

HIGHER UNIVERSITY TECHNICIAN IN NANOTECHNOLOGY MATERIALS AREA GRADUATION PROFILE

MISSION

To provide a quality education to train professionals of Higher Technical University level in Nanotechnology Materials Area, with integral competences in the technical and the human; with leadership, communication and collaborative work skills, to produce nanotech materials through synthesis procedures. Evaluate nanostructured materials through characterization techniques and / or technological or social entrepreneurship, with a high sense of social responsibility and committed to their professional and labor development.

VISION

To be the best educational option with recognized prestige for the integral formation of its students in the technical and human aspects; with a high level of relevance; with perspective of their environment and with the ability to respond according to the new skills that human resources require to face the technological and market changes of 4.0 Industry. Assume the commitment to the labor integration of the graduates, sustainability and social responsibility.

GRADUATION PROFILE BY COMPETENCES

GRADUATION ATTRIBUTES

Produce nanotech materials, through synthesis procedures and incorporation of established nanomaterials, to meet a research or commercial need and contribute to technological development.

Evaluate nanostructured materials through characterization techniques and process documentation, based on applicable regulations, to determine their physical and chemical properties, and contribute to technological development.

Basic Sciences. Raise and solve problems based on the principles and theories of physics, chemistry and mathematics, through the scientific method to support decision-making in the scientific and technological fields.

Oral and Written Expression. Communicate feelings, thoughts, knowledge, experiences, ideas, reflections and opinions, in a clear and detailed way, on concrete and abstract topics in their professional and sociocultural context, according to level B2, independent user, of the European Framework of Reference, to base and propose improvements in organizations and contribute responsibly to sociocultural development.

Management. Act with proactive values and attitudes of excellence in their personal, social and organizational development, in harmony with their environment to develop their personal, social and organizational potential.

English. Communicate feelings, thoughts, knowledge, experiences, ideas, reflections, opinions, through simple and commonly used expressions, in a productive and receptive way in the English language according to level A2, basic user, of the European Framework of Reference to contribute to the performance of their functions in their work, social and personal environment.

EDUCATIONAL OBJECTIVES

1. Apply theoretical-practical knowledge of different techniques of production and characterization of materials both in research and in the manufacture of materials that meet specific needs.
2. Work actively to follow up on the procedures used in the production and characterization of materials, as well as propose improvement modifications to them.
3. Collaborate in a company where they propose the incorporation of nanostructured materials in order to potentiate mechanical, tribological, chemical and thermal properties in base materials used in the industrial companies in general.

4. Develop in multidisciplinary teams demonstrating their leadership and bilingual communication skills in the development and management of innovation projects, as well as the interpretation and issuance of technical reports.
5. Develop specialized consulting services on characterization techniques and material analysis.

▶ PERFORMANCE SCENARIOS

- Public institutions
- Research centers
- Textile industry
- Ceramic industry
- Construction industry
- Food industry
- Pharmaceutical industry
- Electronics industry
- Metal industry
- Civil associations

▶ PROFESSIONAL OCCUPATIONS

- Head of Quality Control
- Materials synthesis technician
- Materials analysis technician
- Research Laboratory Assistant
- Innovation Lab Assistant
- Process technician
- Auxiliary in the scaling of materials
- Assistant Professor-Researcher
- Microscopy technician
- Metallography technician
- X-ray diffraction technician