Module Handbook-Basic Electronics 2

Module Name	Basic Electronics 2
Module Level	Sarjana (S-1) / Bachelor
Abbreviation, if applicable:	
Sub-heading, if applicable:	-
Courses included in the module, if applicable:	-
Semester/term:	4/the second year
Module coordinator (s)	Drs. Imam Sucahyo, M.Si.
Lecturer(s)	Drs. Imam Sucahyo, M.Si. Abd. Kholiq, S.Pd., M.T. Endah Rahmawati, S.T., M.Si. Dzulkiflih, S.Si., M.T. Meta Yantidewi, S.Si., M.Si.
Language:	Bahasa Indonesia
Classification within the curriculum	Compulsory course
Teaching format / class hours per week during semester:	Class meeting is conducted every week and consists of 2 hours meeting for theory (1 hour meeting for theory = 50 minutes/hour)
Workload:	2 hours meting for theory, 2 hours of structured task, 2 hours of individual study, for 15 weeks, total 30 hours of meeting/semester
Credit Points:	2
Requirements:	Basic Physics 1 & 2
Learning goals/competencies:	1 . Students are able to explain the working principles of bipolar junction transistor by giving some relevant examples. 2 . Students are able to explain the working principles of junction field effect transistor by giving some relevant examples. 3 . Students are able to explain the working principles of operational amplifier by giving some relevant examples. 4 . Students are able to explain basic principles of digital electronics. 5 . Students are able to apply the basic concepts of basic electronics 2 in accordance to to the development of science and technology and are relevant to the demand of competence in national education standards.
Content:	Basic Electronics 2 includes working principles and application of bipolar junction transistor (BJT), junction field effect transistor (JFET), operational amplifier characteristics and

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<tr><td></td><td>circuits, and basic principles of digital electronics.</td></tr>
<tr><td>Attribut soft skill</td><td>Good active communication and ability to analyze electric circuits using mathematic equations.</td></tr>
<tr><td>Study/exam achievements:</td><td>Students are considered to be competent and pass if at least get a minimum score of 68 (midterm exams (USS) and final exams (US)), structured tasks (T), and participation activities (P)).
Final grade (NA) is calculated using:

$NA = \frac{(2xP)+(3xT)+(2xUSS)+(3xUS)}{10}$
Conversion of grade scale from 0-100 to 0-4 and the letters are set as follows.

<table>
<tr><th>Letters</th><th>Numbers</th><th>Interval</th></tr>
<tr><td>A</td><td>4,00</td><td>85 ≤ A < 100</td></tr>
<tr><td>A-</td><td>3,75</td><td>80 ≤ A- < 85</td></tr>
<tr><td>B+</td><td>3,50</td><td>75 ≤ B+ < 80</td></tr>
<tr><td>B</td><td>3,00</td><td>70 ≤ B < 75</td></tr>
<tr><td>B-</td><td>2,75</td><td>65 ≤ B- < 70</td></tr>
<tr><td>C+</td><td>2,50</td><td>60 ≤ C+ < 65</td></tr>
<tr><td>C</td><td>2,00</td><td>55 ≤ C < 60</td></tr>
<tr><td>D</td><td>1,00</td><td>40 ≤ D < 55</td></tr>
<tr><td>E</td><td>0,00</td><td>0 ≤ E < 40</td></tr>
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<tr><td>Type of media</td><td>PPT slides and textbooks about working principle and application of bipolar junction transistor (BJT), junction field effect transistor (JFET), operational amplifier characteristics and circuits, and basic study of digital electronics.</td></tr>
<tr><td>References</td><td>

1. Sutrisno. 1978. Elektronika 2. Teori dan Penerapannya. Penerbit ITB Bandung.
2. Rahmawati, E., Sucahyo, I., dan Kholiq, A. 2017. Hand out Elektronika Dasar 2.
3. Tooley, M. 2006. *Electronics Circuit: Fundamentals and Applications*. Third Edition. Elesevier Ltd.
4. Boylestad, R., and Nashelsky, L. Electronics Devices and Circuits: Theory. Seventh Edition. Prentice Hall.
5. Floyd, T. L. 2012. *Electronics Devices*. Prentice Hall.

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<tr><td>Notes</td><td>-</td></tr>
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