

MASTER'S DEGREE IN CLINICAL ENGINEERING DEGREE CLASS LM-21
CURRICULUM for students enrolling to the first year in the academic year 2019/2020

The Degree is organized in two curricula (Clinical Engineering and Biomedical Engineering), with some courses provided in the "blend" modality

CLINICAL ENGINEERING MASTER DEGREE LM-21						
	SEM	COURSE	MODULE	SSD	TAF	ECTS
FIRST YEAR 2019-20 CLINICAL ENGINEERING CURR.						
	I	IMAGING METHODS IN MEDICAL PHYSICS		FIS/07	C	6
	I	BIOMATERIALS ARTIFICIAL ORGANS AND PROSTHESES		ING-IND/34	B	6
BLEND	A	MEDICAL INFORMATICS		ING-INF/06	B	12
BLEND	II	BIOFLUIDODYNAMICS		ING-IND/34	B	6
BLEND	II	BIOIMAGING AND BIOMEDICAL SIGNAL PROCESSING		ING-INF/06	B	9
		LANGUAGE (ENGLISH-B2)/INTERNSHIP				3
		STUDENT'S CHOICE			D	12
		TOTAL I YEAR				57
SECOND YEAR 2020-21 CLINICAL ENGINEERING CURR.						
BLEND	A	ADVANCES OF BIOMEDICAL INSTRUMENTATION	BIOMEDICAL INSTRUMENTATION DESIGN	ING-INF/06	B	6
			LABORATORY AND SURGERY ROOM INSTRUMENTATION	ING-IND/24	C	6
	A	RISK MANAGEMENT IN HEALTHCARE SYSTEM	EPIDEMIOLOGY AND CLINICAL RISK IN THE HOSPITAL ENVIRONMENT	MED/44	C	4
			ELECTRICAL AND TECHNOLOGICAL RISK AND RISK MANAGEMENT	ING-INF/06	B	6
BLEND	II	eHEALTH SYSTEMS AND SOLUTIONS		ING-INF/06	B	6
	II	AQUISITION AND MANAGEMENT OF HEALTHCARE TECHNOLOGIES		ING-INF/06	B	9
	A	SIZING, ORGANIZATION AND MANAGEMENT OF CLINICAL ENGINEERING SERVICES	CLINICAL ENGINEERING MANAGEMENT	ING-INF/06	B	5
			CERTIFICATION PROCESSES MANAGEMENT	ING-IND/24	C	6
		INTERNSHIP				3
		FINAL EXAMINATION				12
		TOTAL II YEAR				63
		TOTAL				120
FIRST YEAR 2019-20 BIOMEDICAL ENGINEERING CURR.						
	I	ORGANIC AND BIOLOGICAL CHEMISTRY FOR ENGINEERING		BIO/11	C	6
	I	BIOMATERIALS ARTIFICIAL ORGANS AND PROSTHESES		ING-IND/34	B	6
BLEND	A	MEDICAL INFORMATICS		ING-INF/06	B	12
BLEND	II	BIOFLUIDODYNAMICS		ING-IND/34	B	6

BLEND	II	BIOIMAGING AND BIOMEDICAL SIGNAL PROCESSING		ING-INF/06	B	9
		LANGUAGE (ENGLISH-B2)/ INTERNSHIP				3
		STUDENT'S CHOICE			D	12
		TOTAL I YEAR				57
SECOND YEAR 2020-21 BIOMEDICAL ENGINEERING CURR.						
	I	ADVANCES OF SIGNAL ANALYSIS		ING-INF/06		6
	I	CERTIFICATION PROCESSES MANAGEMENT		ING-IND/24		6
BLEND	I	BIOMEDICAL INSTRUMENTATION DESIGN*		ING-INF/06		6
BLEND	I	MOLECULAR SIMULATION AND BIOLOGY*	MOLECULAR SIMULATION	ING-IND/24	C	9
	II		MOLECULAR BIOLOGY	ING-IND/24	C	6
	II	COMPUTATIONAL MODELS*		INF/01	C	6
	II	BIOINFORMATICS*		ING-INF/06	C	6
		INTERNSHIP				3
		FINAL EXAMINATION				12
		TOTAL II YEAR				63
		TOTAL				120
THE BLOCK OF COURSES WITH * CAN BE EXCHANGED WITH THE FOLLOWING COURSES						
	II	SCIENCE AND TECHNOLOGY OF POLYMERIC MATERIALS		ING-IND/22	C	9
	I	MOLECULAR SIMULATION		ING-IND/24	C	9
	A	SCIENCE AND TECHNOLOGY OF CERAMIC MATERIALS		ING-IND/22	C	9
	I	TISSUE BIOENGINEERING		ING-IND/34	B	6

The type of education activity (TAF) is classified as it follows:

A= basic education activities

B= characterizing education activities

C= integrative education activities

D= student's choice

E= final examination

F= other

		STUDENT'S CHOICE (FIRST YEAR 2019-20)				
	I	ASSESSMENT OF STRUCTURES AND SERVICES		ING-IND/17		6
	I	INFORMATION SYSTEMS AND SOFTWARE DESIGN		ING-INF/05		9
	I	ADVANCED MANAGEMENT OF CERTIFICATION PROCESSES		ING-INF/06		3
	I	GENOMICS DATA ANALYSIS		ING-INF/06		3
	II	BUSINESS ADMINISTRATION**		ING-INF/06		3
	II	REGULATORY AFFAIRS **		ING-INF/06		3

	II	ARTIFICIAL SENSORY SYSTEMS **		ING-INF/01	3
		ENTREPRENEURSHIP		SECS-P/08	6 or 9
	II	APPLIED MECHANICS FOR MACHINERY		ING-IND/13	6
	II	ROBOTICS		ING-IND/13	6
	I	BIOLOGY AND PHYSIOLOGY		BIO/09	6
		MATERIALS SCIENCE AND TECHNOLOGY		ING-IND/22	9

SPECIFIC REQUIREMENTS

APPLIED MECHANICS FOR MACHINERY is required for ROBOTICS

EXAMINATION MODALITY

Each course will include an oral interview that can be preceded by a written examination. Students must demonstrate to have learnt course contents, to be able to critically review the topics and their interactions, and to explain them in a clear and correct way.