

## 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 adapted programme for these students must first gain be approved by the Jury.

### Compulsory prerequisites

ELEC0431-1	<i>Electromagnetic energy transformation</i> - Christophe GEUZAINÉ	30	30	-	5
ELEC0052-1	<i>Analysis and Design of Electrical Measuring Systems</i> - Philippe VANDERBEMDEN	30	30	-	5
ELEC0053-2	<i>Electric circuits</i> - Patricia ROUSSEAU	30	30	-	5
ELEN0008-1	<i>Principles of analog and digital telecommunications systems</i> - Marc VAN DROOGENBROECK	30	30	-	5
ELEN0040-1	<i>Digital Electronics</i> - Jacques DESTINÉ	30	30	-	5
ELEN0070-1	<i>Signal Processing</i> - Jacques VERLY	30	30	-	5
ELEN0075-1	(pas organisé en 2012-2013) <i>Analog Electronics</i> - Benoît VANDERHEYDEN	30	30	-	5
ELEN0076-1	<i>Electromagnetism</i> - Patricia ROUSSEAU, Benoît VANDERHEYDEN	30	30	-	5

### Compulsory courses

SYST0003-1	<i>Linear control systems</i> (english language) - Eric BULLINGER	30	30	-	5
INFO0012-1	<i>Computation structures</i> (english language) - Pierre WOLPER	30	30	-	5
MATH0461-1	<i>Introduction to numerical optimization</i> (english language) - Quentin LOUVEAUX	30	30	-	5
INFO0054-1	<i>Functional programming</i> - Pascal GRIBOMONT	30	30	-	5
ELEC0055-1	<i>Electronic control systems</i> - Paul BLEUS, Christophe GEUZAINÉ	30	30	-	5
INFO0064-1	<i>Embedded Systems</i> - Bernard BOIGELOT	30	30	-	5
ELEN0017-1	<i>Analysis and Design of Telecommunications Systems</i> - Marc VAN DROOGENBROECK	30	30	-	5
ELEN0074-1	<i>Sensors, microsensors and instrumentation</i> - Philippe VANDERBEMDEN	30	30	-	5
ELEN0004-1	<i>The physics of semiconductor devices</i> - Benoît VANDERHEYDEN	30	30	-	5
ELEN0002-1	<i>Introduction to Audio and Video Techniques</i> - JeanJacques EMBRECHTS	30	30	-	5
ELEN0037-1	<i>Microelectronics. Analysis and CAD of integrated circuits</i> - Jacques DESTINÉ	30	30	-	5
ELEN0060-1	<i>Information and Coding Theory</i> - Louis WEHENKEL	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 list of option courses; this choice must be approved by the President of the cycle's Jury.

## Second Year

### Compulsory courses

ATFE0014-1	<i>Final Work (including an introduction to methodology and research)</i> - COLLÉGIALITÉ	-	-	-	25
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### Optional courses

[...] Choose one course from the ULg courses'programme ; this choice must be approved by the cycle's Jury president.

### Compulsory courses

#### Module 1 : Vehicle dynamics and safety

MECA0492-2	<i>Vehicle dynamics</i> (english language) - Pierre DUYSINX	30	20	-	4
MECA0493-2	<i>Vehicle aerodynamics</i> (english language) - Grigorios DIMITRIADIS	15	10	-	2
MECA0494-3	<i>Driveline and braking systems</i> (english language) - JeanLuc BOZET, Olivier BRULS, Pierre DUYSINX	30	20	-	4
MECA0495-1	<i>Introduction to vehicle safety</i> (english language) - Pierre DUYSINX, Ludovic NOELS	15	10	-	2
MECA0496-2	<i>Materials for automotive applications</i> (english language) -	30	20	-	4

**Module 2 : Engine and electric propulsion systems**

MECA0497-2	<i>Vehicle performance</i> (english language) - Pierre DUYSINX	15	10	-	<b>2</b>
MECA0498-2	<i>Internal combustion engines</i> (english language) - Philippe NGENDAKUMANA	30	20	-	<b>4</b>
MECA0499-2	<i>Electric traction motors</i> (english language) - Johan GYSELINCK	15	10	-	<b>2</b>
MECA0500-2	<i>Hybrid electric and fuel cell vehicles</i> (english language) - Pierre DUYSINX, Nathalie JOB	30	20	-	<b>4</b>
MECA0501-1	<i>Thermal and Electrical Management of vehicles</i> (english language) - Vincent LEMORT	15	10	-	<b>2</b>