UCLouvain

wsbim2243

2020

Digital processing of medical images

Due to the COVID-19 crisis, the information below is subject to change, in particular that concerning the teaching mode (presential, distance or in a comodal or hybrid format).

4 credits	30.0 h + 15.0 h	Q2

Teacher(s)	Macq Benoît ;
Language :	French
Place of the course	Bruxelles Woluwe
Main themes	A) Extension of the signal notion to images - Basics on main medical imagers - Main features of medical images B) Introduction to medical images processing - Filtering methods - Basics on mathematical morphology - Analysis and segmentation C) Viewing algorithms - Surfaces viewing - Volumes viewing - Animation D) Implementation - Introduction to coding and transmission - Software integration E) Applications - 2D imagery - 3D imagery.
Aims	1 This class is devoted to the methods of medical images quantitative analysis. The theory is illustrated with exercices and demonstrations including examples of anatomical and functional medical images processing. - - - - *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".*
Content	Basics on main medical imagers. Notion of signal; extension to images. Main features of medical images. Introduction to medical images processing. Filtering methods. Basics on mathematical morphology. Analysis and segmentation. Viewing algorithms. Surfaces viewing. Volumes viewing. Animation. Implementation. Introduction to coding and transmission. Software integration. Applications. 2D imagery. 3D imagery.
Other infos	Prerequisite: a signal processing class (e.g.: SBIM 2241 Biomedical signals acquisition and processing). As indicated, basics on main medical imagers (e.g.: INIS 2103 Medical imaging) will be briefly recalled in the introduction. Oral examination
Faculty or entity in charge	SBIM

Programmes containing this learning unit (UE)

Program title	Acronym	Credits	Prerequisite	Aims
Master [120] in Statistic: Biostatistics	BSTA2M	4		