MODULE HANDBOOK

Course:	**Basic Physics II**
Module Level:	Undergraduate
Code:	FID 104
Sub-heading, if applicable:	-
Courses included in the module, if applicable:	-
Semester/Term:	2nd /First year
Module Coordinator (s):	Drs. R. Arif Wibowo, M.Si.
Lecturer(s):	Drs. R. Arif Wibowo, M.Si.; Prof. Dr. Suhariningsih; Prof. Dr. Retna Apsari, M.Si.; Dr. Moh. Yasin, M.Si.; Dr. Suryani D Astuti, M.Si.; A. H. Zaidan, S.Si. M.Si. Ph.D.; Drs. Pujiyanto, M.S.; Drs. Siswanto, M.Si.; Drs. Bambang Suprijanto, M.Si.; Supadi. S.Si., M.Si.; Jan Ady. S.Si., M.Si.; Samian, S.Si., M.Si. and Dyah H., S.Si., M.Si.
Language:	Bahasa Indonesia
Classification within the Curriculum:	Compulsory Course / ~~Elective Course~~
Teaching format /class hours per week during the semester:	2 hours of lecturers (50 minutes per hour) and 1 hour (60 minutes) of tutorial
Workload:	2 hours of lecturers, 1 hour (60 minutes) of tutorial dan structural activities, 1 hour (60 minutes) of individual study, 13 weeks per semester, and total of 78 hours per semester ~ 2.6 ECTS*
Credit Points:	2
Requirement(s):	-
Learning Goals/ Competencies:	**General Competence (Knowledge):** To understand the concepts and principles in Electromagnetism and Introduction of Atomic and Nuclear Physics. **Specific Competence:** 1. To compute the Coulomb force and electric field due to discrete charges. 2. To compute potential energy and electric potential due to discrete charges and apply it on capasitors. 3. To have an ability to solve problems of DC electric current and circuits. 4. To have an ability to formulate, solve and analyze problems of magnetic fields generated by a current-carrying wire 5. To apply the Faraday and Lenz's law of magnetic induction to generate electromotive force (emf). 6. To understand and have an ability to solve problems in Electromagnetism and optics. 7. To understand and have an ability to solve problems in Atomic and Nuclear Physics.
Contents:	Electrostatic (electric field, Coulomb Law, eletric dipole), Electric potential energy, Electrical potential, capasitor, electric current, Magnetostatic, Electromotive Force, Magnetism in Matter, Alternating Current, Electromagnetic wave, Optics, Introduction of Atomic and Nuclear Physics

Soft Skill Attribute:	Effort and ethic
Study/Exam Achievements:	Students are considered competent and eligible to pass the course upon obtaining at least 40% of maximum mark of the exams and homeworks. Type of exam is multiple choice. Final score is calculated as follow: 15% Homework + 15% (Quiz I & 2) + 35 % midterm exam + 35% final exam Final grade is difined as follow: A : 75 - 100 AB : 70 - 74.99 B : 65 - 69.99 BC : 60 - 64.99 C : 55 - 59.99 D : 40 - 54.99 E : 0 - 39.99
Forms of Media:	Powerpoint slides, LCD projectors and whiteboards
Learning Methods:	Lecture and discussion
Literature(s):	1. Tipler, P.A., Mosca G. *Physics for scientists and engineers* (5ed., extended version) 2. Halliday, D., Resnick, R., and Walker, J., Principle of Physics, 9th edition (extended), John Wiley & Sons, 2011 3. *Jewet, J.W. and Serway, R.A., 2008, Physics For Scientists and Engineers with Modern Physics,* Vol. 2., 7th Edition*,* Thomson & Brooks/Cole, Australia. 4. Alonso and Finn*, 1980, Fundamental University Physics, Vol. 2,* Addison-Wesley Publishing Company
Notes :	The course is calculus based. *Total ECTS = {(total hours workload × 50 min) / 25 hours Each ECTS is equals with 25 hours.