



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

ME752 Solar Desalination
First Semester 2023-2024

Course Catalog
3 Credit Hours. Introduction to solar energy; Solar radiation, Solar angles, Review of the basics of thermodynamics and heat transfer, salt water properties, Thermal base desalination Technologies; Evaporation desalination, Humidification-Dehumidification, vapor compression, Membrane base desalination Technologies; Reverse osmosis, Forward osmosis, Conventional solar distiller, Solar thermal and PV system analysis for desalination purposes, ambient water harvesting and electrolyzes desalination, economic analysis for desalination systems.

Text Book	
<b>Title</b>	Fundamentals of salt water desalination.?
<b>Author(s)</b>	El-Dessouky, Hisham T., and Hisham Mohamed Ettouney.
<b>Edition</b>	1st Edition
<b>Short Name</b>	Fundamentals of salt water desalination.
<b>Other Information</b>	

**Course References**

Short name	Book name	Author(s)	Edition	Other Information
Principles of Desalination (Part B)	Principles of Desalination (Part B)	Spiegler, Kurt Samuel	2nd Edition	
. Advances in water desalination	. Advances in water desalination	Lior, Noam	1st Edition	
Solar energy engineering: processes and systems	Solar energy engineering: processes and systems	Kalogirou, S. A.	2nd Edition	

Instructor	
Name	Dr. AHMAD DAWAHDEH
Office Location	-

Office Hours	Sun : 10:00 - 13:00 Mon : 12:00 - 14:00 Tue : 10:00 - 13:00 Wed : 10:00 - 12:00
Email	aidawahdeh@just.edu.jo

Class Schedule & Room
Section 1: Lecture Time: Sun : 14:30 - 17:30 Room: M2006

Mapping of Course Outcomes to Program Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
1. Learning how to design and analyze desalination systems	20%	
2. Familiarize the student with the solar desalination methods	20%	
3. Sizing and designing solar thermal and electrical sources for desalination purposes .	20%	
5. Familiarize the student with salt water properties	20%	
10. Economical analysis for desalination systems.	20%	

Relationship to Program Student Outcomes (Out of 100%)						
SO1	SO2	SO3	SO4	SO5	SO6	SO7

Date Printed: 2023-11-22