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## Introduction

## Teaching profile

### Learning outcomes

The aim of the minor is to help students taking a baccalaureate in engineering science - civil engineering to gain an introduction into the multidisciplinary domain of biomedical engineering. Thanks to this introduction, which will require an introduction to the living world, future bachelors in engineering science - civil engineering will understand such concepts as the bioinstrument, biomaterial, artificial organs, medical imaging, modeling biological systems, etc, and will later be able to apply them to solving basic problems in the biomedical engineering field. In particular, students should be able to go on to study for a master's in the field of biomedical engineering.

**On successful completion of this programme, each student is able to :**

1. maîtriser les aspects fondamentaux des sciences du vivant, et plus particulièrement de la biologie moléculaire et cellulaire, de la physiologie et de l'anatomie des systèmes, de la biochimie, et des mécanismes régissant le contrôle et l'apprentissage moteur.
2. démontrer une compréhension de base des concepts liés aux disciplines de bioinstrumentation, biomatériaux, organes artificiels et rééducation, imagerie médicale, et modélisation des systèmes biologiques.
3. appliquer ces concepts en vue de résoudre des problèmes élémentaires dans le domaine du génie biomédical.

### Detailed programme

#### PROGRAMME BY SUBJECT

● Mandatory

△ Courses not taught during 2015-2016

⊕ Periodic courses taught during 2015-2016

⊗ Optional

⊖ Periodic courses not taught during 2015-2016

■ Activity with requisites

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

*Les étudiants qui auraient déjà suivi LMECA 1901 dans leur majeure le remplaceront par un des cours au choix de 5 crédits minimum de la majeure en biomédical*

Year

2 3

#### o Mineure en génie biomédical (30 credits)

● LBIR1220A	Biochimie I (partim EPL)	Michel Ghislain, Yvan Larondelle	30h+15h	5 Credits	2q	x
● LIEPR1024	Fundamentals of neurophysiology and neuropsychology in motor control and motor learning	Julie Duque, Marcus Missal (coord.)	45h	5 Credits	1q	x
● LGBIO1111	Biologie et physiologie cellulaire	Charles De Smet, Christophe De Vleeschouwer, Pascal Kienlen-Campard	30h+15h	5 Credits	2q	x
● LGBIO1112	Introduction to biomedical engineering	Philippe Lefèvre	45h	5 Credits	2q	x
● LGBIO1113	Anatomie et physiologie des systèmes	Catherine Behets Wydemans, Olivier Cornu, Renaud Ronsse	30h+15h	5 Credits	1q	x
● LGBIO1114	Artificial organs and rehabilitation	Luc-Marie Jacquet, Philippe Lefèvre, Renaud Ronsse	30h+30h	5 Credits	2q	x

#### COURSE PREREQUISITES

A document entitled [en-prerequis-2015-min-Igbio100i.pdf](https://uclouvain.be/en-prog-2015-min-Igbio100i.pdf) specifies the activities (course units - CU) with one or more pre-requisite(s) within the study programme, that is the CU whose learning outcomes must have been certified and for which the credits must have been granted by the jury before the student is authorised to sign up for that activity.

These activities are identified in the study programme: their title is followed by a yellow square.

As the prerequisites are a requirement of enrolment, there are none within a year of a course.

The prerequisites are defined for the CUs for different years and therefore influence the order in which the student can enrol in the programme's CUs.

In addition, when the panel validates a student's individual programme at the beginning of the year, it ensures the consistency of the individual programme:

- It can change a prerequisite into a corequisite within a single year (to allow studies to be continued with an adequate annual load);
- It can require the student to combine enrolment in two separate CUs it considers necessary for educational purposes.

For more information, please consult [regulation of studies and exams](#).

## ***THE PROGRAMME'S COURSES AND LEARNING OUTCOMES***

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For each UCL training programme, a [reference framework of learning outcomes](#) specifies the competences expected of every graduate on completion of the programme. You can see the contribution of each teaching unit to the programme's reference framework of learning outcomes in the document "In which teaching units are the competences and learning outcomes in the programme's reference framework developed and mastered by the student?"

The document is available by clicking [this link](#) after being authenticated with UCL account.

## Information

### Liste des bacheliers proposant cette mineure

- > Bachelor in Engineering [en-prog-2015-fsa1ba]
- > Bachelor in Computer Science [en-prog-2015-sinf1ba]
- > Bachelor in Mathematics [en-prog-2015-math1ba]

### Admission

The minor in biomedical engineering is mainly intended for students taking a baccalaureate in engineering science - civil engineering or some other baccalaureates (SC and BIR).

### Possible trainings at the end of the programme

The minor in biomedical engineering provides access to the future master's in biomedical civil engineering for students who have obtained the bachelor's qualification in engineering science - civil engineering.

### Contacts

## Curriculum Managment

Entite de la structure GBIO

Acronyme	<b>GBIO</b>
Dénomination	Commission de programme- Ingénieur civil biomédical
Adresse	Place du Levant 3 bte L5.03.02 1348 Louvain-la-Neuve Tél 010 47 25 86 - Fax 010 47 25 98
Secteur	Secteur des sciences et technologies ( <a href="#">SST</a> )
Faculté	Ecole Polytechnique de Louvain ( <a href="#">EPL</a> )
Commission de programme	Commission de programme- Ingénieur civil biomédical ( <a href="#">GBIO</a> )

**Academic Supervisor :** [Renaud RONSSE](#)

**Jury:**

## Usefull Contacts

Secrétariat : [Isabelle DARGENT](#)

## Infos

