

## Modul Description

<b>Module name</b>	Course Module
<b>Module level, if applicable</b>	Bachelor of Electronics Engineering
<b>Code, if applicable</b>	5215-1732
<b>Subtitle, if applicable</b>	-
<b>Course, if applicable</b>	Electronic Materials Science
<b>Semester(s) in which the module istaught</b>	II
<b>Person responsible for the module</b>	Lecturer of course
<b>Lecturer</b>	Dr.Wisnu Djatmiko,MT. ; Vina Oktaviani, S.Pd., M.T.
<b>Language</b>	Indonesian Language [Bahasa Indonesia]
<b>Relation to Curriculum</b>	This course is a compulsory course and offered in the 2 <sup>st</sup> semester.
<b>Type of teaching, contact hours</b>	<p>Teaching methods used in this course are:</p> <ul style="list-style-type: none"> <li>- Lecture (i.e., group investigation, small group discussion, casestudy, and video based learning)</li> <li>- Structured assignments (i.e., essays and case study)</li> <li>- Practice (i.e., computer simulation and case study in laboratory)</li> </ul> <p>The class size for lecture is 30 students. Contact hours for lecture is 27 hours, assignments is 32 hours</p>
<b>Workload</b>	<p>For this course, students are required to meet a minimum of 91 hours in one semester, which consist of:</p> <ul style="list-style-type: none"> <li>- 27 hours for lecture,</li> <li>- 32 hours for structured assignments,</li> <li>- 32 hours for private study,</li> </ul>
<b>Credit points</b>	2 credit points (equivalent with 2.88 ECTS)
<b>Requirements according to the examination regulations</b>	Students must have attended all classes and submitted all class assignments that are scheduled before the final tests.
<b>Recommended prerequisites</b>	Students must have attended all classes and submitted all class assignments that are scheduled before the final tests.

<b>PLO-CLO-ILO</b>	<p>After completing the course and given with this case:</p> <p><b>Course Learning Objectives (CLO1):</b> Mahasiswa mampu menganalisis gambaran kualitatif mengenai sifat-sifat bahan yang penting dalam teknik elektro (K1, S2, S3, C2) (70)</p> <p><b>Course Learning Objectives (CLO2):</b> Mahasiswa mampu memahami jenis-jenis unsur yang ada di pasaran (K1) (10)</p> <p><b>Course Learning Objectives (CLO3):</b> Mahasiswa mampu mengembangkan literatur dari produsen mengenai unsur-unsur yang baru (K2, S1, S3, C2) (20)</p> <p><b>Program Learning Outcomes (PLO3):</b> Menerapkan kompetensi teknik elektronika untuk memecahkan masalah keteknikan</p> <p><b>Knowledge (K1):</b> Menerapkan matematika, ilmu dasar dan teknik dasar untuk merancang dan menganalisis untuk memecahkan masalah di bidang teknik elektronika.</p> <p><b>Engineering and Education Skill (S3):</b> Mampu mencari alternatif solusi dan pemecahan masalah di bidang teknik elektronika.</p> <p><b>Competence (C1):</b> Menerapkan teknologi baru di bidang rekayasa dengan mempertimbangkan standar teknis, aspek kinerja, keandalan, penerapan, dan keberlanjutan</p>
<b>Content</b>	<p><b>Students will learn about:</b> Mahasiswa memiliki kemampuan dan keahlian dalam memberikan gambaran kualitatif mengenai sifat-sifat bahan yang penting dalam teknik elektro sehingga dapat memilih antara jenis-jenis unsur yang ada di pasaran dan mengikuti literatur dari produsen mengenai unsur-unsur yang baru. Mengenai kriteria tentang pemilihan bahan listrik, kemagnetan, struktur atom, penghantar, kapasitor, induktor, semikonduktor, superkonduktor, solar sel.</p>
<b>Forms of Assessment</b>	<p>Assessment is carried out based on written examinations, assessment/evaluation of the learning process and performance with the following components: Tugas 1: (15%); Tugas 2: (15%); UTS: (30%); UAS: (40%)</p>

<b>Study and examination requirements and forms of examination</b>	<b>Study and examination requirements:</b> <ul style="list-style-type: none"> <li>- Students must attend 15 minutes before the class starts.</li> <li>- Students must switch off all electronic devices.</li> <li>- Students must inform the lecturer if they will not attend the class due to sickness, etc.</li> <li>- Students must submit all class assignments before the deadline.</li> <li>- Students must attend the exam to get final grade.</li> </ul> <b>Form of examination:</b> Written exam: Essay
<b>Media employed</b>	Direct Whiteboard and Power Point Presentation.
<b>Reading list</b>	<ol style="list-style-type: none"> <li>1. Modul pembelajaran, Ilmu Bahan Listrik, Depdiknas.</li> <li>2. Ilmu bahan listrik, darsono, bsc,suhadi, Indonesia</li> <li>3. Understanding Electronics Components, Filipovic D. Miomir, mikroelektronika, 2003</li> </ol>