UNIVERSITÀ DEGLI STUDI DI CAGLIARI

Facoltà di Ingegneria e Architettura

MASTER'S DEGREE IN ENERGETIC ENGINEERING

DEGREE PROGRAMME 2022/2023

Course contents are available at this link

1st year

Sem	Teaching course	SSD*	TAF*	Credits	h
1	Applied Electromagnetism in Electrical and Energy Engineering	ING-IND/31	C	6	60
	Integrated Course: Energetics and Thermal Hvac Systems				
1	- Module: Energetics	ING-IND/11	B	6	60
2	- Module: Thermal Hvac Systems	ING-IND/11	B	6	60
2	Nuclear Reactor Physics	FIS/04	C	6	60
2	Exploration Geophysics	GEO/11	C	6	60
1 - 2	3 courses from tab 1		C	18	180

2nd year

Sem	Teaching course	SSD*	TAF*	Credits	h
1	Power Systems Generation and Economics	ING-IND/33	B	9	90
	Integrated Course: Electrical Energy Management and Electrical Vehicles				
1	- Module: Electrical Vehicles	ING-IND/32	B	5	50
2	- Module: Electrical Energy Management	ING-IND/32	B	5	50
	Integrated Course: Renewable and Industrial Energy Technologies				
1	- Module: Advanced Energy Systems	ING-IND/09	B	6	60
2	- Module: Renewable Energy Technologies	ING-IND/09	B	6	60
2	EMC and Power Electronic Energy Conversion	ING-IND/32	B	6	60

Additional credits to be acquired

Sem	Activity	SSD*	TAF*	Credits	h
	Laboratories or internship		F	8	
	Elective activities[1]		D	12	
	Final Examination		E	15	

TOTAL CREDITS 120

(1) The elective activities must be consistent with the personal educational plan and they need approval by the Degree Programme Board.

Tab 1. Courses TAF C (3 from the list)

Sem	Teaching course	SSD*	TAF*	Credits	h
1	Automatic Control Systems *	ING-INF/04	C	6	60
1	Electrical Machines and Drives	ING-IND/32	C	6	60
1	Fluid Machinery and Energy Systems	ING-IND/09	C	6	60
2	Advanced networking	ING-INF/03	C	6	60
2	Environmental Impact Energy Systems	ING-IND/09	C	6	60
2	Hydrogen Technology and Fuel Cells	ING-IND/27	C	6	60
2	Internet	ING-INF/03	C	6	60
2	Fundamentals of Electric Power Distribution and Smart Grids	ING-IND/33	C	6	60
2	Transportation Planning	ICAR/05	C	6	60

Other optional activities

Sem	Laboratory	SSD*	TAF*	Credits	h
1	Electric Drives for Electric Propulsion Lab	ING-IND/32	F	3	30
1	Modeling and Simulation of Energy Systems	ING-IND/09	F	3	30
1	Project Management	SECS-P/08	F	4	36
1	Symulation of Dynamical Systems with Matlab-Simulink	ING-INF/04	F	3	30
1	Traffic Simulation Model Laboratory	ICAR/05	F	3	45
1	Technologies for Energy Efficiency	ING-IND/09	F	3	30
2	Control of Energy Systems *	ING-INF/04	F	3	30
2	Electrical Energy Management Systems Lab	ING-IND/32	F	2	20
2	Smart Grid Lab	ING-IND/33	F	2	20

* If *Automatic Control Systems* course is chosen, *Control of Energy Systems lab* also has to be chosen.

***Abbreviations**

SSD	Scientific Disciplinary Sector
TAF	Type of Educational Activity