FI120 Basic Mathematics

Module name:	Basic Mathematic	
Module level, if applicable:	Undergraduate	
Code:	FI120	
Sub-heading, if applicable:	-	
Classes, if applicable:	-	
Semester:	1st	
Module coordinator:	Andi Suhandi	
Lecturer(s):	Andi Suhandi and Mimin Iryanti	
Language:	Bahasa Indonesia	
Classification within the curriculum:	Compulsory course	
Type of Teaching	Contact hours per week during the semester	Class Size
1. Lecture (conceptual, contextual, and problem-solving approaches through expository, discussion and exercises). 2. Structured activities (assignments based on conceptual, contextual, and problem-solving approaches) 3. Self-study (reading literature)	2 hours 30 minutes	35
Workload:	The total workload is 136 hours (4.8 ECTS / 8160 minutes) per semester, consisting of 1800 minutes (1.05 ECTS) lectures, 2160 minutes (1.27 ECTS) structured activities, 2160 minutes (1.27 ECTS) self-study per week for 12 weeks, 600 minutes (0.35 ECTS) for four exams, and 1440 minutes (0.86 ECTS) for four exam preparations.	
Credit points:	4.8 ECTS	
Pre-requisites course(s):	-	
Course Learning Outcomes (CLO):	After taking this course the students have ability to: CLO1. Describe the definition of variable and graph of equation CLO2. Describe of the definition of Limits concept CLO3. Apply the limit in solving physics problems CLO4. Describe of the derivatives concept CLO5. Apply the derivatives in solving physics problem CLO6. Describe of the integral concept CLO7. Apply the integral in solving physics problem CLO8. Describe of the transcendence concept CLO9. Apply the transcendence in solving physics problem CLO10. Describe of the Probability concept	

<table>
<tr><td></td><td>CLO11. Apply the probability in solving physics problem</td></tr>
<tr><td>Content:</td><td>Variable and graph of equation, Limits, Derivatives, Integral, Transcendence, and Probability.</td></tr>
<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>1 - 3</td><td>Subject specific competences:
a. Individual assignments
b. Exam 1</td><td>

Written
Written test</td><td>

5%
20%</td></tr>
<tr><td>2</td><td>4 – 5</td><td>a. Individual assignments
b. Exam 2</td><td>Written
Written test</td><td>5%
20%</td></tr>
<tr><td>3</td><td>6 – 7</td><td>a. Individual assignments
b. Exam 3</td><td>Written
Written test</td><td>5%
20%</td></tr>
<tr><td>4</td><td>8 - 11</td><td>a. Individual assignments
b. Exam 4</td><td>Written
Written test</td><td>5%
20%</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, LMS</td></tr>
<tr><td>Literature:</td><td>1. Varberg, D., Purcell, E. and Rigdon, S., 2007. Calculus with differential equations. Upper Saddle River, N.J.: Pearson Prentice Hall.
2. Rohde, U. (2012). Introduction to integral calculus. Wiley.
3. Bronson, R., & Costa, G. (2014). Schaum's Outline of Differential Equations, 4th Edition. McGraw Hill Professional.</td></tr>
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PLO and CLO mapping

	PLO1	PLO 2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	PLO11	PLO12
CLO1	√											
CLO2	√											
CLO3	√											
CLO4	√											
CLO5	√											
CLO6	√											
CLO7	√											
CLO8	√											
CLO9	√											
CLO10	√											
CLO11	√											