



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: <https://pendidikan-fisika.fmipa.unesa.ac.id/>, email: s1-pfis@unesa.ac.id

Undergraduate Programme of Physics Education

Module Handbook

Module Name :	<i>Elektronika Dasar I</i> Basic Electronics I
Module level :	Bachelor degree/Undergraduate Programme
Course Code :	8420302237
Abbreviation, if applicable:	-
Courses included in the module, if applicable:	Not Applicable
Semester/Term	3/Second Year
Module coordinator(s)	Drs. Imam Sucahyo, M.Si.
Lecturer(s):	Drs. Imam Sucahyo, M.Si. Endah Rahmawati, S.T., M.Si. Abd. Kholiq, S.Pd. M.T. Dzulkiflih, S.Si., M.T. Meta Yantidewi, M.Si.
Language:	<i>Bahasa Indonesia</i>
Classification within the curriculum:	Compulsory/ Elective
Teaching format/class hours per week during the semester:	3 contact hours of lectures (Indonesia credit semester or sks*)
Workload :	3 x 50 minutes lectures, 3 x 60 minutes structured activity, 3 x 60 minutes individual activity, 14 weeks per semester, 135 total hours per semester ~ 4.77 ECTS**
Credit Point:	3 sks (4.77 ECTS)
Requirements:	Basic Physics II
Learning goals/competencies:	<ol style="list-style-type: none">1. Having ability to think critically and to use the proper concepts for analyzing quantitatively and qualitatively in solving problems of direct current2. Having ability to use electrical measuring instruments and to analyze the results of measurement3. Having ability to think critically and to use the proper concepts for analyzing quantitatively and qualitatively in solving problems of alternating current4. Having ability to think critically and to use the proper concepts for analyzing qualitatively work principles of semiconductor and its applications
Content	Basic electronics 1 course contain two main materials, the first material is basics of electronics includes: direct currents, alternating currents, passive components, and basic principles of measuring instruments and electrical measurements. The second material is related with active components includes: work



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	principal and application of semiconductors, p-n junctions, and bipolar transistors (BJT).										
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" style="width: 100%;"> <thead> <tr> <th style="text-align: left;">Assessment Components</th> <th style="text-align: left;">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%
	Assessment Components	Percentage of contribution									
	Participation	20%									
	Assignment	30%									
Mid-semester test	20%										
Final semester test	30%										
Learning Methods :	Student-centered approach, lecture and discussion, and presentations (structured activities)										
Form of Media:	<i>Power Point</i> slides, e-book file, and multimedia.										
Literature (primary references):	<ol style="list-style-type: none"> 1. Sutrisno. 1978. Elektronika 1. Teori dan Penerapannya. Penerbit ITB Bandung. 2. Tim Elektronika Dasar 1. 2010. Panduan Praktikum Elektronika Dasar 1. 3. Floyd, T. L. 2012. Electronics Devices. Prentice Hall. 4. Tooley, M. 2006. Electronics Circuit: Fundamentals and Applications. Third Edition. Elsevier Ltd. 5. Boylestad, R., and Nashelsky, L. Electronics Devices and Circuits: Theory. Seventh Edition. Prentice Hall. 										
Notes:	*1 sks 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 sks = 1,59 ECTS according to Rector Decree Of Universitas Negeri Surabaya No. 598/Un38/Hk/Ak/2019										