UNIVERSITI MALAYA

MAKLUMAT KURSUS UNTUK SEMESTER/PENGGAL SEMASA
COURSE INFORMATION FOR CURRENT SEMESTER/TERM

Sesi Akademik *Academic Session*	2020/2021
Semester/Penggal *Semester/Term*	2
Kod Kursus *Course Code*	KIE4005
Tajuk Kursus *Course Title*	Kualiti Kuasa *Power Quality*
Bahasa Pengantar *Medium of Instruction*	Bahasa Inggeris *English*
Rujukan Utama *Main Reference*	1. Mohammad A.S. Masoum and Ewald Fuchs, "Power Quality in Power Systems and Electrical Machines", 2nd Edition, Academic Press, 2015. 2. R.C. Dugan, M.F. McGranaghan, Surya Santoso and H.W. Beatty, "Electrical Power Systems Quality", McGraw-Hill, 3rd Edition, 2012.
Strategi Pembelajaran *Learning Strategies*	Kuliah, Tugasan *Lectures, Assignment*
Masa Pembelajaran Pelajar *Student Learning Time*	Bersemuka / *Face to face* : 45 Tidak Bersemuka / *Non Face to face*: 0 Masa Persediaan Pelajar / *Student Preparation Time*: 75
Kemahiran Boleh Pindah Transferable Skills	Kemahiran menyelesaikan masalah *Problem Solving Skills*
Pensyarah / *Lecturer* Bilik / *Room* Telefon/e-mel *Telephone/e-mail*	Professor Ir. Dr. Hazlie Mokhlis Power System and Energy Research Lab, Block E 03-79675238 / hazli@um.edu.my
Sesi Kuliah / *Lecture Session:* Hari/Masa / *Day/Time* Tempat / *Venue*	Rujuk kepada myum.um.edu.my *Refer to* myum.um.edu.my
Sesi Tutorial/Amali: *Tutorial/Practical Session:* Hari/Masa / *Day/Time* Tempat / *Venue*	Tiada *None*
Perincian Pemberatan Penilaian *Detail of Assessment Weightage*	Penilaian Berterusan / *Continuous Assessment* : 40% Peperiksaan Akhir / *Final Examination* : 60%

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Jadual Pengajaran / *Teaching Schedule*

Minggu *Week*	Topik & Aktiviti *Topic & Activities*	Rujukan *References*
1	Definisi kualiti kuasa, sejarah awal, tanda-tanda kualiti kuasa *Definition of power quality, history, symptom of power quality*	Rujukan Utama *Main references*
2	Kesan kualiti kuasa *Impact of power quality*	Rujukan Utama *Main references*
3	Jenis-jenis kualiti kuasa, Piawaian kualiti kuasa *Type of power quality, Standard on power quality*	Rujukan Utama *Main references*
4	Kualiti kuasa dan keboleharapan sistem *Power quality and system reliability*	Rujukan Utama *Main references*
5	Punca voltan lendut *Source of voltage sags*	Rujukan Utama *Main references*
6	Pengiraan voltan lendut *Calculation of voltage sags*	Rujukan Utama *Main references*
7	Kaedah pencirian voltan lendut *Characterization techniques of voltage sags*	Rujukan Utama *Main references*
8	Analisa voltan lendut – Kaedah analitikal *Analysis of voltage sag performance – analytical technique*	Rujukan Utama *Main references*
9	Tebatan voltan lendut – kaedah dan teknologi terkini *Mitigation of voltage sag – technique and current technology*	Rujukan Utama *Main references*
10	Pembetulan Faktor Kuasa *Power Factor correction*	Rujukan Utama *Main references*
11	Pengenalan harmonik – punca dan kesan *Harmonic Introduction – sources and impact*	Rujukan Utama *Main references*
12	Harmonik – model matematik, indices, pengiraan *Harmonic – mathematical modelling, index-index, calculation*	Rujukan Utama *Main references*
13	Harmonik – resonan sesiri dan selari *Harmonic – series and parallel resonance*	Rujukan Utama *Main references*
14	Tebatan Harmonik – kaedah dan teknologi terkini *Harmonic Mitigation – technique and current technology*	Rujukan Utama *Main references*