

Modul Description

Module name	Course Module
Module level, if applicable	Bachelor of Electronics Engineering
Code, if applicable	5215-176-2
Subtitle, if applicable	-
Course, if applicable	Electrical Measurement
Semester(s) in which the module istaught	I
Person responsible for the module	Lecturer of course
Lecturer	Dr. Arum Setyowati, S.Pd., M.T ; Rafiuddin Syam, ST,M.Eng.Ph.D.
Language	Indonesian Language [Bahasa Indonesia]
SRelation to Curriculum	This course is a compulsory course and offered in the 1 st semester.
Type of teaching, contact hours	<p>Teaching methods used in this course are:</p> <ul style="list-style-type: none"> - Lecture (i.e., group investigation, small group discussion, casestudy, and video based learning) - Structured assignments (i.e., essays and case study) - Practice (i.e., computer simulation and case study in laboratory) <p>The class size for lecture is 30 students. Contact hours for lecture is 27 hours, assignments is 32 hours</p>
Workload	<p>For this course, students are required to meet a minimum of 91 hours in one semester, which consist of:</p> <ul style="list-style-type: none"> - 27 hours for lecture, - 32 hours for structured assignments, - 32 hours for private study,
Credit points	2 credit points (equivalent with 2.88 ECTS)
Requirements according to the examination regulations	Students must have attended all classes and submitted all class assignments that are scheduled before the final tests.
Recommended prerequisites	Students must have attended all classes and submitted all class assignments that are scheduled before the final tests.

<p>PLO-CLO-ILO</p>	<p>After completing the course and given with this case:</p> <p>Course Learning Objectives (CLO1): Mahasiswa mampu memahami konsep pengukuran, sistem pengukuran, besaran dan satuan kelistrikan (K1) (5)</p> <p>Course Learning Objectives (CLO2): Mahasiswa mampu menganalisis karakteristik instrumen, error dalam pengukuran listrik, dan Instrumen analog (pointer) (K1, S2, S3, C2) (20)</p> <p>Course Learning Objectives (CLO3): Mahasiswa mampu memahami konsep pengukuran Arus DC/AC, tegangan AC/DC, pengukuran daya (K1) (5)</p> <p>Course Learning Objectives (CLO4): Mahasiswa mampu menganalisis instrumen elektronik dan alat ukur digital (K1, S2, S3, C2) (20)</p> <p>Course Learning Objectives (CLO5): Mahasiswa mampu memahami konsep Osiloscope (K1) (5)</p> <p>Course Learning Objectives (CLO6): Mahasiswa mampu menganalisis Trafo Instrumen (K1, S2, S3, C2) (20)</p> <p>Course Learning Objectives (CLO7): Mahasiswa mampu memahami konsep pengukuran energi dan pemetaan pada industri (K1) (5)</p> <p>Course Learning Objectives (CLO8): Mahasiswa mampu melakukan pengukuran phasa, frekuensi, tahanan, tegangan tinggi, sistem daya (K2, S1, S3, C1) (20)</p> <p>Program Learning Outcomes (PLO3): Menerapkan kompetensi teknik elektronika untuk memecahkan masalah keteknikan</p> <p>Knowledge (K1): Menerapkan matematika, ilmu dasar dan teknik dasar untuk merancang dan menganalisis untuk memecahkan masalah di bidang teknik elektronika.</p> <p>Engineering and Education Skill (S1): Mampu merancang prinsip dan aplikasi sistem rekayasa elektronik</p> <p>Competence (C2): Mampu mengelola dan mengembangkan proses, sistem operasi, dan peralatan dengan mempertimbangkan dampak teknis dan nonteknis dari kegiatan industri di bidang teknik elektronika.</p>
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Content	<p>Students will learn about: Pengertian pengukuran dan sistem pengukuran, Besaran dan satuan kelistrikan, Karakteristik instrumen dan Error dalam pengukuran listrik, Instrumen analog (pointer) dan konsep pengukuran Arus DC/AC, Pengukuran tegangan AC/DC, pengukuran daya, Instrumen elektronik dan alat ukur digital, Osiloscope, Trafo Instrumen, Konsep pengukuran energi dan pemetaan pada industri, pengukuran phasa dan frekuensi, pengukuran tahanan, pengukuran tegangan tinggi, pengukuran sistem daya.</p>
Forms of Assessment	<p>Assessment is carried out based on written examinations, assessment/evaluation of the learning process and performance with the following components: Sikap: 20%; Keterampilan umum 20%; Keterampilan khusus: 10 %: Pengetahuan: 50%</p>
Study and examination requirements and forms of examination	<p>Study and examination requirements:</p> <ul style="list-style-type: none"> - Students must attend 15 minutes before the class starts. - Students must switch off all electronic devices. - Students must inform the lecturer if they will not attend the class due to sickness, etc. - Students must submit all class assignments before the deadline. - Students must attend the exam to get final grade. <p>Form of examination: Written exam: Essay</p>
Media employed	<p>Direct Whiteboard and Power Point Presentation.</p>
Reading list	<p>1. Electronic Instrumentation and Measurements Techniques. William David Cooper</p>