UCL
Université catholique de Louvain

LKINE1039
2010-2011

Technology & Rehabilitation

4.0 credits	45.0 h + 15.0 h	2q

Teacher(s) :	Willems Patrick ; Heglund Norman (coordinator) ;
Language :	Français
Place of the course	Louvain-la-Neuve
Main themes :	The course is based on an intuitive approach of the operating principles of electronic digital and analog. Collages of circuits will also be made to understand the phenomena studied. An introduction to programming will also be proposed as part of the course. In the field of analog electronics, we consider the main passive components (resistors, capacitors, diodes, etc..), The active components (transistors, operational amplifiers, instrumentation amplifiers, etc. ...), physical sensors (force, acceleration, pressure, displacement, temperature, etc.).. Digital electronics, we will address Boolean logic and binary calculations, as well as the operation of logic gates and flip-flops, micro-controllers and PCs. The course will also include an introduction to programming.
Aims :	The aim of the course is to give the student a sufficient background in the field of analog and digital electronics and programming so that it can (1) to understand the operating principles of equipment used in physiotherapy (such as biofeedback, the electromyogram, isokinetic devices, etc..) and / or (2) designing simple assistive technology for people with disabilities. *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 :	In parallel with theoretical lessons there are exercises done with a test, voltmeter and oscilloscope. Same for programming.
Other infos :	Prerequisite: Electricity and Electrotherapy Evaluation: Oral examination Format: Lecture notes available to students, books (text book) Framing: Holder (s)
Cycle and year of study :	> Bachelor in Physiotherapy and Rehabilitation > Preparatory year for Master in Physiotherapy and Rehabilitation and for Master in Motor Skills: General
Faculty or entity in charge:	FSM