

Module Description

Module name	Course Module
Module level, if applicable	Bachelor of Electronics Engineering
Code, if applicable	5215-179-2
Subtitle, if applicable	-
Course, if applicable	Physics III
Semester(s) in which the module istaught	III
Person responsible for the module	Lecturer of Course
Lecturer	Dr. Arum Setyowati, S.Pd.,MT.
Language	Indonesian Language [Bahasa Indonesia]
Relation to Curriculum	This course is a compulsory course and offered in the 2 th semester.
Type of teaching, contact hours	<p>Teaching methods used in this course are:</p> <ul style="list-style-type: none"> - Lecture (i.e., group investigation, small group discussion, casestudy, and video based learning) - Structured assignments (i.e., essays and case study) - Practice (i.e., computer simulation and case study in laboratory) <p>The class size for lecture is 30 students. Contact hours for lecture is 27 hours, assignments is 32 hours</p>
Workload	<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"> - 27 hours for lecture, - 32 hours for structured assignments, - 32 hours for private study,
Credit points	2 credit points (equivalent with 2.88 ECTS)
Requirements according to the examination regulations	Students must have attended all classes and submitted all class assignments that are scheduled before the final tests.
Recommended prerequisites	Students must have attended all classes and submitted all class assignments that are scheduled before the final tests.

<p>PLO-ILO-CLO</p>	<p>After completing the course and given with this case:</p> <p>Course Learning Objectives (CLO1): Mahasiswa mampu memahami secara fisis fenomena-fenomena yang terjadi pada bidang teknik elektro dalam kaitannya dengan teknologi kini dan masa depan (K1) (30)</p> <p>Course Learning Objectives (CLO2): Mahasiswa mampu menerapkan secara fisis fenomena-fenomena yang terjadi pada bidang teknik elektro dalam kaitannya dengan teknologi kini dan masa depan (K2, S1, S3, C1) (70)</p> <p>Program Learning Outcomes (PLO3): Menerapkan kompetensi teknik elektronika untuk memecahkan masalah keteknikan</p> <p>Knowledge (K1): Menerapkan matematika, ilmu dasar dan teknik dasar untuk merancang dan menganalisis untuk memecahkan masalah di bidang teknik elektronika.</p> <p>Engineering and Education Skill (S3): Mampu mencari alternatif solusi dan pemecahan masalah di bidang teknik elektronika.</p> <p>Competence (C1): To apply new technology in the field of engineering by considering technical standards, aspects of performance, reliability, applicable and sustainability.</p>
<p>Content</p>	<p>Students will learn about: Tujuan mata kuliah ini untuk memahami dan menganalisis secara fisis fenomena-fenomena yang terjadi pada bidang teknik elektro dalam kaitannya dengan teknologi kini dan masa depan. Mata kuliah ini mengkaji materi perkuliahan yang mencakup tentang optik, perambatan gelombang cahaya, pemantulan dan pembiasan, interferensi dan difraksi, pengertian fisika klasik dan modern, kuantisasi radiasi elektromagnetik, radiasi benda hitam, hukum Planck, Raleigh-Jeans, Wien dan Stefan, interaksi foton & materi: efek fotolistrik, hamburan Compton, penyerapan foton dan produksi pasangan, iluminasi, dualisme partikel & gelombang, hipotesa de Broglie, model atom hidrogen, sinar x serta prinsip terjadinya sinar laser.</p>
<p>Forms of Assessment</p>	<p>Assessment is carried out based on written examinations, assessment/evaluation of the learning process and performance with the following components: Structured tasks: 30% ; Mid Test : 35% Final Test: 35%</p>

Study and examination requirements and forms of examination	Study and examination requirements: <ul style="list-style-type: none"> - Students must attend 15 minutes before the class starts. - Students must switch off all electronic devices. - Students must inform the lecturer if they will not attend the class due to sickness, etc. - Students must submit all class assignments before the deadline. - Students must attend the exam to get final grade. Form of examination: Written exam: Essay
Media employed	Direct Whiteboard and Power Point Presentation.
Reading list	