FSAB1225 Introduction to biomedical engineering

[45h] 4 credits

This course is taught in the 2nd semester

Teacher(s): Philippe Lefèvre
Language: French
Level: First cycle

Aims

Biomedical engineering is a pluridisciplinary field that finds its place at the interface between biomedical sciences and engineering sciences leading on to a multitude of applications. Thus, biomedical engineering is not only an important discipline subject to specific teachings in a constantly increasing number of universities, but also a domain quite difficult to apprehend at first glance.
Therefore the main objective of the course is to present to the students whose interests lay in biomedical engineering an introduction to the discipline. In particular, the course should allow the students:
- to understand, through a series of examples, the notions of (bio)instrumentation, (bio)material, artificial organs, medical imaging, clinical engineering, modelling of biological systems, etc.
- to, later on, apply these concepts in order to solve elementary problems in the field of biomedical engineering.

Main themes

Introduction to (bio)-instrumentation, medical imaging, medical computer sciences, biological models, artificial organs, (bio)-materials, rehabilitation engineering, radiophysics, and clinical engineering.

Content and teaching methods

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Other information (prerequisite, evaluation (assessment methods), course materials recommended readings, ...)

Evaluation:
Oral exam
Materials:
Transparencies

Other credits in programs

FSA12BA	Deuxième année de bachelier en sciences de l'ingénieur, orientation ingénieur civil	(4 credits)
FSA13BA	Troisième année de bachelier en sciences de l'ingénieur, orientation ingénieur civil	(4 credits)
INCH23	Troisième année du programme conduisant au grade d'ingénieur civil chimiste	(4 credits)
INFO23	Troisième année du programme conduisant au grade d'ingénieur civil informaticien	(4 credits)
MAP22	Deuxième année du programme conduisant au grade d'ingénieur civil en mathématiques appliquées	(4 credits)
MAP23	Troisième année du programme conduisant au grade d'ingénieur civil en mathématiques appliquées	(4 credits)
MATR22	Deuxième année du programme conduisant au grade d'ingénieur civil en science des matériaux	(4 credits)
SINF13BA	Troisième année d'études de bachelier en sciences informatiques	(4 credits)