



PHMD2M - Teaching profile

Learning outcomes

The program aims to provide the student with the required knowledge to start the internship necessary to obtain the certificate of "expert in medical radiation physics" according to the guidelines of the Federal Agency for Nuclear Control, or to perform other functions related

| | | | | Year | |
|-------------|--|----------------------------|----------------------------------|------|---|
| | | | | 1 | 2 |
| ○ LPHYS2102 | Ionizing Radiation Detection and Nuclear Instrumentation | Eduardo Cortina Gil | EN [q1+q2] [26h+26h] [6 Credits] | X | |
| ○ LPHMD2357 | Computational and Numerical Methods for Medical Physics | John Lee Edmond Sterpin | EN [q1] [24h+10h] [4 Credits] | X | |

○ Nuclear and Radiochemistry (3 credits)

Choose a course from

| | | | | | |
|-------------|--|----------------|-----------------------------|--|---|
| ⊗ LPHYS2504 | Use, management and control of radioelements | Pascal Froment | EN [q2] [22.5h] [3 Credits] | | X |
| ⊗ EPHMD2393 | Nuclear and Radiochemistry | | EN [q2] [18h] [3 Credits] | | X |

○ Medical oriented courses

From 20 to 23credit(s)

| | | | | | |
|--------------|---|--|------------------------------|--|---|
| ○ WRDTH2331B | Radiobiology - (partim radiobiology) | | EN [q2] [22.5h] [3 Credits] | | X |
| ○ EPHMD2377 | Radiation Epidemiology and Radiopathology | | EN [q1+q2] [13h] [4 Credits] | | X |

○ Cell Biology, Anatomy and Physiology

Choose between the UCLouvain module and the KU Leuven module

⊗ Cell Biology, Anatomy and Physiology (KU Leuven) (13 credits)

| | | | | | |
|-------------|---------------------------------|--|------------------------------|--|---|
| ○ EPHMD2334 | Basics concepts of Cell Biology | | EN [q1] [39h] [5 Credits] | | X |
| ○ EPHMD2314 | Human System Physiology | | EN [q2] [28h+2h] [5 Credits] | | X |
| ○ EPHMD2370 | Human Anatomy and Histology | | EN [q2] [18h] [3 Credits] | | X |

⊗ Cell Biology, Anatomy and Physiology (UCLouvain) (10 credits)

| | | | | | |
|-------------|--------------------------------|--|-------------------------------|--|---|
| ○ LGBIO1113 | Systems Anatomy and Physiology | Catherine Behets Wydemans Olivier Cornu Greet Kerckhofs | EN [q2] [30h+15h] [5 Credits] | | X |
| ○ LGBIO1111 | Cell biology and physiology | Charles De Smet Laurent Jacques Pascal Kienlen-Campard | EN [q2] [30h+15h] [5 Credits] | | X |

○ Medical Information Systems (3 credits)

Choose a course from

| | | | | | |
|-------------|------------------------------|-------------------------|---------------------------|--|---|
| ⊗ EPHMD2376 | Medical Information Systems | | EN [q1] [23h] [3 Credits] | | X |
| ⊗ WFSP2253 | Hospital information systems | Benoît Debande (coord.) | EN [q1] [20h] [3 Credits] | | X |

○ Medical physics and technology

From 22 to 24credit(s)

| | | | | | |
|--------------|---|--|--|--|---|
| ○ EPHMD2362 | Technology and Techniques in Radiology | | EN [q1] [16h+4h] [3 Credits] | | X |
| ○ WRDTH3160T | Technology, Dosimetry and Treatment Planning in Radiotherapy | | EN [q1] [20h] [3 Credits] | | X |
| ○ WMNUC3120T | Technology and techniques in nuclear medicine - (partim theory) | | EN [q1] [20h] [3 Credits] | | X |
| ○ LGBIO2070 | Engineering challenges in protontherapy | Guillaume Janssens John Lee Edmond Sterpin | EN [q2] [30h+30h] [5 Credits] > French-friendly | | X |

o Quality Assurances and Special Techniques (3 credits)

Choose a course from

PHMD2M - Information

Access Requirements

Master course admission requirements are defined by the French Community of Belgium Decree of 7 November 2013 defining the higher education landscape and the academic organisation of courses.

General and specific admission requirements for this programme must be satisfied at the time of enrolling at the university.

Unless explicitly mentioned, the bachelor's, master's and licentiate degrees listed in this table or on this page are to be understood as those issued by an institution of the French, Flemish or German-speaking Community, or by the Royal Military Academy.

In the event of the divergence between the different linguistic versions of the present conditions, the French version shall prevail.

SUMMARY

- > [General access requirements](#)
- > [Specific access requirements](#)
- > [University Bachelors](#)
- > [Non university Bachelors](#)
- > [Holders of a 2nd cycle University degree](#)
- > [Access based on validation of professional experience](#)
- > [Access based on application](#)
- > [Admission and Enrolment Procedures for general registration](#)

Specific access requirements

The Master of Medical Physics is an interuniversity master and is organized jointly by UCLouvain and KU Leuven. Students have to enroll at both universities but apply for admission at UCLouvain and if accepted first enroll at UCLouvain and only later at KU Leuven. The tuition fee is paid at UCLouvain.

Direct admission on the basis of the following degree, or a similar degree, obtained at a Belgian university:

- Bachelor of Physics

Access based on application

After admission procedure on the basis of the following degree, or a similar degree, obtained at a **Belgian university - with a limited preparatory program**:

- Bachelor of Engineering Sciences
- Bachelor of Chemistry
- Bachelor of Industrial Engineering: nuclear technology
- Bachelor of Bio-Science Engineering.

Holders of these degrees obtained at a Belgian university should add almost two courses to their programme as a preparatory programme, which can be combined with the master programme itself.

After admission procedure on the basis of the following degree, or a similar degree, obtained at a **Belgian university - with a more extended preparatory programme** that is tuned to the background of the student and approved by the programme responsible:

- other bachelor degrees (e.g. Bachelor in Biomedical Science) obtained at a Belgian university.

Students with a degree obtained at an non-Belgian institution

The program in medical physics in co-graduation UCLouvain - KU Leuven, [specific information](#) is applicable : <https://wet.kuleuven.be/english/students/how-to-apply-for-the-master-medical-physics>

- **Diploma and grade requirements** :admission decision on individual basis. Students who wish to be admitted are invited to consult the [criteria for the evaluation of application](#).
- **Language requirements** : All applicants must prove their proficiency in English. The accepted English proficiency tests are:
 - TOEFL iBT: minimum overall score of 94, with minimum subscores of 19 for Reading, 18 for Listening, 19 for Speaking and 21 for Writing
 - IELTS Academic test: minimum overall score of 7.0, with minimum subscores of 6.5 for Reading, 6.0 for Listening, 6.0 for Speaking and 6.0 for Writing
 - Advanced or Proficiency Cambridge Certificates: minimum score of 185, with at least 176 for reading and 169 for listening, speaking and writing.

The following applicants are exempted from submitting an English proficiency certificate:

- Applicants who have obtained a previous university degree taught in English in **Australia, English-speaking Canada, Ireland, New Zealand, the United Kingdom and the United States of America**. Their diploma and transcripts suffice, provided they confirm that the entire university study was completely taught in English in one of the previous countries.
- Applicants who have obtained a Belgian diploma.

Absolutely no other diplomas will be accepted as evidence even if the applicant has followed an exclusively English-taught programme.

University Bachelors

| Diploma | Special Requirements | Access | Remarks |
|---|----------------------|---|---------|
| UCLouvain Bachelors | | | |
| | | Direct access | |
| | | Access based on application | |
| | | Access based on application | |
| | | Access based on application | |
| Others Bachelors of the French speaking Community of Belgium | | | |
| | | Access based on application | |
| | | Access based on application | |
| Bachelors of the Dutch speaking Community of Belgium | | | |
| | | Direct access | |
| | | Access based on application | |
| | | Access based on application | |
| | | Access based on application | |
| Foreign Bachelors | | | |

Non university Bachelors

> Find out more about [links](#) to the university

Holders of a 2nd cycle University degree

| Diploma | Special Requirements | Access | Remarks |
|--------------------|----------------------|--------|---------|
| "Licenciés" | | | |
| Masters | | | |
| | | - | |

Access based on validation of professional experience

> It is possible, under certain conditions, to use one's personal and professional experience to enter a university course without having the required qualifications. However, validation of prior experience does not automatically apply to all courses. Find out more about [Validation of priori experience](#).

Access based on application

Access based on application : access may be granted either directly or on the condition of completing additional courses of a maximum of 60 ECTS credits, or refused.

Admission and Enrolment Procedures for general registration

Teaching method

The Master of Medical Physics is a joint program of UCLouvain and KU Leuven. By joining efforts, the two universities offer a multidisciplinary and complete program in Medical Physics. The lectures are given by professors and professionals with a large experience in their respective fields.

KU Leuven and UCLouvain have a large experience in research in the fields of Sub-Atomic and Medical physics. The researchers of both institutions work in collaboration with international institutions (CERN, GANIL, PSI, IAEA, ...) and with a large number of hospitals and industries across the world.

Together with their respective hospitals UZ Leuven (University Hospital Leuven) and Cliniques universitaires Saint-Luc (at Woluwe), they have extensive clinical expertise in different medical imaging techniques, nuclear medicine and the various forms of radiotherapy, as well as expertise in both education and research and development around these medical technologies.

Evaluation

The evaluation methods comply with the regulations concerning studies and exams. More detailed explanation of the modalities specific to each learning unit are available on their description sheets under the heading "Learning outcomes evaluation method".

Contacts

Curriculum Management

Entity

Structure entity

Denomination

Faculty

Sector

SST/SC/PHYS

(PHYS)

Faculty of Science (SC)

Sciences and Technology

