

Module Description

Module name	Course Module
Module level, if applicable	Bachelor of Electronics Engineering
Code, if applicable	5215-189-3
Subtitle, if applicable	
Course, if applicable	Mechatronics and Robotics
Semester(s) in which the module istaught	VI
Person responsible for the module	Lecturer of Course
Lecturer	Drs. Pitoyo Yuliatmojo, MT. ; Rafiuddin Syam,S.T.,M.Eng.,Ph.D.
Language	Indonesian Language [Bahasa Indonesia]
Relation to Curriculum	This course is an elective course and offered in the 6 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, casestudy, and video-based learning) - Structured assignments (i.e., essays and case study) - Practice (i.e., computer simulation and case study in labororium) <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 3.00 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 dasar pengendalian mekanik sistem dan tata kerja robot (K2) (15)</p> <p>Course Learning Objectives (CLO2): Mahasiswa mampu memahami konstruksi kinematika dan dinamika robot (K2) (15)</p> <p>Course Learning Objectives (CLO3): Mahasiswa mampu merancang robot untuk industri (K2, S2, S3, C2) (70)</p> <p>Program Learning Outcome (PLO3): Menerapkan kompetensi teknik elektronika untuk memecahkan masalah keteknikan</p> <p>Knowledge (K2): Untuk menerapkan prinsip-prinsip teknik elektronika untuk memecahkan masalah dalam sistem teknik elektronika</p> <p>Engineering and Education Skill (S1): Mampu merancang prinsip dan aplikasi sistem rekayasa elektronika</p> <p>Engineering and Education Skill (S3): Mampu mencari alternatif solusi dan pemecahan masalah di bidang teknik elektronika.</p> <p>Competence (C1): Menerapkan teknologi baru di bidang rekayasa dengan mempertimbangkan standar teknis, aspek kinerja, keandalan, penerapan, dan keberlanjutan</p>
<p>Content</p>	<p>Students will learn about: Tujuan mata kuliah ini untuk memahami dasar pengendalian mekanik sistem dan tata kerja robot. Memahami konstruksi kinematika dan dinamika robot. Membahas tentang Aplikasi dan perancangan robot untuk industri: struktur sistem robot, elemen penggerak dan pemrograman. Pengendalian motor, sumber tenaga, penguat, peralatan magnetik, transducer input, mekanisme servo</p>
<p>Forms of Assessment</p>	<p>Assessment is carried out based on written examinations, assessment/evaluation of the learning process and performance with the following components: Structured tasks: 20% ; Quiz 10% ; Mid Test : 35% Final Test: 35%</p>

Study and examination requirements and forms of examination	Study and examination requirements: <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. Form of examination: Written exam: Essay
Media employed	Direct Whiteboard, Google classroom, Tutorial Video by Youtube and Power Point Presentation.
Reading list	