



University of Oum El Bouaghi

Master's degree in Engineering - Mechanical

1. Program Description:

The objective of the Mechanical Construction master is to give students all the knowledge necessary to understand and solve problems related to mechanical systems. This training allows students to acquire a broad scientific culture in the field of engineering sciences, with solid foundations in mechanics, mathematics and scientific computing. It consists of: - Train students in methods of synthesis, analysis and understanding of laws and fundamental phenomena within the field of mechanical sciences. - Provide the essential complements to the applications of mathematics and computer science. - Prepare students for the acquisition of theoretical and practical methods for applications in various fields in general and in the field of mechanical industries in particular.

Semester 1

Teaching unit	Title of the Subject
Fundamentalteaching unit	Continuous Media Mechanics
	Advanced Strength of Materials
	Internal combustion engines
	Applied Fluid Mechanics
Methodologyteaching unit	TP Applied Fluid Mechanics /Resistance of materials
	Conventional and Advanced Manufacturing Techniques
	Industrial Systems Automation
Discoveryteaching unit	Chosen course
	Chosen course
Transversal teaching unit	Technical English and terminology

Semester 2

Teaching unit	Title of the Subject
Fundamentalteaching unit	Finite element method
	Advanced structural dynamics
	Articulated mechanical systems and robotics
	Design of mechanical systems
Methodologyteaching unit	Design of mechanical systems
	CAD/CAM
	Optimisation
Discoveryteaching unit	Chosen course
	Chosen course
Transversal teaching unit	Ethics, deontology and intellectual property

Semester 3

Teaching unit	Title of the Subject
Fundamental teaching unit	Materials
	Dynamics of rotating machines
	Structural Steel
	Composite materials
	Fracture mechanics and fatigue
Methodology teaching unit	Methodology office
	Turbomachinery
	Numerical simulation software in mechanics
Discovery teaching unit	Chosen course
	Chosen course
Transversal teaching unit	Literature search and brief design