



Jordan University of Science and Technology
Faculty of Engineering
Nuclear Engineering Department

NE206 Introduction To Nuclear Engineering

First Semester 2019-2020

Course Catalog

3 Credit Hours. Three credit hours (3 h lecture) Fundamentals of atomic-scale units ; mass, binding energy, and energy levels; types of nuclear reactors and nuclear power; components of nuclear power station; fission chain reaction kinetics; interaction of neutron with matter; interactions of gamma radiation with matter; interaction of charged particles with matter; nuclear data preparation and cross section data library.

Text Book

Title	Introduction to Nuclear Engineering.
Author(s)	John R. Lamarsh & Anthony Baratta
Edition	3rd Edition
Short Name	Ref#1
Other Information	

Course References

Short name	Book name	Author(s)	Edition	Other Information
Ref#2	Nuclear Principles in Engineering	Tatjana Jeveremovic	2nd Edition	

Instructor

Name	Prof. Ziad Kodah
Office Location	M5L2
Office Hours	Sun : 10:30 - 11:30 Sun : 12:30 - 13:30 Tue : 10:00 - 11:30 Tue : 12:30 - 13:30 Wed : 15:30 - 16:00 Thu : 10:30 - 11:30 Thu : 12:30 - 13:30
Email	kodah@just.edu.jo

Class Schedule & Room
Section 1: Lecture Time: Sun, Tue, Thu : 11:30 - 12:30 Room: M5123

Prerequisites		
Line Number	Course Name	Prerequisite Type
2002030	NE203 Fundamentals Of Nuclear Science	Prerequisite / Pass

Tentative List of Topics Covered		
Weeks	Topic	References
Week 1	Nuclear Engineering	Ch 1 From Ref#1
Weeks 2, 3, 4, 5	Atomic and Nuclear Physics	Ch 2 From Ref#1
Weeks 6, 7, 8	Interaction of Neutron with Matter	Ch 3 From Ref#1
Weeks 9, 10, 11	Nuclear Reactor and Nuclear Power	Ch 4 From Ref#1
Weeks 12, 13	Interaction of Charged Particles With Matter	Ch 6 From Ref#2
Weeks 14, 15	Interaction of Gamma Radiation With Matter	Ch 6 From Ref#2

Mapping of Course Outcomes to Program Student Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Ability to introduce the major nuclear power reactor systems	20%	First, Second, Final
Ability to introduce basic theoretical concepts of nuclear physics	20%	First, Second, Final
Ability to develop fundamental calculation skills that can aid in understanding nuclear energy problems and solutions	20%	First, Second, Final
Ability to describe the major types of nuclear reactors and nuclear power; components of nuclear power station	20%	First, Second, Final
Ability to develop knowledge of important social and technical issues related to nuclear science and technology.	20%	First, Second, Final

Relationship to Program Student Outcomes (Out of 100%)						
1	2	3	4	5	6	7

Evaluation	
Assessment Tool	Weight

First	30%
Second	30%
Final	40%

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