



MINISTRY OF EDUCATION AND CULTURE
UNIVERSITAS NEGERI SURABAYA
FACULTY OF MATHEMATICS AND NATURAL SCIENCES
DEPARTMENT OF PHYSICS

Ketintang Campus, Jalan Ketintang, C3 Building, Surabaya 60231
 Website: <http://s1-fisika.fmipa.unesa.ac.id/>, email: s1-fisika@unesa.ac.id

Undergraduate Programme In Physics

Module Handbook

Module Name :	<i>Pemrosesan Sinyal Digital</i> Digital Signal Processing
Module level :	Bachelor degree/Undergraduate Programme
Course Code :	4520103169
Abbreviation, if applicable:	-
Courses included in the module, if applicable:	Not Applicable
Semester/Term	5/Third Year
Module coordinator(s)	Endah Rachmawati. S.T.,M.Si
Lecturer(s):	Dzulkiflih. S.Si.,M.T
Language:	<i>Bahasa Indonesia</i> (Indonesian Language)
Classification within the curriculum:	Compulsory / Elective
Teaching format/class hours per week during the semester:	2 contact hours of lectures (sks or credit unit*)
Workload :	Lecture: 2 x 50 minutes lectures, 2 x 60 minutes structured activity, 2 x 60 minutes individual activity, 14 weeks per semester. 79.33 total hours per semester ~ 3.18 ECTS **
Credit Point:	2 sks (3,18 ECTS)
Requirements:	Algorithm
Learning goals/competencies:	1. Examine the importance of digital signal processing in facing the challenges and opportunities of the 21st century. 2. Examine the principles of signal programming with the application of signals in digital form. 3. Examine various signal features in digital technology and applications in the world of telecommunications that are useful in life. 4. Skilled in identifying digital signal forms and signaling worlds in telecommunications to access and manage signals (filter, analyze, evaluate, and integrate) digital information signals effectively. 5. Skilled in using digital signal processing and communication tools effectively to create and build signal applications in the form of technological applications and advances in new knowledge. 6. Skilled in using digital technology and communication tools effectively to communicate with others and play an active role in global society.



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Content	This course is a course that develops an individual's interest, attitude, and ability to use digital technology and communication tools to access, manage, integrate, analyze, and evaluate information, build new knowledge, create, and communicate with others in order to participate effectively.										
Attribute Soft skill:	Scientific report, public speaking, and team work										
Study/exam achievements:	Students are considered to complete the course and pass if they obtain at least 40% of maximum final grade. The final grade (NA) is calculated based on the following ratio: <table border="1"> <thead> <tr> <th>Assessment Components</th><th>Percentage of contribution</th></tr> </thead> <tbody> <tr> <td>Participation</td><td>20%</td></tr> <tr> <td>Assignment</td><td>30%</td></tr> <tr> <td>Mid-semester test</td><td>20%</td></tr> <tr> <td>Final semester test</td><td>30%</td></tr> </tbody> </table>	Assessment Components	Percentage of contribution	Participation	20%	Assignment	30%	Mid-semester test	20%	Final semester test	30%
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Participation	20%										
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Final semester test	30%										
Learning Methods :	Student-centered approach, lecture and discussion, and presentations (structured activities)										
Form of Media:	Power Point slides, e-book file, and multimedia.										
Literature (primary references):	1. Alan V, Oppenheim, Alan S, Willsky, S, Hamid Wahab 2000, Sinyal & Sistem “, Erlangga. 2. Steven W, Smith, The Scientist and Engineer's Guide to Digital Signal Processing, Second Edition, California Technical Publishing San Diego, California. 3. J.G. Proakis and D.G. Manolakis, Digital Signal Processing : Principles, Algrithms and Application ; MacMilan Publishing, 1992, ISBN 0-02-396815-X. 4. Edmund lai , 2003. Prctical Digital Signal Processing For Enggineer and Technicians, Newnes, Elsevier. 5. Digital Signal Processing and Digital Filtering, White										
Notes:	*1 credit unit or <i>sks</i> in learning process = three periods consist of: (a) scheduled instruction in a classroom or laboratory (50 minutes); (b) structured activity (60 minutes); and (c) individual activity (60 minutes) according to the Regulation of Indonesia Ministry of Research, Technology, and Higher Education No. 44 Year 2015 jo. the Regulation of Indonesia Ministry of Research, Technology, and Higher Education No. 50 Year 2018. **1 credit unit or <i>sks</i> = 1.59 ECTS according to Rector Decree Of Universitas Negeri Surabaya No. 598/UN38/HK/AK/2019										