Hong Kong Institution of Physicists in Medicine
Certificate Course on Basic Radiotherapy Physics

Course Content

Characteristics of therapeutic photon and electron beams

- Buildup, skin dose, beam flatness and penumbra
- Equivalent square field
- Wedge field and asymmetric field of photon beams
- Field-size dependence of percentage depth dose, output factors etc.
- Beam energy dependence of percentage depth dose, output factors etc.
- SSD dependence and inverse square law correction
- Effect of inhomogeneities and obliquity

Principles of radiotherapy

- Role of radiotherapy in cancer treatment
- Dose responses of healthy and tumorous tissues
- Requirements for dose uniformity and conformity
- Sparing of critical structures and organs
- Patient positioning and immobilisation techniques
- Radiobiological effects of treatment fractionations

Principles of external beam treatment planning and dose calculations

- ICRU definitions of CTV, GTV, PTV etc.
- Images used in treatment planning
- Beam arrangements and beam weightings
- Use of beam modifiers (shield, wedge, compensator and bolus)
- Field shaping (MLC, lead and alloy blocks)
- Use of dynamic wedge, virtual wedge, auto wedge etc.
- SSD, extended SSD, isocentric and rotation techniques
- Dose prescription, calculation and normalization
- 2D and 3D conformal treatments

Radiation therapy simulation, treatment delivery and verification

- Patient immobilization
- Treatment simulation
- Treatment setup and verification

Quality assurance of radiotherapy equipment

- Rationale of quality assurance
- Core specifications of major radiotherapy equipment
- Measurement of performance tolerances (electrical, mechanical and radiation)
- Record keeping and report writing

Principles of radiation protection in radiotherapy

- General concepts of radiation protection in radiotherapy
- Designation of areas and classification of workers
- Personnel monitoring and area survey
- Use of practical dosimeters in radiation protection
- Protective design in radiotherapy suites
- Introduction to Local Rules and Code of Practice
- Overview of the Radiation Ordinance of Hong Kong

Date, Time and Venue:

The course will be held on:

Date	Time
28 September 2013	2:00pm-6:00pm
05 October 2013	2:00pm-6:00pm
12 October 2013	2:00pm-6:00pm
19 October 2013	2:00pm-6:00pm

Duration of course:
16 hours lectures, Q&A and examination

Venue:
Room 1102, 11/F, Li Shu Pui Block,
Nursing School, Hong Kong Sanatorium & Hospital

Speaker
KY CHEUNG, Ph.D., CertMedPhy, CEng, MIET, FHKIE
Senior Medical Physicist, Medical Physics & Research Department
Hong Kong Sanatorium & Hospital

Target participants:
Physicists, doctors, radiographers, radiation therapist, biomedical engineers.
Preference will be given to applicants who are currently working with therapeutic radiation in hospital environment.

Assessment:
A written (MCQ) examination will be held at the end of the course.

Accreditation:
This course has been approved by the Hong Kong Institution of Physicists in Medicine.
16 Cat A CME/CPD credits approved by Hong Kong College of Radiologists
16 CMD credits approved by Medical Dosimetrist Certification Board (course code: MDCB2030706)
CPD accreditation by Hong Kong Radiographer's Board (pending for approval)

Course Award:
A certificate of completion of the course "Basic Radiotherapy Physics" will be issued to a participant who has passed the examination with at least 75% attendance.

An attendance certificate will be issued if a participant has at least 75% attendance but fails the examination.

Teaching Medium
The course will be conducted in English, and the written examination will be in English.

Tuition Fee*:
HKD $600 (HKIPM member)
HKD $1,200 (member of HKART and HKRA)
HKD $4,000 (NON-HKIPM member)

*A 50% discount will be given to trainees from the hospital that provide venue for training.

Enrollment:
Completed registration form shall be sent with a cheque for the tuition fee to Ms. Ruby Ho, Secretary of the Hong Kong Institution of Physicist in Medicine at the address give below. The cheque should be crossed and made payable to "Hong Kong Institution of Physicists in Medicine". (Full payment must be made and no refund for withdrawal will be entertained due to any circumstances).

Ms. Ruby Ho
Medical Physics & Research Department
8/F, Li Shu Fan Block
Hong Kong Sanatorium & Hospital
2 Village Road
Happy Valley
Hong Kong Island .

Closing Date for Application:
Saturday, **2**1 September 2013