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: 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: 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