

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

Q1

Teacher(s)	Degrande Céline ;Drewes Marco ;
Language :	English
Place of the course	Louvain-la-Neuve
Main themes	This teaching unit is an introduction to quantum field theory. After a historical introduction, the main focus lies on quantum electrodynamics.
Aims	<i>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".</i>
Evaluation methods	Due to the COVID-19 crisis, the information in this section is particularly likely to change. Oral exam, partly based on the project report.
Teaching methods	Due to the COVID-19 crisis, the information in this section is particularly likely to change. Lecture, tutorials, integrative project.
Content	Historical introduction Relativity and quantum mechanics Representations of the Lorentz group Quantization of photon and electron fields Quantum electrodynamics
Bibliography	Notes sur la genèse de la théorie quantique des champs (1897-1947). // Written notes on the genesis of quantum field theory (1897-1947). Mandl and Shaw – Quantum Field Theory (Chapters 1 to 10). Peskin and Schroeder – An Introduction to Quantum Field Theory (Part I).
Faculty or entity in charge	PHYS

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Aims
Master [120] in Physical Engineering	FYAP2M	5		