1- Course Name:	
Electromagnetic Fields	
2- Course Code:	
MIE31203	
3- Semester / year	
Semester	
4- Description Preparation Date:	
10 – 12 - 2025	
5- Available Attendance Forms:	
Weekly (Theory: 2 hours, Practically: 2 hours	
6- Number of Credit Hours (Total) / Number of Units (Total)	
Theory: 30 Hours **Practically:** 30 Hours **Total:** 60 hours **Total Units:** 5	
7- Course administrator's name (mention all, if more than one name)	
Name: Dr. Bassim Abdulbaki Jumaa **Email:** bassim.jumaa@muc.edu.iq	
8- Course Objectives:	
Course Objectives	1. To learn about electromagnetic transmission 2. To learn about Maxwell's equations 3. To know the types of electromagnetic wave transmission media. 4. To recognize the types of signals and systems. 5. To recognize the Guided Waves 6. To recognize transmission lines 7. To recognize Electromagnetic Radiation and Antennas
9- Teaching and Learning Strategies:	
Strategy	1. Delivering theoretical & practical lectures on electromagnetic field curriculum. 2. Employing discussion and question-and-answer sessions in the classroom to foster dialogue. 3. Assigning homework, program writing, and discussion to students 4. Writing reports on scientific topics related to electromagnetic field. 5. Daily assessment, weekly assessment, term assessment, objective questions, general knowledge questions, and practical exams.

10- Course Structure:					
Week	Hours	Required learning outcomes	Unit or subject name	Learning method	Evaluation method
1	Th.:2H Pr.:2H	Introduction to EMF	Introduction to EMF	Lec & Lab	Quiz
2	Th.:2H Pr.:2H	Study electrostatic	Electrostatic	Lec & Lab	Homework
3	Th.:2H Pr.:2H	Learn Gauss's Law	Gauss's Law	Lec & Lab	Exam
4	Th.:2H Pr.:2H	Study magnetic field	magnetic field	Lec & Lab	Quiz
5	Th.:2H Pr.:2H	Learn Time varying magnetic field	Time varying magnetic field	Lec & Lab	Homework
6	Th.:2H Pr.:2H	Study Maxwell's equation in electric field	Maxwell's equation in electric field	Lec & Lab	Exam
7	Th.:2H Pr.:2H	Learn Maxwell's equation in magnetic field	Maxwell's equation in magnetic field	Lec & Lab	Quiz
8	Th.:2H Pr.:2H	Study types of transmission media	Transmission media	Lec & Lab	Homework
9	Th.:2H Pr.:2H		Mid-term Exam	Lec & Lab	Exam
10	Th.:2H Pr.:2H	Study types of electromagnetic waves	Electromagnetic waves	Lec & Lab	Quiz
11	Th.:2H Pr.:2H	Learn Guided waves	Introduction to Guided waves	Lec & Lab	Homework
12	Th.:2H Pr.:2H	Study Guided waves in medical devices	Guided waves in medical devices	Lec & Lab	Exam
13	Th.:2H Pr.:2H	Study transmission lines	Transmission lines	Lec & Lab	Quiz
14	Th.:2H Pr.:2H	Study electromagnetic radiation	Electromagnetic radiation	Lec & Lab	Homework
15	Th.:2H Pr.:2H	Study electromagnetic antenna	electromagnetic antenna	Lec & Lab	Exam

11- Course Evaluation:	
The grade distribution is as follows: **Assessment:** Formative 40 marks , Monthly exam 10 marks **Final exam:** Theory 40 marks, Practical 10 marks	
12- Learning and Teaching Resources:	
Required Texts	Engineering Electromagnetic, fifth edition, by William H. Hayt.
Recommended Texts	Introduction to communication systems, second edition, by Ferrel G. Stremler.
Websites	1- www.tallguide.com 2- www.ainfoine.com 3- www.millitech.com 4- www.rfeafe.com 5- www.globalepec.com