



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

EE304 Electric Drive

Summer Semester 2019-2020

**Course Catalog**

3 Credit Hours. Introduction to electric drives. DC drives. AC drives: induction motors, synchronous motors, reluctance and stepping motors. Servomotor drives.

**Text Book**

<b>Title</b>	"Principles of Electric Machines and Power Electronics", 3rd Edition, Wiley, 2016.
<b>Author(s)</b>	Sen P. C.
<b>Edition</b>	3rd Edition
<b>Short Name</b>	Text
<b>Other Information</b>	

**Course References**

Short name	Book name	Author(s)	Edition	Other Information
Ref-1	"Electric Machinery Fundamentals".	- Chapman	4th Edition	
Ref2	"Power Electronics",	Lander	3rd Edition	

**Instructor**

Name	<b>Mr. Adel Shawagfeh</b>
Office Location	E1 L-1
Office Hours	
Email	adelsh@just.edu.jo

**Class Schedule & Room**

Section 1:

Lecture Time: Sun, Mon, Tue, Wed : 14:30 - 16:00

Room: منصة الكرونية

**Tentative List of Topics Covered**

Weeks	Topic	References
Week 1	Circuits review	From <b>Text</b>
Week 2	Magnetic circuits	From <b>Text</b>
Weeks 3, 4, 5	DC Machines	From <b>Text</b>
Weeks 6, 7, 8	Power semiconductor converters	From <b>Text</b>
Weeks 9, 10, 11	Induction machines	From <b>Text</b>
Weeks 12, 13, 14	Synchronous machines	From <b>Text</b>
Weeks 15, 16	Single phase motors	From <b>Text</b>

Mapping of Course Outcomes to Program Student Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Calculation of the torque developed by motors and the various methods of speed control [15ABET1]	20%	
Knowledge of the various types of single and three-phase converters and how they are used with dc motor drives [15ABET1, 3ABET6]	20%	
Understand the concept of equivalent circuit [15ABET1, 2ABET2]	25%	
Understand the construction and design issues associated with electrical machines [15ABET1, 3ABET6]	20%	
Understand the conventional and power electronic methods used to control the speed of ac motors. [15ABET1, 3ABET6]	15%	

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

ABET1	ABET2	ABET3	ABET4	ABET5	ABET6	ABET7
87.89	2.94				9.17	

**Evaluation**

Assessment Tool	Weight
Home Works	20%
Quizzes	20%

Final Exam	60%
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