Kingdom of Saudi Arabia
Ministry of Education
University of Bisha

College of Engineering
Dept. of Electrical Engineering

المملكة العربية السعودية
وزارة التعليـــــــم
جامعة بيشة

كلية الهندسة
قسم الهندسة الكهربائية

University of Bisha
جامعة بيشة

Course Syllabus

Course Code and Name	EE 26342 – Electromagnetic Fields – 2
Credit and contact hours	**3 (2, 1, 1) (Lecture, Tutorial, Lab)**
Required or Elective	**Required**
Level / Year	**Level (6) / Year (3)**
Course Prerequisite	**EE 26325 Electromagnetic Fields -1**
Textbook	Sadiku, Matthew N. O. Elements of Electromagnetics. New York: Oxford University Press, 2001.
Course Description	This course cover the following topics: Review of Maxwell's equations and their history - Review of linear systems in time and frequency domains - Plane waves in multi regions (normal incidence) - Electric field polarization and pointing theorem and power flow - Plane waves in multi regions (oblique incidence) - Snell's laws of reflection and refraction - Transmission line theory: voltage and current equations - Lossy and lossless lines, attenuation and propagation - Input and characteristic impedances of the line - Smith chart and matching techniques. Parallel plate waveguide (TE & TM modes) - Rectangular waveguide (TE & TM modes) - Circular cylindrical waveguide (TE & TM modes) functions - Rectangular and circular cylindrical cavity resonators (TE & TM modes).
Brief List of Topics to be Covered	1- Review of Maxwell's equations and their history 2- Wave equation and propagation of EMW 3- Electric field polarization and pointing theorem and power flow 4- Plane waves in multi regions (normal incidence) 5- Plane waves in multi regions (oblique incidence) 6- Snell's laws of reflection and refraction 7- Transmission line theory: voltage and current equations 8- Lossy and lossless lines, attenuation, and propagation 9- Matching techniques 10- Wave Guides (parallel – rectangular- circular)
Course is prerequisite for	• EE26447 Antennas and Wave Propagations • EE26448 Optical fiber communications