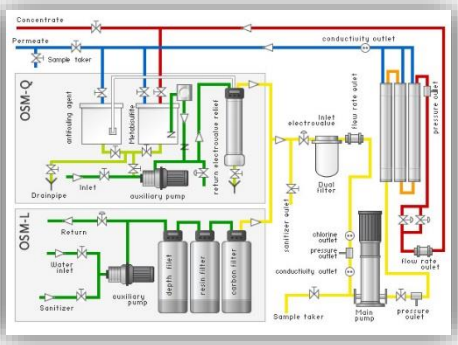

In the Master's degree in Chemical Engineering, you learn to come up with solutions for problems related to processes and product technology. Education and research are closely integrated within this Master's program, which helps you stay abreast of the latest developments within the discipline. You become familiar with all the latest tools and technologies used by chemical engineers. You can define a personal study program that satisfies your own wishes and preferences.

As a chemical engineer you will be able to come up with technical solutions for problems and issues related to process and product technology. Finding these solutions, chemical engineers work closely with experts from other specializations, taking into account the related economic, social, environmental and ethical aspects.

Distribution of credits

Compulsory courses	Optional courses	Final Master's Thesis	Total ECTS Credits
64.50	43.50	12.00	120.00

First year*

Compulsory courses	Optional courses	Total ECTS Credits
60.50	00.00	60.00

Compulsory courses

Code	Course Name	Term	ECTS Credits
33467	Mechanical design and monitoring of equipment and installations	A	4.5
33466	Cold and heat installations	A	4.5
33465	Hydraulic systems in the chemical industry	A	4.5
33468	Advanced design of reactors I	A	4.5
33470	Advanced operation of separation	A	6
33473	Business management	A	6
33464	Risk and safety analysis in the industry	B	4.5
33469	Advanced design of reactors II	B	4.5
33472	Science and technology of polymers	B	6
33471	Modeling, simulation and optimization of chemical processes	B	4.5
33474	Environmental quality management	B	6
33476	Decision making and ethic	B	4.5
		Total	60

Second year*

Compulsory courses	Optional courses	Final Master's Thesis	Total ECTS Credits
4.50	43.50	12.00	60.00

Compulsory courses

Code	Course Name	Term	ECTS Credits
33475	Project management	A	4.50
		Total	4.50

Optional courses

It is necessary to choose a number of credits from each module.

Module 1: 10.5 ECTS credits (2 courses) to be chosen from this module

Code	Course Name	Term	ECTS Credits
33477	Advanced organic chemistry	A	6
33478	Industrial organic chemistry: fine chemic processes	A	4.5
33480	Corrosion	A	4.5
33479	Electrochemical engineering	A	6
33482	Bioprocesses implemented to waste treatment	A	4.5
33481	Biological wastewater treatment	A	6
		Total	10.50

Module 2: 15 ECTS credits (3 courses) to be chosen from this module

Code	Course Name	Term	ECTS Credits
33483	Separation processes by synthetic membranes	A	6
33488	Industrial catalytic processes	A	6
33487	Catalytic processes and photo catalytic implemented to the environment	A	4.5
33486	Synthesis and characterization of catalysts	A	4.5
33490	Biomaterials	A	4.5
33489	Metallic and ceramic materials	A	6
33491	Nanostructured materials and Nanotechnology	A	4.5
		Total	15.00

Module 3: 9 ECTS credits (2 courses) to be chosen from this module

Code	Course Name	Term	ECTS Credits
33493	Emissions control in combustion engines	B	4.5
33492	Energetic valuation of waste	B	4.5
33495	Hydrogen and fuel cells	B	4.5
33494	Biomass products. Bio refining	B	4.5
33497	Advanced control of chemical processes	B	4.5
33496	Instrumentation of chemical processes	B	4.5
		Total	9.00

Module 4: 9 ECTS credits (2 courses) to be chosen from this module

Code	Course Name	Term	ECTS Credits
33500	Quality control in chemical engineering	B	4.5
33501	Operations management	B	4.5
33499	Experimental Design for Process Optimization	B	4.5
33504	Embarking and innovation management and technology	B	4.5
34255	Recruitment skills	B	4.5
34256	Systematic innovative thinking for engineers and researchers	B	4.5
		Total	9.00

Master's Thesis (Compulsory courses)

Code	Course Name	Term	ECTS Credits
33476	Final Master's Thesis	B	12
		Total	12

**Language of tuition will be Spanish*