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## Introduction

### Introduction

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## Teaching profile

### Learning outcomes

The primary objective of the "polytechnic" minors organized by the Faculté des Sciences Appliquées is to allow students taking a baccalaureate in engineering science, if they so wish, to acquire, through a polytechnic major/minor, basic training in two specialist areas of engineering science, and thus to broaden their technical range of skills, or prepare for a master's in engineering science in a domain which spans the various basic courses offered at baccalaureate level. The disciplinary objectives of the minor in mechanics are to allow the student to acquire the basic concepts of theoretical and applied mechanics. For precisely, s/he will need to: Master this discipline via project and laboratory-based learning. Develop a deeper grasp of continuum mechanics (solids and fluid mechanics), in order to master the techniques of scale model studies and mathematical modeling required by these disciplines. Develop a deeper understanding of thermodynamics, both from a theoretical point of view (a deep understanding of thermodynamics, both from a theoretical point of view (understanding macroscopic concepts starting with kinetic theory of gases) as well as an applied point of view (technical and energetic thermodynamics). Acquire specialized training in machine design.

### Detailed programme

#### PROGRAMME BY SUBJECT

● Mandatory

△ Courses not taught during 2014-2015

⊕ Periodic courses taught during 2014-2015

⊗ Optional

⊖ Periodic courses not taught during 2014-2015

⊞ Two years course

Click on the course title to see detailed informations (objectives, methods, evaluation...)

Year

**2 3**

#### ● *Cours obligatoires de la mineure en mécanique (10 credits)*

● LMECA1855	<a href="#">Thermodynamics and energetics.</a>	<a href="#">Yann Bartosiewicz,</a> <a href="#">Miltiadis Papalexandris</a>	30h+30h	5 Credits	1q		x
● LMECA1210	<a href="#">Description et analyse des mécanismes</a>	<a href="#">Paul Fiset,</a> <a href="#">Benoît Herman</a> (compensates <a href="#">Benoît Raucen</a> ), <a href="#">Hervé Jeanmart,</a> <a href="#">Benoît Raucen</a>	30h+30h	5 Credits	2q	x	

#### ⊗ *Variante pour les étudiants inscrits en majeure ingénieur civil biomédical (20 credits)*

● LMECA1451	<a href="#">Mechanical manufacturing.</a>	<a href="#">Laurent Delannay,</a> <a href="#">Aude Simar</a>	30h+30h	5 Credits	1q		x
● LMECA1100	<a href="#">Deformable solid mechanics.</a>	<a href="#">Issam Doghri</a>	30h+30h	5 Credits	2q		x
● LMECA1321	<a href="#">Fluid mechanics and transfer phenomena.</a>	<a href="#">Vincent Legat,</a> <a href="#">Grégoire Winckelmans</a>	30h+30h	5 Credits	2q		x
● LMECA1120	<a href="#">Introduction to finite element methods.</a>	<a href="#">Vincent Legat</a>	30h+30h	5 Credits	2q	x	

#### ⊗ *Variante pour les étudiants inscrits en majeure ingénieur civil en chimie et physique appliquées. (20 credits)*

● LMECA1451	<a href="#">Mechanical manufacturing.</a>	<a href="#">Laurent Delannay,</a> <a href="#">Aude Simar</a>	30h+30h	5 Credits	1q		x
● LMECA1100	<a href="#">Deformable solid mechanics.</a>	<a href="#">Issam Doghri</a>	30h+30h	5 Credits	2q		x
● LINMA1510	<a href="#">Linear Control</a>	<a href="#">Denis Dochain</a>	30h+30h	5 Credits	2q		x
● LMECA1120	<a href="#">Introduction to finite element methods.</a>	<a href="#">Vincent Legat</a>	30h+30h	5 Credits	2q	x	

⌘ Variante pour les étudiants inscrits en majeure ingénieur civil des construction. (20 credits)

○ LMECA1451	Mechanical manufacturing.	Laurent Delannay, Aude Simar	30h+30h	5 Credits	1q		x
○ LINMA1510	Linear Control	Denis Dochain	30h+30h	5 Credits	2q		x
○ LMECA1321	Fluid mechanics and transfer phenomena.	Vincent Legat, Grégoire Winckelmans	30h+30h	5 Credits	2q		x
○ LMECA1100	Deformable solid mechanics.	Issam Doghri	30h+30h	5 Credits	2q		x

⌘ Variante pour les étudiants inscrits en majeure ingénieur civil en mathématiques appliquées (20 credits)

○ LMECA1451	Mechanical manufacturing.	Laurent Delannay, Aude Simar	30h+30h	5 Credits	1q		x
○ LMECA1321	Fluid mechanics and transfer phenomena.	Vincent Legat, Grégoire Winckelmans	30h+30h	5 Credits	2q		x
○ LMECA1120	Introduction to finite element methods.	Vincent Legat	30h+30h	5 Credits	2q	x	
○ LMECA1100	Deformable solid mechanics.	Issam Doghri	30h+30h	5 Credits	2q		x

⌘ Variante pour les étudiants inscrits en majeure ingénieur civil électricien (20 credits)

○ LMECA1901	Continuum mechanics.	Philippe Chatelain, Issam Doghri (compensates Emilie Marchandise), Emilie Marchandise	30h+30h	5 Credits	1q		x
○ LMECA1100	Deformable solid mechanics.	Issam Doghri	30h+30h	5 Credits	2q		x
○ LMECA1321	Fluid mechanics and transfer phenomena.	Vincent Legat, Grégoire Winckelmans	30h+30h	5 Credits	2q		x
○ LMECA1120	Introduction to finite element methods.	Vincent Legat	30h+30h	5 Credits	2q	x	

⌘ Variante pour les étudiants inscrits en majeure ingénieur civil en informatique (20 credits)

Cette variante est également destinée aux étudiants inscrit dans un autre programme de bachelier que FSA 1BA

○ LMECA1901	Continuum mechanics.	Philippe Chatelain, Issam Doghri (compensates Emilie Marchandise), Emilie Marchandise	30h+30h	5 Credits	1q		x
○ LMECA1321	Fluid mechanics and transfer phenomena.	Vincent Legat, Grégoire Winckelmans	30h+30h	5 Credits	2q		x
○ LMECA1100	Deformable solid mechanics.	Issam Doghri	30h+30h	5 Credits	2q		x
○ LMECA1120	Introduction to finite element methods.	Vincent Legat	30h+30h	5 Credits	2q	x	

## Information

### Liste des bacheliers proposant cette mineure

- > [Bachelor in Engineering](#) [ en-prog-2014-fsa1ba ]
- > [Bachelor in Mathematics](#) [ en-prog-2014-math1ba ]

### Admission

This polytechnic minor is mainly intended for students enrolled on baccalaureates in engineering science (civil engineer and civil engineer architect). The minor is also accessible to students enrolled on baccalaureates in mathematical or physical science. Minor activities must be followed in an order which respects the following requirements: - MECA1901 must come before MECA1321 and MECA1100

- When students must enroll on the course MECA1510 as a replacement for a course that they are following in their major, as is required by some programs, they must also take it after MECA1901. This rule also applies to non-FSA students who find themselves in the same situation.

### Possible trainings at the end of the programme

Majors-minors leading directly to a master's course(s) : For students who have performed well and obtained a bachelor's qualification in engineering science - civil engineering, the polytechnic minors guarantee them, as part of a program which includes one of these minors, unconditional access, without additional training, to the civil engineering master's which corresponds to this minor. For the minor in applied chemistry and physics: the civil engineering master's in chemistry and material science and the civil engineering master's physicist For the minor in construction : the civil engineering master's in construction For the minor in electricity: the civil engineering master's electrician For the minor in IT: the civil engineering master's in IT For the minor in mechanics: the civil engineering master's mechanic For the minor in applied mathematics: the civil engineering master's in applied mathematics For a program which combines the major in electricity/minor in mechanics, or major in mechanics/minor in electricity: the civil engineering master's electromechanic.

### Contacts

### Curriculum Management

Entite de la structure MECA

Acronyme	<b>MECA</b>
Dénomination	Commission de programme - Ingénieur civil mécanicien
Adresse	Place du Levant, 2 bte L5.04.03 1348 Louvain-la-Neuve Tél 010 47 22 00 - Fax 010 45 26 92
Secteur	Secteur des sciences et technologies ( <b>SST</b> )
Faculté	Ecole Polytechnique de Louvain ( <b>EPL</b> )
Commission de programme	Commission de programme - Ingénieur civil mécanicien ( <b>MECA</b> )

**Academic Supervisor** : [Vincent LEGAT](#)

### Jury

### Usefull Contacts

Secrétariat : **Isabelle HENNAU**

## Infos

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