Postgraduate distance learning programs delivered in English, accredited by the accreditation institute ACQUIN and terminating with a Master of Science degree (MSc) or Postgraduate study certificates (PG Certs).

Flexible and on-site programs of study inclu- ding workshops and internships at the leading-edge medical facilities DKFZ, HIT, the world’s prototype ion beam facility, and Heidelberg University Hospital.

Meet pioneering experts with longstanding experience in IMRT, ion beam scanning and treatment planning as well as radiobiological modeling.

Promising new career prospects for APMR graduates in teaching, research or care services in medical centers, national laboratories, academic institutions, governmental regulatory agencies as well as in medical and nuclear industrial facilities.

Program duration
MSc study track: 4 semesters
PG short study track: 3 Modules (approx. 1 year)
PG full study track: 6 Modules (approx. 1.5 years)
MO: 4 Modules (approx. 1 year)
MO: M0 can also be studied separately on demand.

Reduction of tuition fees for winter term 2014/15 (will be officially released in May/June 2014)
MSc track: per semester € 2,375
PG short track: € 1,400 per module, in total € 4,200
PG full track: € 1,400 per module, in total € 8,400
MO: € 1,200 per module, in total € 4,800

Program start
MSc study track: September of every academic year
PG study tracks: any time of the year
MO: October of every academic year
MSc and MO application deadline
July 15, 2014 (later applications may be accepted depending on number of participants)

FEATURES AND FACTS

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PROGRAM DESCRIPTION

Introduction
The Master Online and the Postgraduate (PG) study programs in “Advanced Physical Methods in Radiotherapy” (APMR) at top-ranking Heidelberg University are unique postgraduate distance learning programs delivered in English in the field of medical physics. Designed to keep up with new innovations and developments, these programs are the result of a new long-term collaboration between the widely acclaimed German Cancer Research Center (DKFZ), the distinguished Heidelberg University Hospital and the new state of the art heavy ion facility, the Heidelberg Ion-Beam Therapy Center (HIT). What else makes our programs so unique?

Advanced technology in clinical practice plays an increasing role in the optimum care and treatment of cancer patients. Unlike any other programs, APMR offers students advanced practical training at cutting-edge radiotherapy facilities in Heidelberg reinforced by rigorous, theoretical online instruction at cutting-edge radiotherapy facilities in Heidelberg and the HIT facility (20%). By making effective use of online technology students have access to a flexible and supportive virtual learning and teaching environment. Web discussion forums offer college communication and collaboration with teaching experts and peers at times that suit students’ individual needs.

New basic course in Medical Physics
Starting October 2014 we offer an elective basic course in Medical Physics the “M0” to best prepare students to the APMR study programs. The M0 comprises 4 modules which can be studied on an individual basis. Interested? Please contact us at apmr@uni-hd.de.

MODELS OF STUDY

Module M1 Anatomy and Imaging for Radiotherapy
Introduction, Anatomy for Physicists, Imaging, Virtual Anatomy, Diagnostic Radiology, Workshop

Module M2 Intensity Modulated Radiotherapy
Introduction IMRT, IMRT in Clinical Routine, Advanced Application Techniques, Workshop

Module M3 Ion Therapy
Introduction, Physical Principles, Beam Generation and Application, Radiatlon Biology Treatment Planning, Clinical Application of Ion Therapy, Seminar

Module M4 Image Guided Radiotherapy and Adaptive Radiotherapy
Introduction, IGRT Techniques (Physics), Clinical Application IGRT (Medicine), Meing Target Volumes and Adaptive Radiotherapy, Workshop

Module M5 Advanced Dosimetry and Quality Assurance
Introduction, Dosimetric Principles, Dosimetry for Advanced Radiotherapy Techniques, Quality Assurance, Workshop

Module MT Master’s Thesis
Topic to be selected from modules 1-5

COURSE STRUCTURE

SEMESTER 1 (Start September Year 1)
Welcome Day (1 day – optional)

SEMESTER 2 (Start March / April Year 2)

SEMESTER 3 (Start October / November Year 2)

SEMESTER 4 (Start March / April Year 3)
Attendance Phase M5 + MI  (14-18 days)

Module M1 Anatomy and Imaging for Radiotherapy
Module M2 Intensity Modulated Radiotherapy
Module M3 Ion Therapy
Module M4 Image Guided Radiotherapy and Adaptive Radiotherapy
Module M5 Advanced Dosimetry and Quality Assurance
Module MT Master’s Thesis

Prerequisites

- Relevant Degree of higher or further education institute (Bachelor, Diploma, Master)
- Proof of at least one year of professional experience following the first degree and at least two years of professional work experience in medical radiation physics upon application for admission to the Master’s examination
- Competency in medical physics subject to scrutiny by submission panel
- English language proficiency

PG Certs

- Relevant degree of higher or further education institute (Bachelor, Diploma, Master)
- English language proficiency

MSc

- Relevant Degree of higher or further education institute (Bachelor, Diploma, Master)
- Proof of at least one year of professional experience following the first degree and at least two years of professional work experience in medical radiation physics upon application for admission to the Master’s examination
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ECTS Credits

Module M1 Anatomy and Imaging for Radiotherapy
Module M3 Ion Therapy
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