy utilization** which is expressed in its several applications of civil electrical plant engineering, mainly in industry automation which represents the fundamental element of the modern factory. Training in this sector prepares specialists capable of coordinating the operation of the drives, installations and all electrical equipment, for applications ranging from flexible work centres, robotics, handling systems, and electric traction.

The subjects studied include methods and devices for the control and diagnostics in an industrial environment, systems and machines modelling, signal elaboration procedures and communication in an industrial environment.

Basic training

Curriculum includes a basic formation for mechanics, machines, electrotecnics, electronics, material technology and drawing subjects. It includes, besides essential maths, physics, chemistry and informatics elements, also the knowledge of peculiar subjects: basic electrotecnics and electronics, power electrical systems and the knowledge needed for their control, the implementation of measures and for the practice in a production process, including some key elements of economic management and business.

Job opportunities

The job opportunities for a M.E.S.A. technician are diversified and include not only technical functions but also organizational and managerial ones.

Their activity can take place in:



Education and Culture DG

Lifelong Learning Programme



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- plant components, machines and electrical equipment production; mechanical industries, robotics and industrial automation;
- in the manufacturing and process industry, responsible for technical services, energy management, maintenance and quality control;
- technical roles at the state and parastatal organizations such as Railways, Posts and Telecommunications, Public Works, etc..;
- suppliers of electricity in agencies such as ENEL, the municipal utilities and companies that are developing as a result of market liberalization;
- professional services and advice, e.g. in the areas of accident prevention and of the quality control;
- many other sectors thanks to the solid and articulate basic training, adequate to the challenges of a constantly evolving reality.