**Bachelor of Education in Science           MODULE HANDBOOK**

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| Module designation | Basic Physics II |
| Module level, if applicable | Undergraduate |
| Code, if applicable | PIPAUM6202 |
| Subtitle, if applicable | *-* |
| Courses, if applicable | *-* |
| Semester(s) in which the module is taught | Even |
| Person responsible for the module | Erni Yulianti, S.Pd., M.Pd |
| Lecturer | Erni Yulianti, S.Pd., M.Pd  Yessi Affriyenni, S.Pd., M.Sc |
| Language | Bahasa Indonesia |
| Relation to curriculum | Undergraduate degree program, compulsory, 2nd semester. |
| Type of teaching, contact hours | Undergraduate degree program: cooperative learning, presentation, laboratory work, 3 x 50 = 150 minutes and 1 x 170 minutes |
| Workload | 1. Lectures: 3 x 50 = 150 minutes (2.5 hours) per week. 2. Exercises and Assignments: 3 x 60 = 180 minutes (3 hours) per week. 3. Laboratory work: 1 x 170 minutes (2.83 hours) per week. 4. Private study: 3 x 60 = 180 minutes (3 hours) per week. |
| Credit points | 4 credit points (~6.35 ECTS-eq) |
| Requirements according to the examination regulations | A student must have attended at least 80% of the lectures to sit in the exams. |
| Recommended prerequisites | - |
| Module objectives/intended learning outcomes | After completing this module, a student is expected to: LO2: Demonstrate knowledge of basic physics and earth science LO11: Demonstrate logical thinking and good scientific manner in teamwork and communicate their results in writing and orally |
| Content | This course covers the following four main topics:  1) Heat; temperature, heat, heat transfer, 2) vibration and waves; vibration, wave, sound waves, traveling waves, stationary waves, 3) optical; the nature of light; optical geometry (law of reflection and refraction), 4) Electricity and magnetism; electric field, electric potential, electric current and resistance, direct current (DC), magnetic field |
| Study and examination requirements and forms of examination | Assignment, Quiz, Midterm examination, Final examination, Performance |
| Media employed | LCD, power point, white board, video and moodle (Sipejar) |
| Reading list | 1. Halliday, D., Resnick, R. & Walker, J. 2010. *Fundamentals of Physics Extended* (9th edition). New York: Wiley. 2. Knight, D Randall. 2016. *Physics for Scientists and Engineers: A Strategy Approach*. California: Pearson. 3. Serway, R. A. & Jewett, J. W. 2014. *Physics for Scientists and Engineers* (9th edition). New York: Thomson Brooks. 4. Young, H. D., Freedman, R. A., Sears, & Zemansky’s. 2012. *University Physics with Modern Physics* (13th edition). San Fransisco: Pearson Education. |