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MODULE HANDBOOK

Module name	**Industrial Instrumentation Experiment**
Module level, if applicable	Undergraduate
Code, if applicable	MII 2325
Courses, if applicable	Industrial Instrumentation Experiment
Semester(s) in which the module is taught	Odd
Person responsible for the module	Tri Wahyu Supardi, S.Si., M.Cs
Lecturer(s)	Tri Wahyu Supardi, S.Si., M.Cs
Language	English and Indonesia
Relation to curriculum	1.Undergraduate degree program, optional, 3rd semester. 2.International undergraduate program, optional, 3rd semester.
Teaching methods	Case-Based Learning
Workload (incl. contact hours, self-study hours)	1. Lectures: 1 x 50 = 150 minutes per week. 2. Exercises and Assignments: 1 x 50 = 100 minutes per week. 3. Private study: 1 x 50 = 50 minutes per week.
Credit points	1
Requirements according to the examination regulations	Minimum attendance at lectures is 75% (according to UGM regulation). Final score is evaluated based on practice experiments (35 %), experiment report (35%), and final exam (30%).
Required and recommended prerequisites for joining the module	
Learning outcomes and their corresponding PLOs	After completing this module, a student is expected to: (CO-1): Able to use a variety of industrial instrumentation device (CO-2): Able to understand and create Block Flow Diagram (CO-3): Able to understand and create Process Flow Diagram (CO-4): Able to understand and create P&ID (Piping & Instrumentation Diagram)

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<tr><th colspan="2">PLO</th><th>CO1</th><th>CO2</th><th>CO3</th><th>CO4</th></tr>
<tr><td rowspan="5">Program Learning Outcome (PLO)</td><td>PLO1</td><td>√</td><td>√</td><td>√</td><td>√</td></tr>
<tr><td>PLO2</td><td>√</td><td>√</td><td>√</td><td>√</td></tr>
<tr><td>PLO3</td><td></td><td>√</td><td>√</td><td>√</td></tr>
<tr><td>PLO4</td><td></td><td></td><td>√</td><td>√</td></tr>
<tr><td>PLO5</td><td></td><td></td><td></td><td></td></tr>
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<tr><td>Content</td><td>1. Industrial Instrumentation Device
2. Block Flow Diagram
3. Process Flow Diagram
4. Piping & Instrumentation Diagram</td></tr>
<tr><td>Study and examination requirements and examination forms</td><td>The evaluation is done in 3 forms, namely:
1. Practice
2. Report
3. Final Exam
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>e-learning Platform, LCD, glass board, 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></tr>
<tr><td>Practice</td><td>35</td><td>√</td><td>√</td><td>√</td><td>√</td></tr>
<tr><td>Experiment report</td><td>35</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></tr>
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<tr><td>Total</td><td>100</td><td></td><td></td><td></td><td></td></tr>
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<tr><td>Reading list</td><td>

Unit Layanan Instrumentasi JIKE FMIPA UGM, 2011, Petunjuk Praktikum Eksp. Instrumentasi Industri S1 Elekronika dan Instrumentasi UGM, Unit Layanan Instrumentasi Jurusan Ilmu Komputer dan Elektronika FMIPA UGM.
Dunn, W. C., 2005, Fundamentals of Industrial Instrumentation and Process Control, The McGraw-Hill Companies, Inc.
Kuphaldt, T. R., 2013, Lessons in Industrial Instrumentation, Creative Commons Attribution License.
IDC Technologies, -, Practical Instrumentation For Automation and Process Control, IDC Technologies.

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