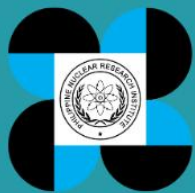


Course Title	Course on Medical Use of Radioisotopes (CMR)
Duration	Face to face: 20 days (160 hours); 8:00 – 5:00 pm Online: 160 hours typically spread in 8 weeks
Target Participant	For individuals involved or will be involved in the use radioisotopes in the medical field e.g., nuclear medicine, teletherapy, brachytherapy, blood/ tissue irradiators, e.g., nuclear physicians, biological scientists, medical and radiological technologists, and nuclear pharmacists. A minimum of ten (10) participants is required to push through with the course. A maximum of thirty (30) participants will be accepted.
Pre-requisite	A medical degree or a bachelor's degree in nursing, biological sciences, physical sciences, or equivalent courses. Background on algebra, trigonometry, introductory calculus, general biology, chemistry, and physics subjects.
Goal	To acquaint the staff of the medical sector with the advantageous uses and applications of radioisotopes so that they may be able to incorporate these ideas in their present or future activities.
Objectives	At the end of this course, participants are expected to: <ol style="list-style-type: none"> 1. Describe the structure of the atomic nucleus and explain the nature of radioactivity. 2. Differentiate types of ionizing radiation and how they interact with matter. 3. Identify different sources of ionizing radiation. 4. Explain the basic principles of radiation protection. 5. Recognize the safety and security issues associated with the use of radioactive sources. 6. Be acquainted with different radioisotope techniques used in the medical field and the principles behind them. 7. Investigate, analyze and/or propose an activity involving application of radioisotope in the medical field.
Nature and Scope	This course will consist of lectures, exercises, a workshop, and examinations. The participants' performance in the course will be evaluated through the following: <ol style="list-style-type: none"> 1. Examinations (55%) 2. Case study incorporating radioisotope application in the medical field (30%) 3. Practical exercises (10%) 4. Attendance (5%) A certificate of completion will be issued to each participant who obtains an overall grade of at least 75%.
Application Requirements	(1) NTC Online Course Application; (2) Endorsement or Recommendation letter to attend the course from supervisor; (3) 2X2 ID picture; (5) Training Fee of Php 19,000.00; 20% Discount Php 15,200.00 for PWD / Senior Citizen / Student (upload Valid ID)



Course Content

Basic Nuclear Physics
Nuclear Reactions
Radioactivity and Radiation
Quantities and Units in Radiation Protection
Exercise on Nuclide Chart and Nuclear Data
Interaction of Radiation with Matter
Radiation Detection and Measuring Instruments
Experiment on Characteristic of GM Detector
Biological Effects of Ionizing Radiation
Basic Principles of Radiation Protection
Statistics of Counting & Experiment on Statistics of Counting
Radiation Control and Handling Practices
Radiation Monitoring
Exercise on Radiological Survey of a Radiation Facility
External and Internal Dose
Shielding
Experiment on Absorption of Gamma Radiation
Basic Radiation Chemistry
Radiation Dosimetry
Calibration of Monitoring Instruments
Demonstration of instrument calibration at the SSDL and TLD Reading
Cellular Radiobiology
Radiation Cytogenetics
Exercise on Cytogenetics
Radioisotopes Used in Medicine
Radioimmunoassay
Radiopharmaceuticals
Laboratory Practices in Radiopharmacy
Nuclear Medicine
Radiation Therapy
Positron Emission Tomography
Design of a Medical Radiation Facility
Case study of a sample medical radiation facility
Applicable Parts of the Code of PNRI Regulations
Exercise on Using the CPR
Categorization of Radiation Sources
Safe and Secure Transport of Radioactive Sources
Exercise on Preparation of Documents for Transport of Radioactive Sources
Security of Radiation Sources
Applicable Radioactive Waste Management Practices
Emergency Planning, Preparedness, Procedures and Response
Exercise on Emergency Procedures
Presentation of Case Study
Tour of PNRI Facilities

To apply for a course,
scan me



NUCLEAR TRAINING CENTER
Commonwealth Avenue, Diliman, Quezon City
PO Box 213 UP Quezon City | PO Box 932 Manila

Email: ntc@pnri.dost.gov.ph
Telephone (632) 8929-60-10 to 19 loc. 236
Direct Line: (632) 8920-8788