

PENTING / IMPORTANT:

Kandungan Pro Forma ini tidak boleh diubah tanpa kelulusan Senat bagi perkara-perkara yang telah ditandakan*. Pindaan kepada perkara lain boleh diluluskan di peringkat Akademi/Fakulti/Institut/Pusat.

*Contents of this Pro Forma shall not be changed without the Senate's approval for items indicated with *. Changes to the other items can be approved at the Academy/Faculty/Institution/Centre level.*

	Versi Bahasa Malaysia Malay Version	Versi Bahasa Inggeris English Version
Akademi/Fakulti/Institut/Pusat <i>Academy/Faculty/Institute/Centre</i>	Fakulti Kejuruteraan	<i>Faculty of Engineering</i>
Jabatan <i>Department</i>	Jabatan Kejuruteraan Elektrik	<i>Department of Electrical Engineering</i>
Nama Program Akademik <i>Name of Academic Programme</i>	Sarjana Muda Kejuruteraan Elektrik	<i>Bachelor of Electrical Engineering</i>
Kod Kursus* <i>Course Code*</i>	KIE3004	<i>KIE3004</i>
Tajuk Kursus* <i>Course Title*</i>	Elektromagnet Gunaan	<i>Applied Electromagnetics</i>
Kredit* <i>Credit*</i>	3	3
Masa Pembelajaran Pelajar (SLT) <i>Student Learning Time (SLT)</i>	120	120
Prasyarat/Keperluan Minimum Kursus <i>Course Pre-requisite(s)/Minimum Requirement(s)</i>	Tiada	No
Hasil Pembelajaran Kursus* <i>Course Learning Outcomes*</i>	Pada akhir kursus, pelajar dapat: 1) Mengaplikasi hukum Faraday untuk aruhan elektromagnetik dan persamaan Maxwell yang dapat menerbitkan pemahaman gelombang elektromagnetik. 2) Menerangkan hukum-hukum berkaitan pantulan dan biasan gelombang satah. 3) Menganalisa tingkah laku talian penghantaran dan	<i>On completion of this course, students are able to:</i> 1) <i>Apply Faraday's law of electromagnetic induction and Maxwell equations that predicts the existence of electromagnetic waves.</i> 2) <i>Describe the behaviour the plane wave and the laws governing the reflection and refraction of plane waves.</i>

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	<p>sifat gelombang pada talian penghantaran.</p> <p>4) Menganalisa tingkah laku gelombang TEM, TE dan TM sepanjang struktur pandu gelombang yang seragam dan resonator berongga serta parameter penting seperti frekuensi resonan peranti.</p>	<p>3) <i>Analyze the behaviour of transmission lines and the wave characteristics on the transmission line.</i></p> <p>4) <i>Analyze the behaviour of TEM, TE and TM wave along uniform guiding structures and cavity resonator and important parameters such as the resonant frequencies of the device.</i></p>
Kemahiran Insaniah <i>Soft Skills</i>	Kemahiran Pemikiran Kritis dan Penyelesaian Masalah (CT1-CT3)	<i>Critical Thinking and Problem Solving Skills (CT1-CT3)</i>
Sinopsis Kandungan Kursus <i>Synopsis of Course Contents</i>	Bermula dari postulat asas elektromagnet, hukum Faraday diperkenalkan yang membawa kepada persamaan-persamaan Maxwell. Gelombang satah seragam, perambatan gelombang satah harmonik masa dalam media homogen tiada sempadan, konsep vektor poynting dan halatuju gelombang satah dibincangkan. Ciri-ciri talian penghantaran diterangkan. Persamaan umum talian penghantaran diterbitkan dari model litar, pemahaman keadaan mantap harmonik masa untuk talian penghantaran dimudahkan dengan penggunaan carta grafik. Pandu gelombang dan antena asas diterangkan.	<i>Starting with fundamental postulates of electromagnetism, Faradays law is introduced, leading to the discussion on Maxwell's equations. The study of uniform plane wave includes the propagation of time harmonic plane wave in an unbounded homogeneous medium, the concept of pointing vector and the incidence of plane wave. Overview of the transmission lines will be explained. The general transmission-line equations can be derived from a circuit model, and the study of time harmonic steady-state properties of transmission line is facilitated by the use of graphical chart. Waveguides and basic of antennas will be explained.</i>
Pemberatan Penilaian* <i>Assessment Weightage*</i>	Penilaian Berterusan: 40% Peperiksaan Akhir: 60%	<i>Continuous Assessment: 40% Final Examination: 60%</i>
Kaedah Maklum Balas Tentang Prestasi <i>Methodologies for Feedback on Performance</i>	Maklumbalas secara dalam talian.	<i>Online feedback.</i>
Kriteria Dalam Penilaian Sumatif <i>Criteria in Summative Assessment</i>	Sila rujuk Kaedah-Kaedah Universiti Malaya (Pengajian Ijazah Pertama) 2019 dan Peraturan-Peraturan Universiti Malaya (Pengajian Ijazah Pertama) 2019	<i>Please refer to the University Of Malaya (First Degree Studies) Rules 2019 And University Of Malaya (First Degree Studies) Regulations 2019</i>