UCLouvain

lgbio2020
2019

Bioinstrumentation

In view of the health context linked to the spread of the coronavirus, the methods of organisation and evaluation of the learning units could be adapted in different situations; these possible new methods have been - or will be - communicated by the teachers to the students.

5 credits	30.0 h + 30.0 h	Q1

Teacher(s)	Mouraux André ;Verleysen Michel ;
Language :	English
Place of the course	Louvain-la-Neuve
Aims	1 With respect to the AA referring system defined for the Master in Biomedical Engineering, the course contributes to the development, mastery and assessment of the following skills : • AA1.1, AA1.2, AA1.3 • AA2.1, AA2.2, AA2.3, AA2.4 • AA3.2 • AA6.1, AA6.2, AA6.3 - - - - *The contribution of this Teaching Unit to the development and command of the skills and learning outcomes of the programme(s) can be accessed at the end of this sheet, in the section entitled "Programmes/courses offering this Teaching Unit".*
Evaluation methods	**Due to the COVID-19 crisis, the information in this section is particularly likely to change.** Closed book oral examination
Teaching methods	**Due to the COVID-19 crisis, the information in this section is particularly likely to change.** Lectures, exercices on computers, meetings with biomedical instrument users and manufacturers (hospitals, pharmacology industry, and instrument manufacturers).
Content	• specifics of measurements and instruments in clinic and biology • electric and magnetic stimulation and recording • use of other energy types (indications, methods and interest) • safety notions (patient and user protection, asepsis and sterilization, device compatibility) • application examples, especially those requiring a mathematical analysis (ECG, EEG, evoked potentials, etc..) • descriptive methods of data analysis • single- and multi-variable analysis • linear and non-linear regression • classification • principal components analysis • frequency analysis of signals, spectrum and sampling
Inline resources	http://moodleucl.uclouvain.be/course/view.php?id=86
Bibliography	Les transparents présentés lors des exposés théoriques, de même que quelques articles scientifiques de référence, sont disponibles sur Moodle.
Other infos	/
Faculty or entity in charge	GBIO

Programmes containing this learning unit (UE)

Program title	Acronym	Credits	Prerequisite	Aims
Master [120] in Biomedical Engineering	GBIO2M	5		🔍
Master [120] in Computer Science and Engineering	INFO2M	5		🔍
Master [120] in Mathematical Engineering	MAP2M	5		🔍
Master [120] in Statistic: Biostatistics	BSTA2M	5		🔍
Master [120] in Electro-mechanical Engineering	ELME2M	5		🔍
Master [120] in Electrical Engineering	ELEC2M	5		🔍
Master [120] in Chemical and Materials Engineering	KIMA2M	5		🔍