

# Curriculum

## Master Program in Nanotechnology Appliance



First Semester			
Code	Name of the lesson	Required/Elective	Credit
MIF-B02	History and methodology of engineer systems	Required Courses	6
İTN502	Nanotechnology	Required Courses	6
İTN505	Nanocharacterisation I	Elective Courses	6
İTN501	Atom and Molecular Structure	Required Courses	6
	ElectiveCourses	Required Courses	6
Second Semester			
Code	Name of the lesson	Required/Elective	Credit
İTN503	Applications of Nanotechnology	Required Courses	6
İTN592	Seminar	Required Courses	6
İTN517	Photovoltaic Technologies and Applications	Elective Courses	6
	ElectiveCourses	Required Courses	6
	Elective Courses	Required Courses	6
Third Semester			
Code	Name of the lesson	Required/Elective	Credit
MET-B01	Individual work	Required Courses	30
İTN792	Thesis	RequiredCourses	30

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Elective Courses			
Code	Name of the lesson	Required/Elective	Credit
ITN506	Nanocharacterisation II	Electivecourses	6
ITN513	Nanotechnology Applications in Textiles	Elective courses	6
ITN514	Nanomagnetism and Applications	Elective courses	6

### Profile of the Programme

Nanotechnology Master of Science Programme aims to teach academic information and application methods of the fields such as engineering (especially materials science and engineering), chemistry, physics and biology with the help of up-to-date information.

In this programme, chemistry, physics and biology are combined with the engineering principles; in this way, it is estimated that the education will motivate to take form of new generation tools design and to teach the technology that the humankind has used and modern-day industry has produced.

### Access to Further Studies

May apply to doctorate programmes in any field or proficiency in fine arts programmes.

### Field Qualifications

- 1 Have access to advanced knowledge in the field through scientific research; evaluate, interpret and apply knowledge
- 2 Have extensive knowledge on recent techniques and methods used in the field, and the constraints of these techniques and methods.
- 3 Complete and apply knowledge based on limited or deficient data through scientific methods; integrate knowledge from different disciplines.
- 4 Are aware of new and developing applications in the profession; examine and learn these applications, when required.
- 5 Define problems related with the field; and develop methods for their solution, and use innovative methods in problem solving.
- 6 Generate new and/or original ideas and methods; and develop innovative solutions in system, component or process designs.
- 7 Design and conduct analytical, modeling and experiment-based research; solve and interpret complex problems encountered in this process.
- 8 Assume the leadership role in multi-disciplinary teams; produce solutions in complicated situations and take responsibility.
- 9 Establish oral and written communication in a foreign language at minimum B2 level, as defined by the European Language Portfolio.
- 10 Report systematically and clearly in written or oral form the processes and results of their research/work in national and international settings.

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11 Describe social and environmental aspects of the field's applications.

12 Comply with social, scientific and ethical values in the process of collecting, interpreting and reporting data, and in all professional activities.