



Jordan University of Science and Technology
Faculty of Science & Arts
Physics Department

PHY341 Radiation Physics
First Semester 2020-2021

Course Catalog

3 Credit Hours. It introduces to radioactive decay and the production of radiation using machines, radiation interaction with matter, radiation detection and measurements, and some dose calculation. Finally it ends with radiation protection.

Text Book

Title	Atoms, Radiation ,and Radiation Protection
Author(s)	James E Turner
Edition	3rd Edition
Short Name	1
Other Information	

Instructor

Name	Dr. Adnan Jaradat
Office Location	Ph.4 L0
Office Hours	
Email	jaradat@just.edu.jo

Class Schedule & Room

Section 1:
Lecture Time: Sun, Tue : 14:30 - 16:00
Room: منصة الكترونية

Prerequisites

Line Number	Course Name	Prerequisite Type
922512	PHY251 Modern Physics	Prerequisite / Pass

Tentative List of Topics Covered		
Weeks	Topic	References
Weeks 1, 2, 3	The Nucleus and Nuclear Radiation	
Weeks 4, 5, 6, 7	Radioactive Decay	
Weeks 8, 9	Interaction of Heavy Charged Particles with Matter	
Week 10	8 Interaction of Photons with Matter	
Weeks 11, 12	Neutrons, Fission	
Weeks 13, 14	Methods of Radiation Detection	
Weeks 15, 16	Radiation Dosimetry	

Mapping of Course Outcomes to Program Student Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
In this outcome the students should be able to understand the physical meaning of the radioactive decay and the reasons behind the decay also the types of radioactive decaying. [31]	35%	mid exam, Quiz, final
To improve the students knowledge in understanding of radiation interaction with matter. Why do radiation (either electromagnetic radiation or physical particles) interact with matter. In understanding the interaction of radiation with matter we can predict the behavior of radiation and to be ready for more safety. [31]	35%	mid exam, Quiz, final
Methods of Radiation Detection and Radiation Dosimetry. In this outcome the students should understand the the methods and apparatus used in detection and measuring the amount of radiations, also understanding the type of detectors used in detection. [31]	30%	final

Relationship to Program Student Outcomes (Out of 100%)					
1	2	3	4	5	6
100					

Evaluation	
Assessment Tool	Weight
mid exam	36%
Quiz	14%
final	50%