جامعة المجمعة
Majmaah University

Course Specifications

Muharram 1437 H

Institution:	Majmaah University
Academic Department :	Electrical Engineering
Programme :	communication and power tracks
Course :	Electromagnetics I
Course Coordinator :	Dr. Yazeed Qasaymeh
Programme Coordinator :	.....
Course Specification Approved Date :	11/3 / 1437 H

This form compatible with NCAAA 2013 Edition

A. Course Identification and General Information

1 - Course title : Electromagnetics I	Course Code: EE 206
2. Credit hours : (3)	
3 - Program(s) in which the course is offered: communication and power tracks	
4 – Course Language : English	
5 - Name of faculty member responsible for the course: Yazeed Qasaymeh	
6 - Level/year at which this course is offered : Level 6 , year 2	
7 - Pre-requisites for this course (if any) : Algebra and Analytical MATH 107	
8 - Co-requisites for this course (if any) : •	
9 - Location if not on main campus : College of Engineering	

10 - Mode of Instruction (mark all that apply)

A - Traditional classroom	X	What percentage?	100%
B - Blended (traditional and online)		What percentage?	..... %
D - e-learning		What percentage?	..... %
E - Correspondence		What percentage?	..... %
F - Other		What percentage?	..... %

Comments :

.....

B Objectives

What is the main purpose for this course?

- To use complex number algebra and complex vectors,
- To understand basic electromagnetic concepts and parameters necessary for the analysis and design of electromagnetic systems
- To analyze the relationships between fields and flux densities in material media
- To understand the coupling between electric and magnetic fields through Maxwell's equations

Briefly describe any plans for developing and improving the course that are being implemented :

- Showing some online videos about visualizing wave propagation.
- Linking theory with practical applications for Maxwell's equations.

C. Course Description

1. Topics to be Covered

List of Topics	No. of Weeks	Contact Hours
Vector Algebra	1	4
Coordinate system and transformation	2	8
Vector calculus	1	4
Electrostatic fields	3	12
Electric field in material space	2	8
Electrostatic boundary-value problem	1	4
Magneto-static field	3	12
Magnetic force material and devices	2	8

2. Course components (total contact hours and credits per semester):

	Lecture	Tutorial	Laboratory	Practical	Other:	Total
Contact Hours	45	15	0	0	0	60
Credit	3	0	0	0	0	3

3. Additional private study/learning hours expected for students per week.

6

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	**Knowledge**		
1.1	.....	.....	.....
1.2	.....	.....	.....
1.3	.....	.....	.....
1.4	.....	.....	.....
1.5	.....	.....	.....
1.6	.....	.....	.....
2.0	**Cognitive Skills**		
2.1	.....	.....	.....
2.2	An ability to design a system, component, or process to meet desired needs within realistic constraints	Lecture, small group work, , research activities, lab demonstrations, projects and individual presentation	Reports and presentations
2.3	An ability to identify, formulate, and solve engineering problems	Lecture, small group work, , research activities, lab demonstrations, projects and individual presentation	Standardized exams, Oral exams, Micro projects .
2.4	.....	.....	.....
2.5	.....	.....	.....
2.6	.....	.....	.....
3.0	**Interpersonal Skills & Responsibility**		
3.1	.....	.....	.....
3.2	.....	.....	.....
3.3	.....	.....	.....
3.4	.....	.....	.....
3.5	.....	.....	.....
3.6	.....	.....	.....
4.0	**Communication, Information Technology, Numerical**		
4.1	An ability to apply knowledge of mathematics, science, and	Lecture,	Standardized

	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
	engineering	research activities, lab demonstrations, projects, case studies, memorization and individual presentation	exams, Oral exams, Micro projects
4.2	**.....**	.....	.....
4.3	An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.	Lecture, research activities, lab demonstrations, projects, case studies, memorization and individual presentation	Exams, quizzes and reports
4.4	**.....**	.....	.....
4.5	**.....**	.....	.....
4.6	**.....**	.....	.....
5.0	**Psychomotor**		
5.1	**.....**	.....	.....
5.2	**.....**	.....	.....
5.3	**.....**	.....	.....
5.4	**.....**	.....	.....
5.5	**.....**	.....	.....
5.6	**.....**	.....	.....

5. Schedule of Assessment Tasks for Students During the Semester:

	Assessment task	Week Due	Proportion of Total Assessment
1	Exams	9th and 14th	40 %
2	Quizzes and Assignments		20%
3	Final Exam	16th	40%
4	**.....**	.....	.....

5	.....	.....	.....
6	.....	.....	.....
7	.....	.....	.....
8	.....	.....	.....

D. Student Academic Counseling and Support

- Weekly office hours
- Meetings and discussions on Blackboard/D2L

E. Learning Resources

1. List Required Textbooks :

- **Sadiku, Matthew N. O. *Elements of Electromagnetics*. New York: Oxford University Press, 2001.**

2. List Essential References Materials :

3. List Recommended Textbooks and Reference Material :

- HAYT, W. H. (1981). Engineering electromagnetics. New York, McGraw-Hill Book Co.

4. List Electronic Materials :

- .....
- .....
- .....

5. Other learning material :

- .....
- .....
- .....

F. Facilities Required

1. Accommodation

- .....
- .....
- .....

2. Computing resources

- A Projector and a laptop in the classroom for the instructor.
- A working Smart Boards

3. Other resources

- Books for student's use in the main library.

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching:

- Completion course evaluation questionnaire,
- Classroom observations to measure student behavior through how well the student groups

are interacting in-class activity and how well the in-class activity went.
2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor : - Faculty Peer Assessment
3 Processes for Improvement of Teaching : • Plan: The instructor will develop a strategy for teaching. • Do: The strategy will be implemented for one semester. • Study: The experiences of the students will be collected through a survey. • Act: Effective teaching strategies will be implemented and revised as more experiences are gained.
4. Processes for Verifying Standards of Student Achievement Check marking of a sample of examination papers
5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement : • Continuous improvement is a circular process, encompassing student assessment, course planning and design, implementation, evaluation, and revision. • A feedback from all relevant assessment tools must be considered in the continuous process of course objectives refinement and assessment. • Continuous process for reviewing feedback from student on the quality of the course and planning for improvement.

Course Specification Approved
Department Official Meeting No (…..) Date … / …. / ….. *H*

Course's Coordinator		Department Head	
Name :	Dr Yazeed Qasaymeh	***Name :***	Dr Abdullah Almuhasien
Signature :	.....	***Signature :***	.....
Date :	11/ 3 /1437 H	***Date :***	…./ … / …… H