



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

PHY449 Nuclear Physics

First Semester 2017-2018

**Course Catalog**

3 Credit Hours. the general properties of nuclei, the nuclear models, the spontaneous decay of nuclei, the nuclear reaction and the nuclear force..

**Text Book**

<b>Title</b>	1. Elements of Nuclear Physics
<b>Author(s)</b>	W. E. Meyerhof
<b>Edition</b>	2nd Edition
<b>Short Name</b>	1
<b>Other Information</b>	

**Course References**

Short name	Book name	Author(s)	Edition	Other Information
1	1. Introductory nuclear physics	K.S. Krane	2nd Edition	

**Instructor**

Name	<b>Prof. Mohammed Al-Qadi</b>
Office Location	NA
Office Hours	Sun : 09:30 - 11:30 Mon : 09:30 - 10:00 Tue : 09:30 - 10:30 Wed : 09:30 - 10:00 Thu : 09:30 - 11:30
Email	malqadi@just.edu.jo

**Class Schedule & Room**

Section 1:

Lecture Time: Mon, Wed : 11:30 - 13:00

Room: M1304

**Prerequisites**

Line Number	Course Name	Prerequisite Type
923511	PHY351 Quantum Mechanics(1)	Pre./Con.

**Tentative List of Topics Covered**

Weeks	Topic	References
Weeks 1, 2	Basic nuclear concepts	sec 1.2 From 1
Weeks 3, 4, 5	Nuclear structure	( Sec. 2.1,2.2, 2.3,2.4,2.5) From 1
Weeks 6, 7, 8	Radioactive decay	Sec. (4.1, 4.2,,4.4,4.5,4.6) From 1
Weeks 9, 10, 11, 12	Nuclear reactions	( 5.1,5.2,5.3,5.4, 5.5, 5.6,5.7) From 1
Weeks 9, 10, 11, 12	Nuclear reactions	( 5.1,5.2,5.3,5.4, 5.5, 5.6,5.7) From 1
Weeks 13, 14, 15	Nuclear force	(Sec. 6.1 ,6.2 ) From 1

**Mapping of Course Objectives to Program Student Outcomes<sup>1</sup>**

**Assessment method**

the general properties of nuclei and the models of nuclear structure [1(a), 1(e)]	first
the spontaneous decay of nuclei [1(a), 1(e)]	
the nuclear reactions [1(a), 1(e)]	

**Relationship to Program Student Outcomes (Out of 100%)**

(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
50				50						

**Evaluation**

Assessment Tool	Weight
first	30%

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