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MODULE HANDBOOK

Module name	: **Electronic Maths 2**
Module level, if applicable	: Undergraduate
Code, if applicable	: MII 2004
Courses, if applicable	Electronic Maths 2
Semester(s) in which the module is taught	
Person responsible for the module	: **Janoe Hendarto**
Lecturer(s)	: Janoe Hendarto Nia Gella Augoestien
Language	: Bahasa Indonesia and English
Relation to curriculum	: 1.Undergraduate degree program, compulsory, 3rd semester. 2.International undergraduate program, compulsory, 3rd semester.
Teaching methods	: Student Centered Learning
Workload (incl. contact hours, self-study hours)	: 1. Lectures: 2 x 50 = 150 minutes per week. : 2. Exercises and Assignments: 2 x 50 = 100 minutes per week. : 3. Private study: 2 x 50 = 50 minutes per week.
Credit points	: 2
Requirements according to the examination regulations	: Minimum attendance at lectures is 75% (according to UGM regulation). Final score is evaluated based on assignments (20%), mid semester exam (40%), and end semester exam (40%).
Required and recommended prerequisites for joining the module	: Electronic Math 1
Learning outcomes and their corresponding PLOs	After completing this module, a student is expected to: CO1. understand the basics of complex numbers CO2. Mastering numerical analysis techniques CO3. understand the basic theory of graphs for optimization CO4. understand the concept of opportunity and its application

PLO		CO1	CO2	CO3	CO4
Program Learning Outcome (PLO)	**PLO1**	√	√		
	PLO2	√			
	PLO3		√		√
	PLO4			√	

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<tr><td></td><td>PLO5</td><td></td><td></td><td></td><td></td></tr>
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<tr><td>Content</td><td>1. Complex number
2. numerical method
3. Linear Systems and Gaussian Elimination
4. Optimization and Gradient Descent
5. Graph Theory and Problems in Graphs</td></tr>
<tr><td>Study and examination requirements and examination forms</td><td>In class group discussion, Quiz, Individual task, Group task, Mid-terms examination and Final examination</td></tr>
<tr><td>Media employed</td><td>: slides, discussion, online or offline meeting</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>Assignments/Quiz</td><td>20</td><td>√</td><td>√</td><td>√</td><td>√</td></tr>
<tr><td>Midterm exam</td><td>40</td><td>√</td><td>√</td><td>√</td><td></td></tr>
<tr><td>Final exam</td><td>40</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></tr>
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</td></tr>
<tr><td>Reading list</td><td>[1] Attenborough, M., 2003, Mathematics for Electrical Engineering and Computing, Newnes.
[2] Kreyzig, E., 2007, Advanced Engineering Mathematics, 9th ed., John Wiley, New York.</td></tr>
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