



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

EE581 Power Systems Integration Lab - JNQF Level: 7

Second Semester 2023-2024

**Course Catalog**

1 Credit Hours. Application of computer packages and techniques on modern power systems. System modeling and simulation.

**Teaching Method:** On Campus

**Text Book**

<b>Title</b>	Power System Analysis and Design
<b>Author(s)</b>	J.D. Glover, T. Overbye, and M. Sarma
<b>Edition</b>	6th Edition
<b>Short Name</b>	Ref #1
<b>Other Information</b>	

**Course References**

Short name	Book name	Author(s)	Edition	Other Information
Ref #2	Electric Machines and Drives	Gordon R. Slemon	1st Edition	

**Instructor**

Name	<b>Mr. MOHAMMAD AL-SHRIDA</b>
Office Location	E2 L-3
Office Hours	Sun : 11:30 - 12:30 Sun : 13:30 - 14:30 Tue : 11:30 - 12:30 Wed : 12:30 - 14:30 Thu : 11:30 - 12:30
Email	mzshrida@just.edu.jo

**Instructor**

Name	<b>Mrs. HEBA AL-JAMAL</b>
Office Location	-
Office Hours	
Email	hmjamal@just.edu.jo

<b>Class Schedule &amp; Room</b>
Section 1: Lecture Time: Wed : 14:30 - 17:30 Room: LAB  Section 2: Lecture Time: Thu : 14:30 - 17:30 Room: LAB

<b>Tentative List of Topics Covered</b>		
<b>Weeks</b>	<b>Topic</b>	<b>References</b>
Weeks 1, 2	Introduction to PSSE software.	
Week 3	Building power system in PSSE	
Week 4	Power flow and short circuit analysis using PSSE	
Week 5	Dynamic analysis with renewable energy in PSSE	
Week 6	Contingency calculations and curves plotting in PSSE	
Week 7	DC power flow, GIC, and Network reduction in PSSE	
Week 9	Load flow in MATLAB	
Week 10	Load flow in Simulink	
Week 11	Microgrid	
Weeks 12, 13, 14	Project	

<b>Mapping of Course Outcomes to Program Outcomes and NQF Outcomes</b>	<b>Course Outcome Weight (Out of 100%)</b>	<b>Assessment method</b>
Ability to analyze power system using PSSE software [1SO6] [1L7S2]	68%	Tasks, Final Exam, Midterm
Ability to simulate power systems using MATLAB. [1SO6] [1L7S2]	12%	Tasks, Final Exam
Ability to distinguish advanced concepts in power systems introduced in this course. [1SO1] [1L7K1]	10%	Tasks, Final Exam, Midterm
Ability to prepare a comprehensive experiment in the field of power systems utilizing the software covered in this course. [1SO2] [1L7C1]	10%	Project

Relationship to Program Student Outcomes (Out of 100%)						
SO1	SO2	SO3	SO4	SO5	SO6	SO7
10	10				80	

Relationship to NQF Outcomes (Out of 100%)		
L7K1	L7S2	L7C1
10	80	10

Evaluation	
Assessment Tool	Weight
Tasks	20%
Final Exam	40%
Midterm	30%
Project	10%

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