



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

NE482 Nuclear Engineering Seminar

First Semester 2019-2020

**Course Catalog**

1 Credit Hours. One credit hour (1h lecture). This course is intended for students interested in acquiring knowledge in advanced and future nuclear systems. Topics of concern to nuclear community.

**Instructor**

Name	<b>Mr. Neil Abu Ennab</b>
Office Location	E2 L-2
Office Hours	Sun : 10:30 - 11:30 Mon : 08:00 - 09:00 Tue : 10:30 - 11:30 Tue : 11:30 - 12:30 Tue : 12:30 - 13:30 Thu : 10:30 - 11:30 Thu : 11:30 - 12:30
Email	nrabuennab@just.edu.jo

**Class Schedule & Room**

Section 1:  
 Lecture Time: Tue : 08:30 - 09:30  
 Room: M5126

**Tentative List of Topics Covered**

Weeks	Topic	References
Weeks 1, 2	Introduction	
Week 3	The Sodium Cooled Fast Reactor	
Week 4	The Lead Cooled Reactor	
Week 5	The Supercritical Water Cooled Reactor	

Week 6	The Gas Cooled Reactors	
Weeks 7, 8	The Molten Salt Cooled Reactor	
Weeks 9, 10, 11	Research Reactors	
Weeks 12, 13, 14	Nuclear Propulsion	

Mapping of Course Outcomes to Program Student Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Identify the technological goals of generation IV reactors [11, 13, 14, 15, 17]	12%	reports, presentation
Identify the six concepts (reactors) approved by the GIF ( generation IV international forum) [11, 13, 14, 15, 17]	12%	reports, presentation
Explain the technological bases of each concept (reactor) [11, 13, 14, 15, 17]	12%	reports, presentation
Identify the advantages and disadvantages of each reactor [11, 13, 14, 15, 17]	12%	reports, presentation, final exam
Explain the primary mission of each reactor [11, 13, 14, 15, 17]	12%	presentation, final exam
Research need and plans for each reactor [11, 13, 14, 15, 17]	12%	presentation, final exam
Identify the nuclear propulsion systems [11, 13, 14, 15, 17]	12%	final exam
Explain the process of conversion of energy in naval reactors [11, 13, 14, 15, 17]	16%	final exam

Relationship to Program Student Outcomes (Out of 100%)						
1	2	3	4	5	6	7
20		20	20	20		20

Evaluation	
Assessment Tool	Weight
reports	20%
presentation	40%
final exam	40%

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