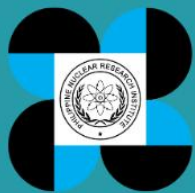


Course Title	Course on Radioisotopes Technology (CRT)
Duration	Face to face: 20 days (160 hours); 8:00 – 5:00 pm Online: 160 hours typically spread in 8 weeks
Target Participant	For new PNRI employees and other interested individuals who are holders of a bachelor's degree in physical/biological science or engineering. 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 background on algebra, trigonometry, introductory calculus, general biology, chemistry and physics subjects.
Goal	To acquaint new PNRI employees and other interested individuals 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 the 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. Discuss safety and security issues associated with the use of radioactive materials.6. Be acquainted with the application of radioisotopes in agriculture, medicine, industry and research studies.7. Be acquainted with different radioisotope/ nuclear techniques and the concepts behind them.8. Investigate, analyze and/or propose an activity involving applications of radioisotopes.
Nature and Scope	This course will consist of lectures, exercises, a workshop and examinations. The participant's performance in the course will be evaluated through the following: <ol style="list-style-type: none">1. Examinations (55%)2. Case study incorporating the use of radiation technology (30%)3. Practical exercises (10%)4. Attendance (5%) <p>A certificate of completion will be issued to each participant who obtains an overall grade of at least 75%.</p>
Application Requirements	(1) NTC Online Course Application; (2) Recommendation letter to attend the course from Supervisor; (3) 2X2 ID picture; (5) Training Fee of Php 15,000.00; 20% Discount Php 12,000.00 for PWD / Senior Citizen / Student (upload Valid ID) (for non-PNRI employee)



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 Radiation Chemistry
Experiment on Statistics of Counting
Basic Principles of Radiation Protection
The PNRI Regulatory Function
Radiation Control and Handling Practices
Radiation Shielding
Experiment: Absorption of Gamma Radiation
Security of Radiation Sources
Safe Transport of Radioactive Materials
Safe Transport of Radioactive Materials
Radiation Monitoring
Exercise: Radiological Survey of a Radiation Facility
Radioactive Waste Management Practices
Emergency Planning, Preparedness, Procedures and Response
Exercise on Emergency Drill
Radioisotopes in Agriculture
Radioisotopes in Geological Studies
X-ray Fluorescence
Experiment on X-ray Fluorescence
Food Irradiation
Radioisotopes in Medicine
Radioisotopes in Environmental Research
Liquid Scintillation Counting
Experiment on Liquid Scintillation Counting
Radiation Processing
Radioisotopes in Industry
Gamma Spectrometry
Experiment on Gamma Spectrometry
Neutron Interactions
Experiment: Neutron Activation and Half-life Determination
Presentation of Case Study
Tour of PNRI Facilities

To apply for a course,
scan me



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