FI345 Wave

Module name:	Wave						
Module level, if applicable:	Undergraduate						
Code:	FI345						
Sub-heading, if applicable:	heading, if applicable: -						
Classes, if applicable:	isses, if applicable: -						
Semester:	4 th						
Module coordinator:	Andhy Setiawan						
Lecturer(s):	Andhy Setiawan						
Language:	Bahasa Indonesia						
Classification within the curriculum:	Compulsory course						
Type of Teaching	Contact hours per week during the semester	Class Size					
 Lecture (conceptual, contextual and problem-solving approaches through expository, discussions and exercises). Structured activities (assignments based on conceptual, contextual and problem-solving approaches) Self-study (reading literature) 	3 hour 20 minutes	35					
Workload:	The total workload is 181 hours 20 minutes (6.4 ECTS) per semester, consisting of 40 hours/2400 minutes lectures (1.41 ECTS), 56 hours/3360 minutes structured activities (1.98 ECTS) and 56 hours/3360 minutes self-study (1.98 ECTS) per week for 12 weeks, 29 hour 11 minutes for four exams (1.03 ECTS)						
Credit points:	6.4 ECTS						
Pre-requisites course(s):	Basic Physics 1 (FI121), Basic Physics 2 (FI122), Mathematical Physics 1 (FI222)						
Course Learning Outcomes (CLO):	After taking this course the students have ability to:CLO1:Analyze oscillation and kinematics of waves.CLO2:Analyze mechanical waves.CLO3:Analyze electromagnetic waves.CLO4:Analyze interference, diffraction, and modulation of waves.						
Content:	Oscillation, Kinematics of Waves, Mechanical Waves, Electromagnetics Waves, Interference and Diffraction, Modulation of Waves.						

Study/exam achievements:	No	CLO	Assessment Object	Assessment Techniques	Weight		
			Subject specific competences				
	1	1 CLO1 - Assignment Written - Exam 1 Written te			10% 15%		
	2	CLO2	- Assignment - Exam 2	Written Written test	10% 15%		
	3	CLO3	- Assignment - Exam 3	Written Written test	10% 15%		
	4	CLO4	- Assignment - Exam 4	Written Written test	10% 15%		
	Total		100%				
	The final mark will be weight as follow:						
Forms of media:	Board, LCD Projector, Laptop/Computer, LMS, internet line.						
Literature:	 Daniel Fleisch and Laura Kinnaman, (2015), A Students Guide to Waves, Cambridge University Press, UK Towne, D. H. (2014). Wave Phenomena. Dover Publications. Elmore, W. C. (2012). Physics of Waves. Dover Publications. Hirose, A., & Karl Erik Lonngren. (2003). Introduction to Wave Phenomena. H. John Pain. (2005). The Physics of Vibrations and Waves. John Wiley & Sons Incorporated. 						

PLO and CLO mapping

	PLO1	PLO 2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	PLO11	PLO12
CLO1		\checkmark										
CLO2												
CLO3												
CLO4												