MINISTRY OF EDUCATION AND CULTURE
UNIVERSITAS NEGERI SURABAYA
FACULTY OF MATHEMATICS AND NATURAL SCIENCES
DEPARTMENT OF NATURAL SCIENCES
Ketintang Campus, Jl. Ketintang C12 Building, Surabaya 60231
Phone (031)18296427
Website http://pendidikan-sains.fmipa.unesa.ac.id

Module Name:	*Dasar-Dasar Elektronika* (Introductory of Electronics)
Module Level:	Bachelor degree/Undergraduate Programme
Course Code:	8420103170
Abbreviation, if applicable:	
Courses included in the module, if applicable:	Not applicable
Semester/term	Elective
Module coordinator(s):	Wahono Widodo
Lecturer(s):	Wahono Widodo Laily Rosdiana An Nuril Maulida Fauziah
Language:	Bahasa Indonesia (Indonesian language)
Classification within the curriculum:	Elective
Teaching format/class hours per week during the semester:	3 contact hours of lecturer (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, 119 total hours per semester ~ 3.97 ECTS**
Credit point:	3 *sks* (3.97 ECTS)
Requirements:	- General Physics - Electicity and Magnetism
Learning goals/competencies:	**General Competencies (Knowledge):** Students can explain the theory of semi-conductors, extrinsic p and n types and p and n connections, diodes, transistors as resistance and switching, power amplifiers, op-amps, oscillators, digital electronics, and logic circuits. **Specific Competence:** 1. Utilizing science and technology in the theoretical fields of semi-conductor, p and n type extrinsics and p and n connections, diodes, transistors, and able to adapt to the situation at hand in problem solving. 2. Mastering theoretical concepts in the theoretical fields of semi-conductor in an in-depth manner, extrinsic types p and n and p and n connections, diodes, transistors, and formulate them in procedural problem solving. 3. Make decisions based on analysis of information and data and provide guidance in choosing alternative solutions. 4. Responsible for informing the results of analysis of information and data both orally and in writing.
Content:	This course discusses the theory of the semi-conductor of the electrical, extrinsic types p and n and the connection of

Management System ISO 9001:2015
TÜVRheinland CERTIFIED
www.tuv.com ID 9108650021

<table>
<tr><td></td><td>p and n, diodes, transistors as resistances and switches, power amplifiers, op-amps, oscillators, digital electronics, and logic circuits. Lectures are carried out with modeling, presentations, discussions, and practicum.</td></tr>
<tr><td>Attribute Soft skill:</td><td>Discipline, collaboration, responsibility, and argumentation in the natural classroom setting</td></tr>
<tr><td>Study/exam achievements:</td><td>University students are considered to be competent and pass if at least get 40% of the maximum final grade. The final grade (NA) is calculated based on following weight:
<table>
<tr><th>Assessment Components</th><th>Percentage Contribution</th></tr>
<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>
<tr><td>Total</td><td>100%</td></tr>
</table></td></tr>
<tr><td>Learning Methods</td><td>Student-centered approach, deductive learning, lecturing, discussion, and presentation (structured activities), and flip learning</td></tr>
<tr><td>Form of Media:</td><td>LCD, PowerPoint, hand out, simulation, e-learning Vinesa, and whiteboard</td></tr>
<tr><td>Literature:</td><td>1. Agung Nugroho, 2010. Mekatronika. Yogyakarta: Graha Ilmu
2. Brophy. 1992. Basic Elektronic for Scientist and Engineers. Jhon Wiley
3. Dwi Sunar, 2008. Belajar Sistem Cepat Elektronika. Yogyakarta: Absolut
4. Thomas Sri W, 2002. Elektronika Dasar. Salemba Teknik</td></tr>
<tr><td rowspan="2">Notes:</td><td>*1 sks in learning process = three contact hours that consist of: (a) scheduled instruction in 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.</td></tr>
<tr><td>**1 sks = 1,59 ECTS</td></tr>
</table>