

Khemis Miliana University

Bachelor in: **Process Engineering**

Speciality: Process Engineering

Summary

Process engineering is a branch of science and technology field, based on fundamental chemical engineering. It generates many specialities such as chemical, environmental, materials, pharmaceutical, electrochemical and cryogenical engineering. This branch is the cornerstone of all industrial processes of matter and energy transformation. The curriculum is based on fundamental matters such as: physical chemistry, unit operations, transfer phenomena ...etc.

Field	Branch	Speciality
Science and Technology	<i>Process Engineering</i>	<i>Process Engineering</i>

First Semester S1

Teaching unit	Matter	Credit	Coefficient	Course	TD	TP	HV
Fundamental Unit	Mathematics1	6	3	3h	1h30		67h30
	Physics1	6	3	3h	1h30		67h30
	Matter structure	6	3	3h	1h30		67h30
Methodological unit	TP physics1	2	1			1h30	22h30
	TP chemistry1	2	1			1h30	22h30
	Informatics	4	2	1h30		1h30	45h
	Writing	1	1	1h			15h

Teaching unit	Matter	Credit	Coefficient	Course	TD	TP	HV
	methodology						
Discovery unit	Jobs in science and technology	1	1	1h30			22h30
Transversale Unit	Ethical and deontological dimension (fondamentals)	1	1	1h30			22h30
	Foreign language1 (French/English)	1	1	1h30			22h30

Second Semester S2

Teaching unit	Matter	Credit	Coefficient	Courses	TD	Practical Work	Volume (hour)
Fundamental Unit	Mathematics2	6	3	3h	1h30		67h30
	Physics2	6	3	3h	1h30		67h30
	thermodynamics	6	3	3h	1h30		67h30
Methodological unit	TP physics2	2	1			1h30	22h30
	TP chemistry2	2	1			1h30	22h30
	Informatics	4	2	1h30		1h30	45h
	Presentation methodology	1	1	1h			15h
Discovery unit	Jobs in science and technology	1	1	1h30			22h30
Transversale Unit	Foreign language2 (French/English)	2	2	3h			45h

Third Semester S3

Teaching unit	Matter	Credit	Coefficient	C	TD	TP	HV
Fundamental Unit	Mathematics ³	6	3	3h	1h30		67h30
	Waves and vibrations	4	2	1h30	1h30		45h
Fundamental Unit	Fluid mechanics	4	2	1h30	1h30		45h
	Mineral chemistry	4	2	1h30	1h30		45h
Methodological unit	Probability and statistics	4	2	1h30	1h30		45h
	Informatics ³	2	1		1h30		22h30
	Tecnical drawing	2	1		1h30		22h30
	TP waves and vibrations	1	1		1h		15h
Discovery unit	HSE Industrial installations	1	1	1h30			22h30
	Regulation and norms	1	1	1h30			22h30
Transversale Unit	Technical English	1	1	1h30			22h30

Fourth semester S4

Teaching unit	Matter	Credit	Coefficient	C	TD	TP	HV
Fundamental Unit	Solution chemistry	4	2	1h30	1h30		45h
	Organic chemistry	4	2	1h30	1h30		45h
Fundamental Unit	Chemical	4	2	1h30	1h30		45h

Teaching unit	Matter	Credit	Coefficient	C	TD	TP	HV
	thermodynamics						
	Numerical methods	4	2	1h30	1h30		45h
	Chemical kinetics	2	1	1h30			22h30
Methodological unit	TP Solution chemistry	2	1			1h30	22h30
	TP Organic chemistry	1	1			1h	15h
	TP Fluid mechanics	2	1			1h30	22h30
	TP Numerical methods	2	1			1h30	22h30
	TP Chemical kinetics	2	1			1h30	22h30
Discovery unit	Introduction to refining and petrochemistry	1	1	1h30			22h30
	Transfer phenomena notions	1	1	1h30			22h30
Transversale Unit	Expression, information and communication techniques	1	1	1h30			22h30

Fifth semester S5

Teaching unit	Matter	Credit	Coefficient	C	TD	TP	HV
Fundamental Unit	Heat transfer	4	2	1h30	1h30		45h
	Matter transfer	4	2	1h30	1h30		45h

Teaching unit	Matter	Credit	Coefficient	C	TD	TP	HV
	Amount of movement transfer	2	1	1h30			22h30
Fundamental Unit	electrochemistry	4	2	1h30	1h30		45h
	Instrumentation-Sensors	2	1	1h30			22h30
	Kinetics and homogenous catalysis	2	1	1h30			22h30
Methodological unit	Analysis technics	4	2	1h30		1h30	45h
	TP physical chemistry1 and Chemical engineering1	2	1			1h30	22h30
	Macroscopic assesment	3	2	1h30	1h		37h30
Discovery unit	Pharmaceutical processes	1	1	1h30			22h30
	Agri-food processes	1	1	1h30			22h30
Transversale Unit	Pollution : air, Water, soil	1	1	1h30			22h30

Six Semester S6

Teaching unit	Matter	Credit	Coefficient	C	TD	TP	HV
Fundamental Unit	Unit operations	6	3	3h	1h30		67h30
	Balances' themodynamics	4	2	1h30	1h30		45h
Fundamental Unit	Homogenous	4	2	1h30	1h30		45h

Teaching unit	Matter	Credit	Coefficient	C	TD	TP	HV
	reactors						
	Surface phenomena and heterogenous catalysis	4	2	1h30	1h30		45h
	Final cycle project	4	2			3h	45h
Methodological unit	Process simulators	3	2	1h30		1h	37h30
	TP physical chemistry ² and Chemical engineering ²	2	1			1h30	22h30
Discovery unit	Cryogenic processes	1	1	1h30			22h30
	Corrosion	1	1	1h30			22h30
Transversale Unit	Entrepreneurship and company management	1	1	1h30			22h30