Nuclear measurement techniques

Lecturer
Nicolas PAULY (Coordinator)

Course mnemonic
PHYS-H407

ECTS credits
5 credits

Language(s) of instruction
English

Course period
Second term

Course content

Interactions of radiations with matter. Nuclear detectors (physical principles, signals). Instrumentation (description and treatment of the signal). Experimental methods (description, analysis of results, simulations).

Objectives (and/or specific learning outcomes)

Understanding of the physical processes of the nuclear detectors and understanding of the experimental methods, including statistical aspects.

Teaching method and learning activities

Lectures (24h) + practical sessions in laboratory (36h)

Contribution to the teaching profile

This teaching unit contributes to the following competences:

- Treatment and analysis of various signals (1D, image, video,...), in particular those obtained from medical devices

References, bibliography and recommended reading

G.F. Knoll, Radiation Detection and Measurement, Wiley, 2000

Other information

Contact(s)

Pauly Nicolas: Department of Métrologie Nucléaire Building D, door B, Niv 3, local 150

Evaluation method(s)

Other

Evaluation method(s) (additional information)

Written examination + laboratory reports

Determination of the mark (including the weighting of partial marks)

Written examination: 75% of the final note; Laboratory reports: 25% of the final note

Main language(s) of evaluation

English

Programmes

Programmes proposing this course at the Brussels School of Engineering

MA-IRCB | Master of science in Biomedical Engineering | finalité Professional/unit 2 and MA-IRPH | Master of science in Physical Engineering | finalité Professional/unit 1