



UNIVERSITAS NEGERI YOGYAKARTA
FACULTY OF MATHEMATICS AND NATURAL SCIENCES
DEPARTMENT OF PHYSICS EDUCATION
PHYSICS STUDY PROGRAM

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Bachelor of Physics

MODULE HANDBOOK

Module name:	Mechanics
Module level, if applicable:	Program Sarjana
Code:	FSK6414
Sub-heading, if applicable:	-
Classes, if applicable:	-
Semester:	1 st
Module coordinator:	Dr. Restu Widiatmono
Lecturer(s):	Dr. Restu Widiatmono, Juli Astono, M.Si., Bayu Setiaji, M.Pd.
Language:	Bahasa Indonesia
Classification within the curriculum:	Compulsory Course
Teaching format / class hours per week during the semester:	3 sks teori + 1 sks praktek 150 minutes lectures, 100 minutes practicum, 240 minutes structured activities per week, 240 minutes individual study
Workload:	Total workload is 195 hours per semester which consists of 150 minutes lectures, 100 minutes practicum, 240 minutes structured activities, 240 minutes individual study per week for 16 weeks.
Credit points:	4 SKS (6.48 ECTS)
Prerequisites course(s):	-
Course Outcomes	After taking this course the students have ability to: CO1. Mahasiswa mampu menganalisis vektor, <i>Newtonian Mechanics: Rectilinear Motion of a Particle</i> , gerak benda dalam tiga dimensi, <i>Noninertial References Systems</i> .

	CO2. Mahasiswa mampu menganalisis gravitasi dan gaya sentral, sistem dinamika partikel, <i>Mechanics of Rigid: Planar Motion</i> . CO3. Mahasiswa mampu mempraktekkan, menganalisis, dan mensistesis praktikum secara virtual dan berbasis <i>project</i> .																							
Content:	Materi yang akan dibahas yaitu besaran dan satuan, vektor, Newtonian Mechanics: Rectilinear Motion of a Particle, gerak benda dalam tiga dimensi, Noninertial References Systems, gravitasi dan gaya sentral, sistem dinamika partikel, dan Mechanics of Rigid: Planar Motion disertai praktikum.																							
Study / exam achievements:	The final mark will be weight as follow: <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>No</th> <th>CO</th> <th>Assessment Object</th> <th>Assessment Technique</th> <th>Weight</th> </tr> </thead> <tbody> <tr> <td rowspan="5">1</td> <td rowspan="5">CO1, CO2 and CO3</td> <td>a. Individual Assignment</td> <td rowspan="5">Presentation / written test</td> <td>10%</td> </tr> <tr> <td>b. Group Assignment (project and study case)</td> <td>30%</td> </tr> <tr> <td>c. Quiz</td> <td>10%</td> </tr> <tr> <td>d. Mid</td> <td>20%</td> </tr> <tr> <td>e. Final Exam</td> <td>30%</td> </tr> <tr> <td colspan="4" style="text-align: right;">Total</td> <td>100%</td> </tr> </tbody> </table>	No	CO	Assessment Object	Assessment Technique	Weight	1	CO1, CO2 and CO3	a. Individual Assignment	Presentation / written test	10%	b. Group Assignment (project and study case)	30%	c. Quiz	10%	d. Mid	20%	e. Final Exam	30%	Total				100%
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		e. Final Exam		30%																				
Total				100%																				
Forms of media:	Board, LCD Projector, Laptop/Computer, Mechanics Practicum Kits																							
Literature:	<ol style="list-style-type: none"> <i>Analytical Mechanics</i>; 2005; 7th Edition; Grant R. Fowles and George L. Cassiday; Thomson Brooks/Cole; USA. <i>Introduction to Classical Mechanics: with Problems and Solutions</i>; 2008; 1st Edition; David Morin; Cambridge University Press. <i>Fundamentals of Physics Extended</i>; 2014; 10th Edition; David Halliday, Robert Resnick, Jearl Walker; Wiley. <i>University Physics with Modern Physics</i>; 2019; 15th Edition; Hugh D. Young and Roger A. Freedman; Pearson, USA. 																							

PLO and CO mapping

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8
CO1		✓			✓			
CO2		✓			✓			
CO3	✓	✓			✓			