

Block view of the study programme

Or Th Pr Au Cr

Bloc 1 du programme de l'année

Compulsory courses

Mechanical design and production

MECA0444-1	<i>Mechanical design</i> - JeanFrançois DEBONGNIE	Q1	30	30	-	5
APRI0005-3	<i>Integrated mechanical project</i> - Maarten ARNST, Eric BÉCHET, JeanLuc BOZET, Olivier BRULS, JeanFrançois DEBONGNIE, Pierre DUYSINX, Tristan GILET, Jean STUTO - [250h Proj., 5d FW]	TA	50	-	[+]	15

Corequisite :

MECA0444-1 - Conception mécanique
MECA0474-1 - Mechanical Computer-Aided-Design
MECA0462-2 - Materials selection

Notice : If the president of the cycle's panel agrees, in particular regarding the technical content, the master's integrated project can be part of an interdisciplinary project (e.g. project engineer, Eurobot, Eco-Shell Marathon, etc.). It is possible to have done the project between the third year of the bachelor's degree and the second year of the master's.

MECA0474-1	<i>Mechanical computer-Aided-Design</i> (english language) - Eric BÉCHET - [30h Proj.]	Q1	30	30	[+]	5
MECA0462-2	<i>Materials selection</i> (english language) - Jacqueline LECOMTEBECKERS, Davide RUFFONI - [30h Proj., 1d FW]	Q1	30	30	[+]	5

Management

Dissertation

Optional courses

Choose courses totalling 30 ECTS out of the following :

[...] Minimum 10 ECTS from the list Mecatronic 1

MECA0504-1	<i>Industrial automation</i> - Olivier BRULS, Pierre DUYSINX - [30h Labo.]	Q2	30	-	[+]	5
ELEN0074-1	<i>Sensors, microsensors and instrumentation</i> (english language) - Philippe VANDERBEMDEN - [20h Labo.]	Q2	30	-	[+]	5
MECA0009-2	<i>Introduction to microtechnology</i> (english language) - Tristan GILET - [8h Labo., 22h Proj.]	Q2	12	12	[+]	5
SYST0003-1	<i>Linear control systems</i> (english language) - Guillaume DRION - [6h Labo.]	Q1	30	30	[+]	5

[...] Minimum 10 ECTS from the list Computational mechanics 1

[...] Courses to choose from the optional courses of the master

Bloc 2 du programme de l'année

Compulsory courses

Mechanical design and production

Management

GEST3162-1	<i>Principles of management</i> (english language) - Michael GHILISSEN, François PICHAULT, Thierry PIRONET, Didier VAN CAILLIE	Q1	25	25	-	5
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Dissertation

ATFE0013-1	<i>Final thesis</i> - COLLÉGIALITÉ	TA	-	-	-	25
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Optional courses

Choose one focus from the following :

Research Focus

[...] Choose one internship amongst :

ASTG0116-1	<i>Observation internship</i> - Pierre DEWALLEF Corequisite : GEST3162-1 - Principles of management	TA	-	-	-	3
ASTG0117-1	<i>Integration internship</i> - Pierre DEWALLEF Corequisite : ATFE0013-1 - Travail de fin d'études GEST3162-1 - Principles of management	TA	-	-	-	5

Choose courses totalling 25 ECTS from the following :

[...] Maximum 5 credits to be chosen from the language courses programme organised by ISLV in other faculties or from the restricted Language Courses list

LANG1957-1	<i>Dutch for Engineers, part 1</i> (dutch language) - Claudine COLIN	Q1	36	-	-	3
LANG2978-1	<i>Dutch for engineer, part 2</i> - Claudine COLIN Corequisite : LANG1957-1 - Néerlandais pour l'ingénieur, partim 1	Q2	24	-	-	2
LANG1958-1	<i>German for engineer, Part 1</i> (german language) - Françoise CARL	Q1	36	-	-	3
LANG2979-1	<i>German for engineers, part 2</i> - Françoise CARL, ISLV Corequisite : LANG1958-1 - Allemand pour l'ingénieur, partim 1	Q2	24	-	-	2

[...] Maximum 25 ECTS from the optional courses lists Mecatronic 1, Mecatronic 2, Computational mechanics 1, Computational mechanics 2, Mechanical engineering and vehicles and transports

MECA0504-1	<i>Industrial automation</i> - Olivier BRULS, Pierre DUYSINX - [30h Labo.]	Q2	30	-	[+]	5
ELEN0074-1	<i>Sensors, microsensors and instrumentation</i> (english language) - Philippe VANDERBEMDEN - [20h Labo.]	Q2	30	-	[+]	5
MECA0009-2	<i>Introduction to microtechnology</i> (english language) - Tristan GILET - [8h Labo., 22h Proj.]	Q2	12	12	[+]	5
SYST0003-1	<i>Linear control systems</i> (english language) - Guillaume DRION - [6h Labo.]	Q1	30	30	[+]	5

[...] Maximum 5 credits in the list of courses from other master's degrees in the faculty of Applied Sciences

Professional focus in sustainable automotive engineering

ASTG0117-1	<i>Integration internship</i> - Pierre DEWALLEF Corequisite : ATFE0013-1 - Travail de fin d'études GEST3162-1 - Principles of management	TA	-	-	-	5
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Vehicle dynamics and safety

MECA0492-2	<i>Vehicle dynamics</i> (english language) - Pierre DUYSINX Corequisite : MECA0493-2 - Vehicle aerodynamics MECA0494-3 - Driveline and braking systems MECA0495-1 - Introduction to vehicle safety and body structure design MECA0496-2 - Materials for automotive applications	Q1	25	15	-	3
MECA0493-2	<i>Vehicle aerodynamics</i> (english language) - - Suppl : Pierre DUYSINX, Vincent TERRAPON Corequisite : MECA0492-2 - Vehicle dynamics MECA0494-3 - Driveline and braking systems MECA0495-1 - Introduction to vehicle safety and body structure design	Q1	15	10	-	2

Study programmes 2015-2016

Faculty of Applied Sciences

Master in mechanical engineering (120 ECTS)

	MECA0496-2 - Materials for automotive applications						
MECA0494-3	<i>Driveline and braking systems</i> (english language) - Olivier BRULS, Pierre DUYSINX Corequisite : MECA0492-2 - Vehicle dynamics MECA0493-2 - Vehicle aerodynamics MECA0495-1 - Introduction to vehicle safety and body structure design MECA0496-2 - Materials for automotive applications	Q1	25	15	-	3	
MECA0495-1	<i>Introduction to vehicle safety and body structure design</i> (english language) - Pierre DUYSINX, Ludovic NOELS Corequisite : MECA0492-2 - Vehicle dynamics MECA0493-2 - Vehicle aerodynamics MECA0494-3 - Driveline and braking systems MECA0497-2 - Vehicle performance	Q1	15	10	-	2	
MECA0496-2	<i>Materials for automotive applications</i> (english language) - Jacqueline LECOMTEBECKERS, Ahmed RASSILI Corequisite : MECA0492-2 - Vehicle dynamics MECA0493-2 - Vehicle aerodynamics MECA0494-3 - Driveline and braking systems MECA0495-1 - Introduction to vehicle safety and body structure design	Q1	25	15	-	3	
Engine and electric propulsion systems							
MECA0497-2	<i>Vehicle performance</i> (english language) - Pierre DUYSINX Corequisite : MECA0498-2 - Internal combustion engines MECA0499-2 - Electric traction motors MECA0500-2 - Hybrid electric and fuel cell vehicles MECA0501-1 - Thermal and Electrical Management of vehicles	Q1	15	10	-	2	
MECA0498-2	<i>Internal combustion engines</i> (english language) - Philippe NGENDAKUMANA Corequisite : MECA0497-2 - Vehicle performance MECA0499-2 - Electric traction motors MECA0500-2 - Hybrid electric and fuel cell vehicles MECA0501-1 - Thermal and Electrical Management of vehicles	Q1	25	15	-	3	
MECA0499-2	<i>Electric traction motors</i> (english language) - Johan GYSELINCK Corequisite : MECA0497-2 - Vehicle performance MECA0498-2 - Internal combustion engines MECA0500-2 - Hybrid electric and fuel cell vehicles MECA0501-1 - Thermal and Electrical Management of vehicles	Q1	15	10	-	2	
MECA0500-2	<i>Hybrid electric and fuel cell vehicles</i> (english language) - Pierre DUYSINX, Nathalie JOB Corequisite : MECA0497-2 - Vehicle performance MECA0498-2 - Internal combustion engines MECA0499-2 - Electric traction motors MECA0501-1 - Thermal and Electrical Management of vehicles	Q1	25	15	-	3	
MECA0501-1	<i>Thermal and Electrical Management of vehicles</i> (english language) - Vincent LEMORT Corequisite : MECA0497-2 - Vehicle performance MECA0498-2 - Internal combustion engines MECA0499-2 - Electric traction motors MECA0500-2 - Hybrid electric and fuel cell vehicles	Q1	15	10	-	2	

Notice : Students who, during the block 1 of the master programme, have already followed a course

that is equivalent to one of the courses offered in this specialisation, must substitute it with one or several courses chosen among the faculty's offering; these courses must be approved by the president of the panel for master studies.

Computational mechanics 1

MECA0029-1	<i>Theory of vibration</i> (english language) - JeanClaude GOLINVAL - [30h Proj.]	Q1	30	30	[+]	5
MECA0031-2	<i>Kinematics and dynamics of mechanisms</i> (english language) - Olivier BRULS - [40h Proj.]	Q2	30	20	[+]	5
MECA0023-1	<i>Advanced solid mechanics</i> (english language) - JeanPhilippe PONTHOT - [20h Proj.]	Q1	30	30	[+]	5
MECA0010-1	<i>Scholastic modelling</i> (english language) - Maarten ARNST - [28h Proj.]	Q2	16	16	[+]	5

Mechanical engineering

MECA0067-1	<i>Special Technology Issues</i> - JeanFrançois DEBONGNIE	Q1	30	30	-	5
MECA0069-1	<i>Series Production Methods</i> - JeanFrançois DEBONGNIE - [4h Labo.]	Q2	30	26	[+]	5
MECA0473-1	<i>Metallic materials Engineering</i> - Jacqueline LECOMTEBECKERS	Q1	30	30	-	5
MECA0138-1	<i>Welding and non-destructive tests</i> - Nathalie GERLACH, Adnen ben Mahmoud KECHAOU - [30h Labo.]	Q1	30	-	[+]	5
MECA0139-1	<i>Techniques of additive manufacturing and 3D printing</i> - Thierry DORMAL	Q1	15	15	-	3
MECA0035-1	<i>Lubrication and tribology</i> - JeanLuc BOZET	Q1	30	30	-	5
MECA0467-1	<i>Turbomachines</i> - Olivier LÉONARD	Q2	30	30	-	5
MECA0509-1	<i>Sustainable engineering processes</i> (english language) - Georges PELSEMAEKER		15	30	-	5
MECA0051-2	<i>QSHE Management (Quality - Safety - Health - Environment)</i> - JeanMichel COMPÈRE, Pierre DEWALLEF	Q1	30	30	-	5
MECA0006-1	<i>Production system of coldness and low temperature heat</i> - Vincent LEMORT - [4h Proj.]	Q1	30	30	[+]	5
CHIM0699-2	<i>Life cycle analysis - ecodesign</i> - Sandra BELBOOM, Angélique LÉONARD	Q1	10	30	-	3
MECA0502-1	<i>Mechanics of composites</i> (english language) - Michaël BRUYNEEL	Q1	30	30	-	5

Mecatronic 2

ELEC0055-1	<i>Electronic control systems</i> (english language) - Fabrice FREBEL, Christophe GEUZAINÉ	Q1	30	30	-	5
MECA0517-1	<i>Advanced industrial robotics</i> (english language) - Olivier BRULS - [10h Proj.]	Q2	30	20	[+]	5
INFO0948-2	<i>Introduction to intelligent robotics</i> (english language) - Renaud DETRY - [80h Proj.]	Q2	30	4	[+]	5
INFO0064-2	<i>Embedded systems</i> (english language) - Bernard BOIGELOT	Q1	25	20	-	3
INFO2055-1	<i>Embedded systems project</i> (english language) - Bernard BOIGELOT - [60h Proj.]	Q2	-	-	[+]	2
GBIO0012-2	<i>Biomechanics</i> (english language) - Davide RUFFONI - [1d FW]	Q1	30	30	[+]	5
GBIO0022-1	<i>Biomimetism</i> (english language) - Philippe COMPÈRE, Liesbet GERIS, Tristan GILET, Eric PARMENTIER, Davide RUFFONI - [45h Proj.]	TA	15	-	[+]	5
MECA0008-1	<i>Microfluidics</i> (english language) - Tristan GILET - [16h Labo., 14h Proj.]	Q1	22	8	[+]	5
PROT0430-3	<i>Biomedical robotics and active prostheses</i> - Olivier BRULS	Q1	15	10	-	2
MTRA2008-2	<i>Safety at work : technology and prevention</i> - N...		15	15	-	3

Computational mechanics 2

MECA0464-1	<i>Large deformation of solids</i> (english language) - JeanPhilippe PONTHOT - [60h Proj.]	Q1	30	30	[+]	5
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MECA0058-1	<i>Fracture mechanics, damage and fatigue</i> (english language) - Ludovic NOELS - [75h Proj.]	Q1	30	10	[+]	5
MECA0062-1	<i>Vibration testing and experimental modal analysis</i> (english language) - JeanClaude GOLINVAL - [30h Proj.] Prerequisite : MECA0029-1 - Theory of vibration	Q1	30	30	[+]	5
MECA0470-1	<i>New methods in computational mechanics</i> (english language) - Maarten ARNST, Eric BÉCHET, Ludovic NOELS - [40h Proj.]	Q2	20	-	[+]	5
INFO2046-2	<i>Computational geometry</i> (english language) - Eric BÉCHET - [95h Proj.]	Q1	25	-	[+]	5
MECA0027-1	<i>Structural and multidisciplinary optimization</i> - Pierre DUYSINX, Patricia TOSSINGS - [18h Proj.]	Q1	30	12	[+]	5
INFO0939-1	<i>High performance scientific computing</i> (english language) - Christophe GEUZAINÉ - [20h Proj.]	Q1	30	15	[+]	5
MATH0024-1	<i>Modelling with partial differential equations</i> - Maarten ARNST - [25h Proj.]	Q1	30	20	[+]	5
MATH0471-2	<i>Multiphysics integrated computational project</i> (english language) - Romain BOMAN, Christophe GEUZAINÉ - [30h Proj.] Corequisite : MATH0024-1 - Modelling with partial differential equations INFO0939-1 - High performance scientific computing	TA	20	-	[+]	5

Vehicles and transport

MECA0041-1	<i>Internal combustion engine</i> - Philippe NGENDAKUMANA - [1,5d FW, 20h Proj.]	Q2	30	30	[+]	5
GCIV2066-1	<i>Fundamentals of transportation : transport planning</i> (english language) - Mario COOLS	Q1	15	15	-	2
CNAV0020-1	<i>Introduction to naval construction</i> - André HAGE, Philippe RIGO	Q1	40	30	-	5
MECA0004-3	<i>Vehicles performances and behaviour</i> - Pierre DUYSINX - [6h Labo., 12h Proj.]	Q2	30	12	[+]	5
MECA0478-4	<i>Electric, hybrid and non-conventional propulsion systems</i> - Pierre DUYSINX - [6h Labo., 16h Proj.]	Q1	30	8	[+]	5
MECA0063-1	<i>Vehicle Architecture</i> - Pierre DUYSINX - [30h Proj.] Corequisite : MECA0004-3 - Performances et comportement des véhicules	Q2	30	-	[+]	5

Programme transitoire à destination des étudiants ayant réussi leur master 1 de "Master en ingénieur civil mécanicien, à finalité spécialisée en technologies durables en automobile" en 2014-2015

Bloc 1 du programme de l'année

Optional courses

Choose one focus from the following :

Professional focus in sustainable automotive engineering

ASTG0117-1	<i>Integration internship</i> - Pierre DEWALLEF	TA	-	-	-	5
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Vehicle dynamics and safety

MECA0492-2	<i>Vehicle dynamics</i> (english language) - Pierre DUYSINX	Q1	25	15	-	3
MECA0493-2	<i>Vehicle aerodynamics</i> (english language) - - Suppl : Pierre DUYSINX, Vincent TERRAPON	Q1	15	10	-	2

MECA0494-3	<i>Driveline and braking systems</i> (english language) - Olivier BRULS, Pierre DUYSINX	Q1	25	15	-	3
MECA0495-1	<i>Introduction to vehicle safety and body structure design</i> (english language) - Pierre DUYSINX, Ludovic NOELS	Q1	15	10	-	2
MECA0496-2	<i>Materials for automotive applications</i> (english language) - Jacqueline LECOMTEBECKERS, Ahmed RASSILI	Q1	25	15	-	3
Engine and electric propulsion systems						
MECA0497-2	<i>Vehicle performance</i> (english language) - Pierre DUYSINX	Q1	15	10	-	2
MECA0498-2	<i>Internal combustion engines</i> (english language) - Philippe NGENDAKUMANA	Q1	25	15	-	3
MECA0499-2	<i>Electric traction motors</i> (english language) - Johan GYSELINCK	Q1	15	10	-	2
MECA0500-2	<i>Hybrid electric and fuel cell vehicles</i> (english language) - Pierre DUYSINX, Nathalie JOB	Q1	25	15	-	3
MECA0501-1	<i>Thermal and Electrical Management of vehicles</i> (english language) - Vincent LEMORT	Q1	15	10	-	2

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Compulsory courses

ATFE0013-1	<i>Final thesis</i> - COLLÉGIALITÉ	TA	-	-	-	25
GEST3162-1	<i>Principles of management</i> (english language) - Michael GHILISSEN, François PICHAULT, Thierry PIRONET, Didier VAN CAILLIE	Q1	25	25	-	5

Programme transitoire à destination des étudiants ayant réussi leur master 1 de "Master en ingénieur civil mécanicien, à finalité approfondie" en 2014-2015

Bloc 1 du programme de l'année

Optional courses

Choose one focus from the following :

Research Focus

[...] Choose 1 compulsory internship

Choose courses totalling 25 ECTS from the following :

[...] Maximum 5 credits to be chosen from the language courses programme organised by ISLV in other faculties or from the restricted list below

[...] Maximum 25 ECTS from the optional courses list

[...] Maximum 5 credits in the list of courses from other master's degrees in the faculty of Applied Sciences

Compulsory courses

ATFE0013-1	<i>Final thesis</i> - COLLÉGIALITÉ	TA	-	-	-	25
GEST3162-1	<i>Principles of management</i> (english language) - Michael GHILISSEN, François PICHAULT, Thierry PIRONET, Didier VAN CAILLIE	Q1	25	25	-	5