FI462 Modern Physics Experiments

Module name:	Modern Physics Experiments	
Module level, if applicable:	Undergraduate	
Code:	FI462	
Sub-heading, if applicable:	-	
Classes, if applicable:	-	
Semester:	6th	
Module coordinator:	Andhy Setiawan	
Lecturer(s):	Andhy Setiawan, Wiendartun, Mohammad Arifin.	
Language:	Bahasa Indonesia	
Classification within the curriculum:	Compulsory course	
Type of Teaching	Contact hours per week during the semester	Class Size
1. Lecture (Experiment and presentation) 2. Structured activities for experiment preparation and making report 3. Self-study (reading literature)	2 hours 30 minutes	15
Workload:	Total workload is 90 hours 40 minutes (3.2 ECTS) which consist of 40 hours of laboratory activities (1.41 ECTS) and 50 hours 40 minutes of practice preparation, making report and self-study (1.75 ECTS)	
Credit points:	3.2 ECTS	
Pre-requisites course(s):	FI360 Modern Physics	
Course Learning Outcomes (CLO):	After taking this course the students have ability to: CLO1. Apply concepts of modern physics in planning the experiment. CLO2. Conduct experiment in modern physics. CLO3. Analyze experimental data as result of experiment in modern physics CLO4. Apply concepts of modern physics in discussing the experiment result. CLO5. Make reports and present the results of modern physics experiments.	
Content:	Experiment of Hydrogen Atomic Spectrum, Frank Hertz Experiment, Experiment of Sodium Atomic Spectrum, Experiment of Photocell, Experiment of Photo Electric, Experiment of Electron Diffraction, and Experiment of Geiger Muller Radioactive Counter.	

<table>
<tr><td>Study/exam achievements:</td><td>The final mark will be weight as follow:
<table>
<tr><th>No</th><th>CLO</th><th>Assessment Object</th><th>Assessment Techniques</th><th>Weight</th></tr>
<tr><td>1</td><td>CLO1</td><td>Subject specific competences:
- Assignment
- Written test</td><td>
Written
Written test</td><td>
10%
10%</td></tr>
<tr><td>2</td><td>CLO2, CLO3, CLO4, CLO5</td><td>Subject specific competences:
- Experiment Report
- Presentation</td><td>
Written
Performance</td><td>
45%
35%</td></tr>
<tr><td colspan="4">Total</td><td>100%</td></tr>
</table></td></tr>
<tr><td>Forms of media:</td><td>Board, LCD projector, laptop/computer, Experimental tools, LMS, internet line.</td></tr>
<tr><td>Literature:</td><td>1. Pergament, M.I. (2019). Methods of Experimental Physics. CRC Press LLC.
2. Noce. (2020). Modern Physics: A Critical Approach. Institute of Physics Publishing, United Kingdom.
3. Melissinos, A. C., & Napolitano, J. (2011). Experiments in Modern Physics. Academic Press.</td></tr>
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PLO and CLO mapping

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	PLO11	PLO12
CLO1		√										
CLO2				√								
CLO3				√								
CLO4		√										
CLO5				√								