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MODULE HANDBOOK

Module name	**IoT Technology and its Applications**
Module level	Undergraduate
Code	MII-212606
Courses (if applicable)	IoT Technology and its Applications
Semester	Fall (Odd)
Contact person	Muhammad Idham Ananta Timur
Lecturer	Muhammad Idham Ananta Timur Triyogatama Wahyu Widodo
Language	Bahasa Indonesia & English
Relation to curriculum	1. Undergraduate degree program, compulsory, 5th semester. 2. International undergraduate program, compulsory, 5th semester.
Type of teaching, contact hours	1. Undergraduate degree program: lectures, < 60 students, 2. International undergraduate program: lectures, < 30 students.
Workload	1. Lectures: 3 x 50 = 100 minutes (1 hours 10 menit) per week. 2. Exercises and Assignments: 3 x 50 = 100 minutes per week. 3. Private study: 3 x 50 = 100 minutes per week.
Credit points	3 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 Able to explain the concept and understanding of the Internet of Things (IoT) CO2 Able to explain IoT Architecture and Smart Object CO3 Able to explain Protocols on IoT Networks CO4 Able to explain Data Analysis and Security in IoT CO5 Able to explain IoT applications in Industry

PLO		CO1	CO2	CO3	CO4	CO5
Program Learning	**PLO1**					
	PLO2	√				

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<tr><td rowspan="3">Outcome (PLO)</td><td>PLO3</td><td></td><td>√</td><td>√</td><td></td><td></td></tr>
<tr><td>PLO4</td><td></td><td></td><td>√</td><td>√</td><td>√</td></tr>
<tr><td>PLO5</td><td></td><td></td><td></td><td></td><td>√</td></tr>
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<tr><td>Contents</td><td>1. Introduction
2. Design and architecture IoT
3. Smart Object
4. Smart Objects networking
5. Protocol
6. Data analysis
7. Security
8. Applications of IoT</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>CO1</th><th>CO2</th><th>CO3</th><th>CO4</th><th>CO5</th></tr>
<tr><td>Quiz</td><td>5 %</td><td></td><td>√</td><td></td><td>√</td><td></td></tr>
<tr><td>Individual Task</td><td>20 %</td><td>√</td><td>√</td><td>√</td><td>√</td><td></td></tr>
<tr><td>Project Task</td><td>15 %</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Midterm Exam</td><td>30 %</td><td>√</td><td>√</td><td>√</td><td></td><td></td></tr>
<tr><td>Final Exam</td><td>30 %</td><td></td><td></td><td>√</td><td>√</td><td>√</td></tr>
<tr><td>Total</td><td>100%</td><td></td><td></td><td></td><td></td><td></td></tr>
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<tr><td>Reading List</td><td>[1] Internet of Things A to Z: Technologies and Applications, Qusay F. Hassan, May 2018, Wiley IEEE Press
[2] Hanes, David, Gonzalo Salgueiro, Patrick Grossetete, Robert Barton, Jerome Henry. 2017.
[3] IoT Fundamentals: Networking Technologies, Protocols, and Use Cases for the Internet of Things. Indianapolis, USA: Cisco Press
[4] Adrian McEwen, Hakim Cassimally, 2014, Designing the Internet of Things, John Wiley and Sons</td></tr>
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