



UNIVERSITY OF LAMPUNG

FACULTY OF TEACHER TRAINING AND EDUCATION

Department of Physics Education

Jl. Prof. Dr. Soemantri Brodjonegoro No. 1 Bandar Lampung 35145

MODULE HANDBOOK

Bachelor in Physics education

Module name	History of Physics Development
Module level	Undergraduate
Code	KFI620106
Courses	History of Physics Development
Description	This course provides knowledge and insight into the development of physics as a discipline. After completing this lecture, students are expected to be able to understand the development of physics as a discipline and the problems and thoughts behind it. The scope of the lecture includes: Physics in Ancient Babylon and Egypt, Ancient Greek Physics, the Islamic Period, and the development of Classical Physics and Modern Physics. Development of Classical Physics and Modern Physics. This course also reviews literature on topics concerning an aspect of physics or the contribution of a nation to the development of physics. Physics or the contribution of a nation to the development of physics, which includes the contribution of China, India, Japan, and Indonesia. Development of Mechanics in Each Period, Development of Heat Science in Each Period, in this lecture also discussed development of branches of physics in various periods.
Semester	Odd
Lecturer	Dr. Chandra Ertikanto, M.Pd Dr. Viyanti, M.Pd.
Contact Person	+62 852-7969-5511
Language	Indonesian
Relation to curriculum	Undergraduate degree program, Mandatory, 2nd semester
Type of teaching, contact hours	Presentations, discussions, and Q&As.
Workload	Contact hours: 14 weeks x 100 minutes Structured learning: 14 weeks x 120 minutes Independent study: 14 weeks x 120 minutes

Credit points	2 (2-0) CP or 3.2 (ECTS) ((14 weeks x 100 minutes) + (14 weeks x 120 minutes) + (14 weeks x 120 minutes) : 60 minutes/hour = 80 hours : 25 hours study/ECTS = 3.2 (ECTS)
Requirements according to the Examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Learning outcomes (course outcomes) and their corresponding PLOs	After completing this module, a student is expected to: 1. KNO-1 : Demonstrate knowledge of classical physics (mechanics, electrodynamics, thermodynamics, oscillations, waves and optics) and are familiar with the fundamentals of quantum, atomic and molecular, nuclear, elementary particle and solid state physics.
Competencies/ Course Learning Outcomes	1. Students are able to analyze the relationship between force and vibration in everyday life. 2. Students are able to understand the concepts of physics during the Babylonian period. 3. Students are able to understand the concepts of physics in ancient Egypt. 4. Students are able to understand the concept of physics in ancient Greece. 5. Students are able to understand the concept of physics during the Islamic period. 6. Students are able to understand the development of classical physics. 7. Students are able to understand the development of modern physics. 8. Students are able to understand China's contribution to the development of physics. 9. Students are able to understand India's contribution to the development of physics. 10. Students are able to understand Japan's contribution to the development of physics. 11. Students are able to understand Indonesia's contribution to the development of physics. 12. Students are able to understand the development of mechanics in each period. 13. Students are able to understand the development of heat science in each period.

Contents	1. The concept of physics in the babylonian period. 2. Introduction to the concept of physics in ancient Egypt. 3. Ancient Greek physics 4. Physics in Islamic Times 5. The development of classical physics 6. The development of modern physics 7. China's contribution to the development of physics 8. India's contribution to the development of physics 9. Japan's contribution to the development of physics 10. Indonesia's contribution to the development of physics 11. development of mechanics in each period 12. The development of heat science in each period
Study and examination requirements and forms of examination	participants are evaluated based on ; 1. Participation Activities (10%) 2. Quizzes (20%) 3. Assignment (30%) 4. Final Semester Exam (20%) 5. Midterm exams (20%)
Media employed	LCD, whiteboard, and online resources
Assessments and Evaluation	Written tests, assignments and quizzes.
Reading list	1. Cajori F. 1968. A History of Physics. New York: Duver Publication Inc. 2. http://hyperphysics.phy-astr.edu 3. http://www.aip.org/history/syllabi/index.html 4. http://www.astr.ucla.edu/wright 5. http://www.iptek.net.id 6. http://www.wikipedia-encyclopedia 7. Jacoubs, BourL. 1960. History of Physics. 8. Physics 5th Ed. New York: McGraw-Hill Book Company Inc.