Jordan University of Science and Technology
Faculty of Science & Arts
Physics Department

PHY332 Electromagnetic Theory (2)
Second Semester 2020-2021

Course Catalog
3 Credit Hours. A quick review of Magnetostatic, and complete the study of EM laws by studying the magnetic properties of matter, electromagnetic induction, and Maxwell's equations. Then we will appreciate the power and richness of electromagnetics by studying electromagnetic waves, which is the most important application of Maxwell's theory.

Text Book	
Title	Introduction to Electodynamics
Author(s)	D J Griffiths
Edition	3rd Edition
Short Name	Text Book
Other Information	

Course References

Short name	Book name	Author(s)	Edition	Other Information
Ref	Foundation of Electromagnetic Theory	Reitz and Malford	4th Edition	

Instructor	
Name	**Dr. Maen Gharaibeh**
Office Location	PH3 L1
Office Hours	
Email	magh@just.edu.jo

Class Schedule & Room

Section 1:
 Lecture Time: Sun, Tue : 11:30 - 13:00
 Room: 150 منصة الكترونية

Prerequisites		
Line Number	**Course Name**	**Prerequisite Type**
923310	PHY331 Electromagnetic Theory (1)	Prerequisite / Pass

Tentative List of Topics Covered		
Weeks	**Topic**	**References**
Weeks 1, 2	Review to Magnetostatics	
Weeks 3, 4	Magnetic Fields in Matter	**Chapter 6** From **Text Book**
Weeks 5, 6, 7, 8	Electrodynamics	**Chapter 7** From **Text Book**
Weeks 9, 10	Conservation Laws	**Chapter 8** From **Text Book**
Weeks 11, 12, 13, 14	Electromagnetic Waves	**Chapter 9** From **Text Book**
Week 15	Potentials and Fields	**Selected topics from Chapter 10** From **Text Book**

Mapping of Course Outcomes to Program Student Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Calculate the magnetic field in linear and non-linear materials [31]	20%	
An in-depth understanding of time-varying electromagnetic fields as governed by Maxwell's equations [31]	50%	
Analyze electromagnetic waves propagation in different types of materials [31]	30%	

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

Evaluation	
Assessment Tool	**Weight**
Final Exam	100%

Policy	
Electordynamics	The student must know Maxwell equations and apply them to different problems in em fields