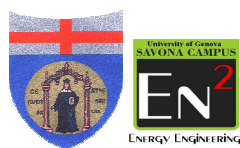


Double Degree Program - European Master in Engineering for Energy and Environmental Sustainability (EM3ES)



This Agreement is made between Università degli Studi di Genova, Italy (UNIGE) and the Management Center Innsbruck (MCI), Austria

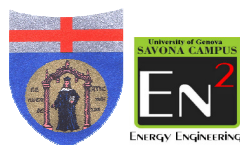
TOT ECTS
137

EM3ES for UNIGE students

EM3ES semester 1 for UNIGE students (at Unige)	
Course Title	ECTS
Heat Transfer (66382)	6
Mathematical Modeling for Energy Systems (86630)	6
Chemical Processes and Technologies (86631)	6
Industrial Fluid-dynamics (86641)	6
Combustion Processes and Emissions (80054)	6
EM3ES semester 2 for UNIGE students (at Unige)	
Chemical and Biochemical Processes and Plants for Energy (72562)	6
Power Systems Modeling and Control (65887)	6
Power Systems Management (86638)	6
Power Plants for Energy Conversion (80053)	6
Industrial Plants for Energy (86644)	6
EM3ES semester 3 for UNIGE students (at MCI)	
Plant Safety	2
Plant Engineering	3
Computational Fluid Dynamics - Theory	2
Computational Fluid Dynamics - Simulation	3
Interdisciplinary Project	10
Energy Engineering Branch (at MCI)	
Renewable Energy Systems	2.5
Heating and Cooling Technology	2.5
Chemical Engineering Branch (at MCI)	
Chemical Technology Seminar	1
Chemical Product Design and Development	1
Industrial Scale-Up	2
Field Trip	1
EM3ES semester 4 for UNIGE students (at MCI)	
Academic Writing	1
Design of Experiments	2
Ethics	1
Literature Seminar	1
Conceptual Process Design & Simulation	4
Plantwide Control	3
Apparatus Engineering	3
Solid Process Engineering - Particle Technology	3
Advanced Thermal Process Technology	2

Energy Engineering Branch at MCI (from Elective courses)	
Power and Smart Grids	2.5
Energy Conversion Technologies and Synthetic Bio-Fuels	2.5
Chemical Engineering Branch at MCI (from elective courses)	
Advanced Industrial Chemistry	2.5
Advanced Catalysis	2.5
EM3ES semester 5 for UNIGE students	
Master Seminar	5
Jointly supervised Master Thesis and Traineeship (“Tirocinio”), in Unige ECTS	12
TOTAL	137

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EM3ES for MCI students		TOT ECTS
		150
EM3ES semester 1 for MCI students		
Course Title		ECTS
Process Control		2
Reaction Engineering		3
Heat and Mass Transfer		4
Matlab in Engineering		1
Revision Course in Process Technology		1
Legal Aspects of Engineering		1
Business Economics		3
Energy Engineering Branch		
Energy Storage		1.25
Electrochemical Energy Storage and Conversion		1.25
Plant Design and Operations Branch		
Strength of materials		2.5
Environmental Engineering Branch		
Waste Engineering		1.25
Noise Control		1.25
Chemical Engineering Branch		
Polymer Chemistry		2.5
EM3ES semester 2 for MCI students		
Academic Writing		1
Design of Experiments		2
Ethics		1
Literature Seminar		1
Conceptual Process Design & Simulation		4
Plantwide Control		3
Apparatus Engineering		3
Solid Process Engineering - Particle Technology		3
Advanced Thermal Process Technology		2
Energy Engineering Branch		
Power and Smart Grids		2.5
Energy Conversion Technologies and Synthetic Bio-Fuels		2.5
Plant Design and Operations Branch		
Process Integration		1
Plant Automation		3
From Materials Handling and Logistics		1

Environmental Engineering Branch	
Groundwater, Advanced Water Engineering and Reuse	4
Life Cycle Assessment	1
Chemical Engineering Branch	
Advanced Industrial Chemistry	2.5
Advanced Catalysis	2.5
EM3ES semester 3 for MCI students (at Unige)	
Models and Methods for Energy Engineering (86662)	6
Energy and Buildings (86655)	6
Fuel Cells and Distributed Generation Systems (86660)	6
Solar and Geothermal Energy (80043)	6
<i>1 elective course among those available at Unige below</i>	6
EM3ES semester 4 for MCI students (at Unige)	
Hydro, Wind and Micro-gas Turbines (86661)	6
Energy Laboratory (80081)	6
Power Systems Modeling and Control (65887)	6
Power Systems Management (86638)	6
<i>1 elective course among those available at Unige below</i>	6
EM3ES semester 5 for MCI students	
Master Seminar	5
Jointly supervised Master Thesis	25
TOTAL	150

Elective Courses at Unige	
Remote Sensing (80048) (semester 3)	6
Project Management for Energy Production (86666) (semester 3)	6
Advanced Propulsion Systems (86665) (semester 4)	6
Power Systems Simulation and Optimization (86667) (semester 4)	6