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:	Systems and Signals
Module level, if applicable:	Bachelor Program
Code:	FSK6346
Sub-heading, if applicable:	-
Classes, if applicable:	-
Semester:	5th
Module coordinator:	Agus Purwanto, M.Sc.
Lecturer(s):	Agus Purwanto, M.Sc., Fika Fauzi, M.Sc.
Language:	Bahasa Indonesia
Classification within the curriculum:	Elective Course
Teaching format / class hours per week during the semester:	150 minutes lectures and 180 minutes structured activities per week.
Workload:	Total workload is 136 hours per semester which consists of 150 minutes lectures, 180 minutes structured activities, and 180 minutes individual work to complete the project per week for 16 weeks.
Credit points:	3 SKS (4.86 ECTS)
Prerequisites course(s):	-
Course Outcomes	Students completing this course would be able to:

<table>
<tr><td></td><td>CO1. Understand basic concepts of linear time invariant continuous and discrete systems,
CO2. Understand concepts of signal transformations,
CO3. Understand concepts of convolution,
CO4. Understand concepts of frequency spectra
CO5. Understand basic concepts of signal filtering,
CO6. Design, assembly and realize one system and signal (as the end of semester Project)</td></tr>
<tr><td>Content:</td><td>This course discusses the basic concepts of linear time invariant continuous and discrete systems and signal transformations, convolution, frequency spectra, Laplace transforms, Z transforms, fast Fourier transforms, and signal filtering. As the end of semester Project, each student should design, assembly and realize one system and signal on his/her choice.</td></tr>
<tr><td>Study / exam achievements:</td><td>Assessment is carried out at each meeting by observing the progress of understandings and achievements of each student to realize the chosen system and signal. Each student should present his/her progress in every meeting of each week. At the end of semester each student should present the final report and to demonstrate the performance of the realize system and signal project.

The final grade will be weighted as follow:
<table>
<tr><th>No</th><th>CO</th><th>Assessment Object</th><th>Assessment Technique</th><th>Weight</th></tr>
<tr><td>1</td><td>CO1, CO2, CO3, CO4 and CO5</td><td>Individual Assignments</td><td>Presentation of Progress Reports</td><td>40%</td></tr>
<tr><td>2</td><td>CO6</td><td>The measurement</td><td>Presentation</td><td>60%</td></tr>
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			system realized	of Final Report and The Performance of Measurement System Built	
				Total	100%
Forms of media:	Board, LCD Projector, Laptop/Computer				
Literature:	1. Lathi, B.P., Green, R.A., 2018, **Linear Systems and Signals**, 3th Ed., Oxford University Press, New York.				

PLO and CO mapping

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8
CO1		✓						
CO2		✓						
CO3			✓					
CO4					✓			
CO5					✓			
CO6							✓	