Module Description

Module name	Course Module
Module level, if applicable	Bachelor of Electrical Engineering
Code, if applicable	5115-080-2
Subtittle, if applicable	-
Course, if applicable	Physics 3 (Fisika 3)
Semester(s) in which the module istaught	3rd (odd semester)
Person responsible for the module	Lecturer of Course
Lecturer	Nur Hanifah Yuninda, S.T., M.T.
Language	Indonesian
Relation to Curriculum	This course is a compulsory course and given in 3rd semester.
Type of teaching, contact hours	Teaching methods used in this course are: - Lecture method plus discussion and assignments: The lecturer presented the theory in fourteen meetings which was divided into two parts namely before and after the mid-semester examination. The discussion opened with a question from the lecturer in the form of a case study covering the material from the previous meeting. The case study is carried out by a student who is a representative in a group of 4 students so that students learn more actively in small groups. Assignments in the form of quizzes. Quizzes are conducted twice, namely a week before the midterm exam, and a week before the end of the semester exam. - Project Method: make group papers/reports as the final assignment for the course, namely cases of the application of Optics and Laser - Recitation Method: create lesson resumes in their own words The class size for lecture is 30 students. Contact hours for lecture is 27 hours, assignments (structured tasks) is 32 hours and learn individually is 32 hours
Workload	For this course, students are required to meet a minimum of 87 hours in one semester, which consist of: - 23 hours for lecture - 32 hours for structured assignments - 32 hours for learn individually

Credit points	2 credit points (equivalent with 3 ECTS)
Requirements according to the examination regulations	Students must attend at least fourteen lecture meetings and submit all scheduled assignments before the final exam.
Recommended prerequisites	The Physics 3 course is a continuation of the Physics 2 course, so that students have completed the Physics 2 course and obtained a minimum grade of C which is a prerequisite to be able to take the Physics 3 course
Module objectives/intended learning outcomes	**Course Learning Outcomes :** 1. Explaining the working principle of laser. (25) 2. Explaining the working principle, types and applications of optical fiber (25) 3. Analyzing the phenomenon of light waves as electromagnetic waves (50)
Content	**Students will learn about:** understand and physically analyze the phenomena that occur in the field of electrical engineering in relation to current and future technology. This course examines lecture material covering optics: light wave propagation, reflection and refraction, interference and diffraction, photoelectric effect, particle & wave dualism; understanding of classical and modern physics; the phenomenon of electromagnetic waves; quantitation of electromagnetic radiation, black body radiation, Planck's law, Raleigh-Jeans, Wien and Stefan; laser working principle: photon & matter interaction, Compton scattering, photon absorption, laser types and classification, laser benefits, absorption rate, emission rate; atomic model; and the principle of fiber optics.
Forms of Assessment	Assessment components and weights include: attendance with a weight of 10%, General skills from class discussion assessments with a weight of 30%, Special skills from final project assignments and mid-term and end-of-semester examinations with a weight of 30% and Knowledge from quiz assessments 30%
Study and examination requirements and forms of examination	**Study and examination requirements:** Attendance: Students who are not present at the online meeting or face-to-face, whether with notification or not, more than 10% of the total meeting are not allowed to take the end-of-semester exam and are considered not to have passed (getting an E grade) Lateness: - Late joining online meeting more than 20 minutes is not allowed to attend lectures (online meeting) - Late submission of assignments for 1-7 days from the set deadline will result in a 5 point deduction from a total of 100 points. - Late submission of assignments for more than 7 days will result in a deduction of 10 points from a total of 100 points

	Academic Cheating : Students are required to comply with standard rules and policies regarding academic honesty and avoid plagiarism and cheating in exams. Acts of plagiarism and cheating in the exam will be given an E score on the exam Ethics in class: - Students are not allowed to wear tight/transparent clothes - Students do not use communication tools for purposes that are not related to learning. - Students do not make noise that disturbs the order of learning. **Form of examination:** a. Test (essay). b. Non-test (portofolio, observation, and presentation)
Media employed	Direct Whiteboard and Power Point Presentation
Reading list	1. Nur Hanifah, MT. RPS Fisika III. Jakarta. 2018 2. Halliday Resnick, Fisika Jilid 1-jilid 2, Erlangga 3. DC Giancoli, Fisika Jilid 1-jilid 2, Erlangga 4. FJ Buche, Introduction of Physiscs for Scientist & Engineers, McGraw Hill 5. Halliday, Fundamental of Physics