

**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.*

	<b>Versi Bahasa Malaysia Malay Version</b>	<b>Versi Bahasa Inggeris English Version</b>
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>	KIE3010	<i>KIE3010</i>
Tajuk Kursus* <i>Course Title*</i>	Instrumentasi	<i>Instrumentation</i>
Kredit* <i>Credit*</i>	3	<i>3</i>
Masa Pembelajaran Pelajar (SLT) <i>Student Learning Time (SLT)</i>	120	<i>120</i>
Prasyarat/Keperluan Minimum Kursus <i>Course Pre-requisite(s)/Minimum Requirement(s)</i>	Tiada	<i>None</i>
Hasil Pembelajaran Kursus* <i>Course Learning Outcomes*</i>	Di akhir kursus ini, pelajar dapat: <ol style="list-style-type: none"> <li>1) Menerangkan konsep proses kawalan dan sistem instrumentasi</li> <li>2) Menerangkan ciri-ciri, sifat-sifat dan operasi pelbagai jenis sensor</li> <li>3) Membina litar isyarat pendingin analog dan digital untuk sensor pelbagai dengan mengambil kira</li> </ol>	<i>At the end of the course, students are able to:</i> <ol style="list-style-type: none"> <li>1) <i>Explain the concept behind process-control and instrumentation system</i></li> <li>2) <i>Describe the characteristics, properties and operation of various types of sensors</i></li> <li>3) <i>Construct the analogue and digital signal conditioning circuit for various sensors by</i></li> </ol>

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	syarat-syarat yang bukan-ideal 4) Menerangkan ciri-ciri, sifat-sifat dan operasi pelbagai jenis penggerak	<i>taking into account non-ideal conditions</i> 4) <i>Describe the characteristics, properties and operation of various types of actuators</i>
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>	Kursus ini akan memperkenalkan teknologi instrumentasi terutamanya bagi sistem kawalan proses. Ini akan termasuk operasi dan sifat-sifat pelbagai jenis sensor. Kaedah bagaimana untuk mereka bentuk litar analog dan digital pendingin isyarat bagi mereka sensor juga akan diuraikan. Kursus ini juga akan memperkenalkan pelbagai jenis penggerak kepada pelajar.	<i>This course will introduce instrumentation technology especially for process control system. This will include the operation and properties of various types of sensors. Methodology on how to design the analogue and digital signal conditioning circuits for those sensors also would be elaborate. This course will also introduce various types of actuators to the students.</i>
Pemberatan Penilaian* <i>Assessment Weightage*</i>	Penilaian Berterusan: 40% Peperiksaan Akhir: 60%	<i>Continuous Assessment: 40%</i> <i>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) 2017 dan Peraturan-Peraturan Universiti Malaya (Pengajian Ijazah Pertama) 2017	<i>Please refer to the University Of Malaya (First Degree Studies) Rules 2017 And University Of Malaya (First Degree Studies) Regulations 2017</i>