Université de Liège

Study programmes 2011-2012

Faculty of Applied Sciences

Master en ingénieur civil mécanicien, à finalité spécialisée en technologies durables en automobiles

First Year

Compulsory courses

MECA0023-1	*Inelastic behavior of solids* - Jean-Philippe PONTHOT	30	30	-	**5**
MECA0475-3	*Integrated design* - Jean-Luc BOZET	15	15	-	**3**
APRI0005-2	*Integrated mechanical project* - COLLÉGIALITÉ, Pierre DUYSINX - [5d FW]	-	30	[+]	**2**
MECA0444-1	*Mechanical design* - Jean-François DEBONGNIE	30	30	-	**5**
MECA0038-1	*Measurement uncertainties and dimensional metrology* - Maarten ARNST, Tristan GILET	30	30	-	**5**
MECA0474-1	*Mechanical Computer-Aided-Design* (english language) - Eric BÉCHET	30	30	-	**5**
MECA0462-2	*Materials selection* (english language) - Jacqueline LECOMTE#BECKERS - [1d FW]	30	30	[+]	**5**
MECA0029-1	*Mechanical Vibrations* - Jean-Claude GOLINVAL	30	30	-	**5**
MECA0504-1	*Automation and activation of industrial production processes* - Olivier BRULS, Pierre DUYSINX	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 following list of option courses; this choice must be approved by the President of the cycle's Jury.

Optional courses

Choose courses totaling 20 ECTS from the following :

CNAV0020-1	*Introduction to naval construction* - André HAGE, Philippe RIGO	40	30	-	**5**
MECA0041-1	*Internal Combustion Engines* - Philippe NGENDAKUMANA - [1,5d FW]	30	30	[+]	**5**
MECA0031-2	*Kinematics and Dynamics of Mechanisms* - Olivier BRULS	30	30	-	**5**
MECA0004-1	*Vehicle performance and behaviour* - Pierre DUYSINX	30	30	-	**5**
MECA0069-1	*Series Production Methods* - Jean-François DEBONGNIE	30	30	-	**5**
MECA0467-1	*Turbomachines* - Olivier LÉONARD	30	30	-	**5**
MECA0010-1	*Stochastic modelling in mechanics* (english language) - Maarten ARNST	30	30	-	**5**
MECA0009-1	*Micromechanics* (english language) - Tristan GILET	30	30	-	**5**

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

MECA0036-1	*Finite Element Method* (english language) - Jean-Philippe PONTHOT	30	30	-	**5**
MECA0155-1	*Dynamics of Mechanical Systems* - Jean-Claude GOLINVAL	30	30	-	**5**
MECA0012-5	*Solid mechanics* - Laurent DUCHENE, Anne HABRAKEN	30	30	-	**5**
MECA0018-1	*Industrial Forming Processes* - Jean-François DEBONGNIE	30	30	-	**5**
MECA0002-1	*Applied Thermodynamics and Introduction to Heat Engines* - Olivier LÉONARD	30	30	-	**5**
MECA0445-1	*Transfers of heat and matter* - Michel HOGGE	30	30	-	**5**

Second Year

Compulsory courses

ATFE0013-1	*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				
[...]	the courses 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**