Université de Liège

Study programmes 2011-2012

Faculty of Applied Sciences

Master en ingénieur civil électromécanicien, à finalité spécialisée en technologies durables en automobile

First Year

Students studying for the Bachelors in Civil Engineering who have not chosen the appropriate option :

* must take all the so-called "prerequisite" courses hereafter, if they were not taken during the 1st cycle. These courses must be taken during the 1st year of the masters and some 1st-year compulsory courses must be rolled over to the 2nd year.
* must subsequently reduce the number of courses they choose to take in the 2nd year of the masters. If all the "prerequisite" courses must be taken, it will be impossible for them to choose which courses they take.
* cannot choose the professional "management" focus.

The program adapted by these students has to receive the preliminary agreement of the Jury.

Compulsory prerequisites

ELEC0431-1	*Electromagnetic energy transformation* - Christophe GEUZAINE	30	30	-	**5**
ELEC0053-2	*Electric circuits* - Patricia ROUSSEAUX	30	30	-	**5**
MECA0445-1	*Transfers of heat and matter* - Michel HOGGE	30	30	-	**5**
MECA0012-5	*Solid mechanics* - Laurent DUCHENE, Anne HABRAKEN	30	30	-	**5**
MECA0002-1	*Applied Thermodynamics and Introduction to Heat Engines* - Olivier LÉONARD	30	30	-	**5**
ELEC0052-1	*Analysis and Design of Electrical Measuring Systems* - Philippe VANDERBEMDEN	30	30	-	**5**

Compulsory courses

MECA0037-1	*Thermic and co-generation power stations* - Pierre DEWALLEF, N..., Jean SNOECK	30	30	-	**5**
MECA0046-1	*Heat exchangers*				**5**
	- Heat exchangers networks and rational use of energy - Georges HEYEN	15	15	-	
	- Fundamental and constructive aspects - Philippe NGENDAKUMANA	15	15	-	
MECA0450-2	*Renewable energies* - Pierre DEWALLEF, Vincent LEMORT	15	15	-	**3**
CHIM0080-2	*Energy carriers and sustainable development* - Angélique LÉONARD	20	10	-	**3**
CHIM0071-3	*Reduction of pollutants from combustion* - Angélique LÉONARD	30	-	-	**3**
MECA0006-1	*Production of cold and low-level heat* - Vincent LEMORT	30	30	-	**5**
MECA0045-1	*Thermofluid Quantity Measurement* - Philippe NGENDAKUMANA	30	30	-	**3**
MECA0041-1	*Internal Combustion Engines* - Philippe NGENDAKUMANA - [1,5d FW]	30	30	[+]	**5**
APRI0003-1	*Integrated project on energetics* - COLLÉGIALITÉ - [5d FW]	-	60	[+]	**5**
MECA0462-2	*Materials selection* (english language) - Jacqueline LECOMTE#BECKERS - [1d FW]	30	30	[+]	**5**
ELEC0014-3	*Electric Energy Transmission and Distribution* - Jean-Louis LILIEN - [2,5d FW]	30	15	[+]	**4**
ELEC0029-2	*Analysis and operation of electric energy systems* - Thierry VAN CUTSEM	30	30	-	**4**
MECA0467-1	*Turbomachines* - Olivier LÉONARD	30	30	-	**5**
SYST0003-1	*Linear control systems* (english language) - Eric BULLINGER, Rodolphe SEPULCHRE	30	30	-	**5**

Notice : Students who have, in their BAC studies, have already taken one or more compulsory courses in this Master's programme are obliged to replace them by other courses on the Faculty's programme; this choice must be approved by the President of the cycle's Jury.

Second Year

Compulsory courses

ATFE2003-1	*Final work (including an internship or a placement in a research centre under the supervision of the teacher responsible for the final work and including an introduction to research methodology)* - COLLÉGIALITÉ	-	-	-	**25**

Optional courses

Choose one of the following courses :

[...]	the courses of the University of Liege				
[...]	the list below.				
ECON0207-1	*Industrial Economy* - Axel GAUTIER	30	15	-	**5**
LOGI0011-1	*Supply Chain Management* (english language) - Sabine LIMBOURG	45	-	-	**5**
LANG1957-1	*Dutch Engineering* (dutch language) - Claudine COLIN	60	-	-	**5**
LANG1958-1	*German Engineering* (german language) - Françoise CARL	60	-	-	**5**

In any case, this course must have the approval of the cycle's Jury President.

Compulsory courses

Module 1 : Vehicle dynamics and safety					
MECA0491-2	*Technical english* (english language) - FOREM	25	-	-	**2**
MECA0492-2	*Vehicle dynamics* (english language) - Pierre DUYSINX	30	20	-	**4**
MECA0493-2	*Vehicle aerodynamics* (english language) - Grigorios DIMITRIADIS	15	10	-	**2**
MECA0494-2	*Driveline and braking systems* (english language) - Jean-Luc BOZET, Olivier BRULS, Pierre DUYSINX	15	10	-	**2**
MECA0495-1	*Introduction to vehicle safety* (english language) - Pierre DUYSINX, Ludovic NOELS	15	10	-	**2**
MECA0496-2	*Materials for automotive applications* (english language) - Jacqueline LECOMTE#BECKERS, Ahmed RASSILI	30	20	-	**4**
Module 2 : Engine and electric propulsion systems					
MECA0497-2	*Vehicle performance* (english language) - Pierre DUYSINX	15	10	-	**2**
MECA0498-2	*Internal combustion enignes* (english language) - Philippe NGENDAKUMANA	30	20	-	**4**
MECA0499-2	*Electric traction motors* (english language) - Johan GYSELINCK	15	10	-	**2**
MECA0500-2	*Hybrid electric and fuel cell vehicles* (english language) - Pierre DUYSINX, Nathalie JOB	30	20	-	**4**
MECA0501-1	*Thermal and Electrical Management of vehicles* (english language) - Vincent LEMORT	15	10	-	**2**