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MODULE HANDBOOK

Module name	**Experiment on Actuator Systems**
Module level	Undergraduate
Code	MII-2308
Courses (if applicable)	Experiment on Actuator Systems
Semester	Fall (Odd)
Contact person	Aufaclav Zatu Kusuma F
Lecturer	Aufaclav Zatu Kusuma F
Language	Bahasa Indonesia & English
Relation to curriculum	1. Undergraduate degree program, compulsory, 3th semester. 2. International undergraduate program, compulsory, 3th semester.
Type of teaching, contact hours	1. Undergraduate degree program: lectures, < 40 students, 2. International undergraduate program: lectures, < 30 students.
Workload	1. Lectures: 2 x 50 = 100 minutes (1 hours 10 menit) per week. 2. Exercises and Assignments: 2 x 50 = 100 minutes per week. 3. Private study: 2 x 50 = 100 minutes per week.
Credit points	2 credit points (sks).
Requirements according to the Examination regulations	A student must have attended at least 75% of the lectures to sit in the exams.
Recommended prerequisites	-
Learning outcomes (course outcomes) and their corresponding PLOs	After completing this module, a student is expected to: CO1 Students are able to understand basic concepts, calibration, use actuator system CO2 Students are able to apply the basic concepts of the system actuator CO3 Students are able to solve problems and designing a system actuators in a process in the everyday environment as well as in the industry with a professional attitude

PLO		CO1	CO2	CO3
Program Learning	**PLO1**			
	PLO2	√		
	PLO3		√	

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<tr><td rowspan="2">Outcome (PLO)</td><td>PLO4</td><td></td><td></td><td>√</td></tr>
<tr><td>PLO5</td><td></td><td></td><td></td></tr>
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<tr><td>Contents</td><td>1. Introduction to actuator
2. Signal and system
3. Motor DC
4. Motor Stepper
5. Motor Servo
6. Motor Brushless
7. Relay and Solenoid
8. Pneumatics</td></tr>
<tr><td>Study and examination requirements and forms of examination</td><td>The evaluation is done in 3 forms, namely:
1. Trial, either midterm or semester test,
2. Four tasks, individual assignments to be completed within a certain timeframe, and
3. Two quizzes, held on face-to-face, once before midterm exam and once after midterm exam, with a short answer form.

Assessment is done using benchmark assessment, with the aim of measuring the level of student understanding related to the target and class rank.</td></tr>
<tr><td>Media employed</td><td>LCD, blackboard, and websites.</td></tr>
<tr><td>Assessments and Evaluation</td><td>
<table>
<tr><th>Type</th><th>Percentage</th><th>√</th><th>√</th><th>√</th></tr>
<tr><td>Quiz</td><td>5 %</td><td>√</td><td>√</td><td>√</td></tr>
<tr><td>Individual Task</td><td>25 %</td><td>√</td><td>√</td><td>√</td></tr>
<tr><td>Group Task</td><td>0</td><td></td><td></td><td></td></tr>
<tr><td>Midterm Exam</td><td>40 %</td><td>√</td><td>√</td><td>√</td></tr>
<tr><td>Final Exam</td><td>30 %</td><td>√</td><td>√</td><td>√</td></tr>
<tr><td>Total</td><td>100%</td><td></td><td></td><td></td></tr>
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<tr><td>Reading List</td><td>[1] Bishop, R.H., 2008, Mechatronic Systems, Sensors and Actuators, Fundamentals and Modeling, CRC Press USA
[2] David G. Alciatore dan M.B. Histand, 2007, “ Introduction to Mechatronics and Measurement Systems”, McGraw-Hill, USA.
[3] Hanselman, D., 2003, Brushless Permanent Magnet Motor Design, 2nd Edition The Writers' Collective
[4] Yon Rijono, 1997; Dasar Teknik Tenaga Listrik, Andi Offset Yogyakarta</td></tr>
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