

Modul Description

Module name	Course Module
Module level, if applicable	Bachelor of Electronics Engineering
Code, if applicable	5215-075-3
Subtitle, if applicable	-
Course, if applicable	Industrial Instrumentation
Semester(s) in which the module is taught	VII
Person responsible for the module	Lecturer of Courses
Lecturer	Dr. Muhammad Yusro, M.Pd, MT.
Language	Indonesian Language [Bahasa Indonesia]
Relation to Curriculum	This course is a mandatory course for Control Electronics Specialization and offered in the 7 th 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, case study, and video-based learning) - Structured assignments (i.e., essays and case study) - Practice (i.e., computer simulation and case study in laboratorium) <p>The class size for lecture is 30 students. Contact hours for lecture is 27 hours, assignments are 32 hours</p>
Workload	<p>For this course, students 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 aplikasi instrumentasi PID pada sistem kontrol dan diagram alir proses produksi (K1) (15)</p> <p>Course Learning Objectives (CLO2): Mahasiswa mampu memahami sistem pengukuran pada industri (K1) (15)</p> <p>Course Learning Objectives (CLO3): Mahasiswa mampu menganalisa kesalahan pengukuran (K1, S2, S3, C1) (30)</p> <p>Course Learning Objectives (CLO4): Mahasiswa mampu menerapkan prinsip-prinsip serta komponen pada sistem kontrol proses industri (K2, S1, S3, C1) (40)</p> <p>Program Learning Outcome (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>Knowledge (K2): Untuk menerapkan prinsip-prinsip teknik elektronik untuk memecahkan masalah dalam sistem teknik elektronik</p> <p>Engineering and Education Skill (S1): Mampu merancang prinsip dan aplikasi sistem rekayasa elektronik</p> <p>Competence (C1): Menerapkan teknologi baru di bidang rekayasa dengan mempertimbangkan standar teknis, aspek kinerja, keandalan, penerapan, dan keberlanjutan</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>
<p>Content</p>	<p>Students will learn about: Mata kuliah ini membahas aplikasi instrumentasi PID pada sistem kontrol. Memahami aplikasi diagram alir proses produksi. Sistem Pengukuran: Berbagai dasar sistem pengukuran yang digunakan pada industri. Transduser statis dan dinamis, serta blok diagram transduser serta menganalisa kesalahan. Pengiriman sinyal untuk pengawasan dan pengontrolan. Prinsip-prinsip serta komponen</p>

	pada sistem kontrol proses industri. Komputer, Kontroler, transduser, aktuator serta instrumentasi mekanik dan elektrik.
Forms of Assessment	Assessment is carried out based on written examinations, assessment/evaluation of the learning process and performance with the following components: Presence and Activity: 5%; Structured tasks: 70%; Mid Test: 5%; Final Test: 20%
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	Direct Whiteboard and Power Point Presentation.
Reading list	