



The energy sector, in its multiple aspects related to production is one of the most important and increasing field of the technology at the present time. The energy engineering is part of the group of the industrial branch of the engineering, and basically is the one which deals with the conception and management of energy installations and its components to ensure the best use of the resources available, take the most out of the renewable energies and minimize at the same time its impact on the environment.

Distribution of credits

Basic courses	Compulsory courses	Optional courses	Bachelor Thesis	Total ECTS Credits
60.00	144.00	24	12	240.00

First year*

Code	Course Name	Term	ECTS Credits
12929	Physics I	A	9
10169	Mathematics I	A	9
12934	Industrial Business and Economy	A	6
12932	Computer Science	A	6
12931	Chemistry	B	6
12928	Statistics	B	6
12927	Mathematics II	B	6
12930	Physics II	B	6
12933	Technical drawing	B	6
Total			60

Second year*

Code	Course Name	Term	ECTS Credits
12939	Materials Science	A	4.5
12942	Thermodynamics	A	4.5
12947	Fundamentals of Business Organization	A	4.5
12948	Mathematics III	A	6
12949	Physics III	A	6
	Language	A	6
12935	Circuit Theory	B	4.5
12938	Elasticity and Strength of Materials	B	4.5
12940	Machine technology	B	4.5
12944	Fluid Mechanics	B	4.5
12958	Energy and sustainable development	B	6
12943	Heat Transfer	B	4.5
Total			60

Third year*

Code	Course Name	Term	ECTS Credits
12937	Control Systems	A	4.5
12936	Electronic Systems	A	4.5
12941	Technical Thermodynamics	A	4.5
12946	Environmental Technology	A	4.5
12951	Combustion and heat generation	A	4.5
12950	Hydraulic Machines and Fluid Conveyance	A	4.5
12954	Power systems and technology	A	4.5
12945	Projects	B	6
12952	Refrigeration and HVAC	B	4.5
12953	Thermal Machines	B	4.5
12955	Electrical Machines	B	4.5
12964	Photovoltaic energy and power electronics	B	4.5
12962	Thermal renewable energies	B	4.5
		Total	60

Fourth year* (Compulsory)

Code	Course Name	Term	ECTS Credits
12957	Energy audit	A	4.5
12956	Energy markets	A	4.5
12960	Hydroelectric Power Plants	A	4.5
12959	Power Plants and CHP Generation	A	4.5
12961	Nuclear technology	A	6
12963	Wind power and renewable power generation	A	6
	Optional Courses (to choose from the list below)	B	13.5
12989	Bachelor Thesis	B	12
		Total	60

Fourth year (Optional)

Code	Course Name	Term	ECTS Credits
12973	Water and energy	B	4.5
12976	Structural calculations to support power installations	B	4.5
12983	Advanced Nuclear Power Plants	B	4.5
12979	Energy efficiency in buildings	B	4.5
12971	Electricity and sustainability	B	4.5
12970	Geothermal energy	B	4.5
12969	Energy planning and management	B	4.5
12974	Energy-intensive industries	B	4.5
12972	Applied Electronic Instrumentation	B	4.5
12977	Thermal engines for automotive applications	B	4.5
12982	Operation of Nuclear reactors	B	4.5
12981	Radioactive protection	B	4.5
12978	Chemistry and renewable energy	B	4.5
12980	Nuclear safety	B	4.5
12975	Automation Technology in Energy Facilities	B	4.5
	Language	B	4.5
12957	Applied photochemistry	B	4.5
13756	Physical concepts in historical and cultural perspective	B	4.5

*Language of tuition will be Spanish