

Module Descriptions

Module designation	8420302144
Semester(s) in which the module is taught	4
Person responsible for the module	Setyo Admoko, S.Pd., M.Pd.
Language	Indonesian
Relation to curriculum	Compulsory /elective/ specialisation
Teaching methods	Lecture, Lesson, Discussion, case study lab works, project, seminar
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 90.6 work hours per-semester Contact hours (please specify whether lecture, exercise, laboratory session, etc.): 64 work hours per-semester Private study including examination preparation, specified in hours: 26.6 work hours per-semester
Credit points	3.18 ECTS
Required and recommended prerequisites for joining the module	-
Module objectives/intended learning outcomes	Key question: what learning outcomes should students attain in the module? E.g. in terms of: - Attitude: - - Competences - - Knowledge: a) Masters and demonstrates the principles of classical and modern physics theory. b) Formulates physical symptoms and problems based on the results of observations and experiments, and model them using mathematics and computing for appropriate decision making in both familiar and new problems. - Skills: a) Develops logical, critical, systematic and creative thinking in carrying out specific work in the field of expertise and in accordance with the work competency standards in the relevant field.

Content	<i>In this course, various optical systems are discussed from both physical and geometrical perspectives. Physical optics covers topics such as Huygens' principle, interference (wavefront-splitting and amplitude-splitting interferometers), diffraction (Fresnel, Fraunhofer, single-slit, and diffraction grating), and polarization. Geometrical optics discusses Fermat's principle, reflection and refraction, optical instruments, and the propagation of light within and between media.</i>
Examination forms	<i>Project</i>
Study and examination requirements	Requirements for successfully passing the module: <i>a) Minimum attendance of 75%</i> <i>b) Minimum score of 55 out of 100</i>
Reading list	<i>a) Hecht, E., 2012. Optics. Pearson Education. India.</i> <i>b) Pedrotti, F.L., Pedrotti, L.M. and Pedrotti, L.S., 2017. Introduction to optics. Cambridge University Press.</i>