

SCIENCES, INGÉNIERIE ET TECHNOLOGIES

# MASTER ELECTRICAL ENERGY SYSTEMS M1

MASTER ELECTRICAL ENERGY SYSTEMS

 ECTS  
60 credits

## Organisation

# Program

	Nature	CM	TD	TP	Crédits
<b>M1 Electrical Energy Systems</b>	UE				
M1 EES Semestre 7	UE				30 credits
Parcours Standard sem 7 EES	UE				
Machines électriques : structures et modélisation	UE				4 credits
Mécatronique 1	UE				
Mach. 2 : modélisation électromag. et élect. des machines	UE				
Synthèse et Conception des CVS	UE				3,5 credits
Static Converters Design	UE				
Static Converters Project	UE				
Automatique des Systèmes Non linéaires/Echantillonnés(ASNLE)	UE				4 credits
Regulation Structures	UE				
Non linear Systems	UE				
Sampled Linear Systems : Z transform	UE				
Modélisation et Développement des Systèmes Industriels	UE				4 credits
Oriented Object Design and Programming	UE				
Control industrial systems	UE				
BE Prog. Conc. Orient.Obj	UE				
Mathématiques 2	UE				4,5 credits
Optimisation	UE				
Optimisation Project	UE				
Probabilities and Statistics	UE				
Probabilities and Statistics Project	UE				
Sciences Humaines et Sociales	UE				6 credits
PPP et Techniques de Recherche d'Emploi	UE				
Langue 1 2GEA semestre 7	UE				
Langue 2 2GEA semestre 7	UE				
Sport sem C	UE				
Expression Ecrite et Orale, soutenance stage 1A	UE				
Applications	UE				4 credits
Projet Scientifique avec Tutorat	UE				
M1 EES Semestre 8	UE				30 credits
Parcours EMEC	UE				
Static Converters, Machines and Control	UE				6 credits
Association Static Converters machines	UE				
Modulation, Filtering and Sizing of Inverters	UE				
Electric Machines Conception	UE				
Introduction to Machines Control	UE				
Modeling and Control of Static Converters	UE				
MASAP, MAS v/f	UE				
Numerical command	UE				3,5 credits
real time digital control project	UE				

real time digital control	UE	
Automatic Control and Systems	UE	5 credits
Discrete polynomial command	UE	
State Space	UE	
Graphs, Algorithms and Applications (All and EMEC)	UE	
Auto (Pendule, Susp. Magn., Ordonancement, Str reg)(EMEC)	UE	
functional materials	UE	3,5 credits
Mechanical Properties	UE	
Dielectric Properties	UE	
Magnetic properties	UE	
Materials	UE	
Macatronic Conception	UE	6 credits
Mechatronics 2: innovative actuators	UE	
Optimization Design	UE	
Thermal and fluid mechanics	UE	
Mach. 4: sizing	UE	
sensors	UE	
GE (Vibration, Piezo Engine, Optimag., Autopilot MS)	UE	
Soft and Human Skills	UE	
Professional English 2.2 : Debates	UE	
Second language	UE	
Spanish	UE	
Spanish	UE	
Chinese	UE	
Italian	UE	
Japanese	UE	
Russian	UE	
German	UE	
french (as a foreign language)	UE	
Sports	UE	
Leadership & Management	UE	
Parcours ENP	UE	
Static Converters, Machines and Control	UE	6 credits
Association Static Converters machines	UE	
Modulation, Filtering and Sizing of Inverters	UE	
Electric Machines Conception	UE	
Introduction to Machines Control	UE	
Modeling and Control of Static Converters	UE	
MASAP, MAS v/f	UE	
Numerical command	UE	3,5 credits
real time digital control project	UE	
real time digital control	UE	
Automatic Control and Systems	UE	4 credits
Discrete polynomial command	UE	
State Space	UE	
Non linear Control (All and EMEC)	UE	

Auto (Pendule, Susp. Magn.) (ENP)	UE	
Switching implementation	UE	5,5 credits
Switching Mechanism in Static Converters	UE	
Thermics	UE	
Static Converters Control	UE	
Electric Systems and Networks	UE	5 credits
Introduction to Flexible AC Transmission System	UE	
Renewable Energies and Photovoltaic Systems	UE	
Bond Graph Modeling	UE	
Inverters Filtering	UE	
Flexible AC Transmission System Labs	UE	
Soft and Human Skills	UE	
Professional English 2.2 : Debates	UE	
Second language	UE	
Spanish	UE	
Spanish	UE	
Chinese	UE	
Italian	UE	
Japanese	UE	
Russian	UE	
German	UE	
french (as a foreign language)	UE	
Sports	UE	
Leadership & Management	UE	
Parcours All	UE	
Static Converters, Machines and Control	UE	6 credits
Association Static Converters machines	UE	
Modulation, Filtering and Sizing of Inverters	UE	
Electric Machines Conception	UE	
Introduction to Machines Control	UE	
Modeling and Control of Static Converters	UE	
MASAP, MAS v/f	UE	
Real Time Systems Software Development	UE	5 credits
Introduction to Modeling - Petri Networks	UE	
Introduction to Computer Networks Architectures	UE	
Real Time Programming	UE	
Signal Processing and Identification	UE	3 credits
Identification	UE	
Signal Processing	UE	
Numerical command	UE	3,5 credits
real time digital control project	UE	
real time digital control	UE	
Control and Systems	UE	6,5 credits
Control	UE	
Discrete polynomial command	UE	
State Space	UE	

Graphs, Algorithms and Applications (All and EMEC)	UE
Non linear Control (All and EMEC)	UE
Soft and Human Skills	UE
Professional English 2.2 : Debates	UE
Second language	UE
Spanish	UE
Spanish	UE
Chinese	UE
Italian	UE
Japanese	UE
Russian	UE
German	UE
french (as a foreign language)	UE
Sports	UE
Leadership & Management	UE