Module Handbook

Module's Name	Physical Mathematics 1
Module's Grade	Undergraduate Program (S-1)/Bachelor
Abbreviation /code (if any)	
Subtitles (if any)	
Courses included in the module (if any)	
Semester/year	2/1st year
Module Coordinator	Dr. Z.A. Imam Supardi, M.Si
Lecturer	Dr. Z.A. Imam Supardi, M.Si Drs. Supardiyono, M.Si Nugrahani Primary Putri, M.Si Dzulkiflih, S.Si., M.T
Language used	Indonesian
Classification in the curriculum	Compulsory course/~~elective course~~
Learning format/number of class hours per week	Per week consists of: 3 hours face to face (1 hour face to face = 50 minutes/hour)
Workload	3x50 minutes face to face, 3x60 minutes structured tasks, 3x60 minutes independent learning, for 14 weeks, a total of 126 hours face-to-face/semester
CU	3
Precondition course	Basic Mathematics
Learning Outcome	Knowledge: 1. Students master the knowledge of classical and modern physics to identify the properties of a simple physical system using mathematical physics approach. Skill: 2. Students are able to formulate simple physical system problems related to mechanics and thermodynamics into mathematical model using relevant symbolic/numeric language. Attitude and Social: 1. Students are able to use high order thinking processes to form solutions from the simple physical model related to mechanics and thermodynamics. 2. Students are able to apply scientific manners, critical thinking, and innovation skills for examining mechanics and thermodynamics learning problems at high school using mathematics.
Content	This course examines infinite series, partial differential, ordinary differential equations, and vector analysis through active learning by combining the methods of discussion, questions and answers, also assignment using IT.
Attribut soft skill	Team work Long life education

<table>
<tr><td>Assessment of CLO/exam</td><td>Students are considered competent and pass if they get at least a minimum test score of 68 (Mid and Final), and structured activities (assignments/T) and participatory activities (P)
The final grade (NA) is calculated according to the formula:
$NA = \frac{(2xP)+(3xT)+(2xMid)+(3xFinal)}{10}$
Convert the 0-100 scale value to a 0-4 scale and the letters are arranged as follows.

<table>
<tr><th>Alphabet</th><th>Score</th><th>Interval</th></tr>
<tr><td>A</td><td>4,00</td><td>85 ≤ A < 100</td></tr>
<tr><td>A-</td><td>3,75</td><td>80 ≤ A- < 85</td></tr>
<tr><td>B+</td><td>3,50</td><td>75 ≤ B+ < 80</td></tr>
<tr><td>B</td><td>3,00</td><td>70 ≤ B < 75</td></tr>
<tr><td>B-</td><td>2,75</td><td>65 ≤ B- < 70</td></tr>
<tr><td>C+</td><td>2,50</td><td>60 ≤ C+ < 65</td></tr>
<tr><td>C</td><td>2,00</td><td>55 ≤ C < 60</td></tr>
<tr><td>D</td><td>1,00</td><td>40 ≤ D < 55</td></tr>
<tr><td>E</td><td>0,00</td><td>0 ≤ E < 40</td></tr>
</table>
</td></tr>
<tr><td>Media</td><td>Handbook
e-book</td></tr>
<tr><td>Reference</td><td>

1. Boas, M.L. 2006. *Mathematical Methods in the Physical Science*, 3rd ed., John Wiley & Sons, New York.
2. Arfken, G. 1995. *Mathematical Methods for Physicists*, Academic Press.
3. Riley, K.F., Hobson, M.P., Bence, S.J. 2006. Mathematical Methods for Physics and Engineering, 3rd ed., Cambridge Univ. Press.
4. Hassani, Sadri. 2009. *Mathematical Methods for Students of Physics and Related Fields*, 2nd ed. Illinois: Springer.

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<tr><td>Note</td><td></td></tr>
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