






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.

2 credits

22.5 h

|                             |  |
|-----------------------------|--|
| Teacher(s)                  | Piotrkowski Krzysztof ;  |
| Language :                  | French   |
| Place of the course         | Louvain-la-Neuve   |
| Main themes                 | Basic notions of matter structure, electronic structure of atom, atomic nucleus (static and energetic descriptions) and radioactivity : disintegration types, decay laws, radiation filiations. Radioactive sources (natural and artificial) - Radiation interactions with matter of charged ionising particles (electrons and heavy ions) and neutral particles (neutron, gamma) - Basic principles of radiation detection : semi-conductors, organic and inorganic scintillations and associated electronics .   |
| Aims                        | <p>The objective of this course is to remind the students from other orientations than physics the basic principles and the fundamental notions of atomic, nuclear and radiation physics, which they will need to follow their specialization (Radioprotection, Nuclear Medicine, Radio-pharmacy, Nuclear Engineer, ) . We develop, notably, this basic knowledge to suit the specific needs of the auditorium.</p> <p>-----</p> <p><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></p> |
| Evaluation methods          | <b>Due to the COVID-19 crisis, the information in this section is particularly likely to change.</b><br>Written and oral examination.  |
| Inline resources            | copy of overhead transparencies used by the teacher.   |
| Other infos                 | Prerequisites: scientific education such as a degree in sciences (physics, chemistry, biology), engineer diploma (civil or agricultural), general medicine and pharmacy. Good knowledge of mathematics and general physics.  |
| Faculty or entity in charge | PHYS   |

| <b>Programmes containing this learning unit (UE)</b>                        |                         |         |              |   |
|---|-------------------------|---------|--------------|---|
| Program title   | Acronym                 | Credits | Prerequisite | Aims  |
| Master [120] in Biomedical Engineering                                      | <a href="#">GBIO2M</a>  | 2       |              |  |
| Advanced Master in Nuclear Medicine   | <a href="#">MNUC2MC</a> | 2       |              |  |
| Certificat universitaire en physique d'hôpital                              | <a href="#">RPHY9CE</a> | 4       |              |  |
| Certificat universitaire en radiopharmacie                                  | <a href="#">RFAR9CE</a> | 4       |              |  |
| Certificat universitaire de contrôle physique en radioprotection (Classe I) | <a href="#">RCPA9CE</a> | 2       |              |  |