



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	Learning Multimedia for Physics
Module level	Undergraduate
Code	KFI620207
Courses	Learning Multimedia for Physics
Description	In this course, students follow lectures to form the competence of college participants in the field of utilisation and production of media and learning resources.
Semester	Odd
Lecturer	Dimas Permadi, M.Pd. Drs. Eko Suyanto, M.Pd.
Contact Person	+62 856-5885-6654
Language	Indonesian
Relation to curriculum	Undergraduate degree program, Mandatory, 3rd semester
Type of teaching, contact hours	Student Center Learning
Workload	Contact hours: 14 weeks x 100 minutes Structured learning: 14 weeks x 120 minutes Independent study: 14 weeks x 120 minutes Practicum session: 14 week x 170 minutes
Credit points	3 (2-1) CP or 4.8 (ECTS) $((14 \text{ weeks} \times 100 \text{ minutes}) + (14 \text{ weeks} \times 120 \text{ minutes}) + (14 \text{ weeks} \times 120 \text{ minutes}) + (14 \text{ week} \times 170 \text{ minutes}) : 60 \text{ minutes/hour} = 119 \text{ hours} : 25 \text{ hours of study/ECTS} = 4.8 \text{ (ECTS)})$
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. 2. KNO-2 :Formulate physical systems using mathematics to solve physics problems. 3. KNO-3 : Applying Technology, Pedagogy, and Content Knowledge (TPACK) in planning, teaching, and evaluating physics learning. 4. SKI-3 :Able to develop physics learning resources according to the needs and development of science and technology
Competencies/ Course Learning Outcomes	1. Students are able to synthesise the meaning, types, classification, and characteristics of physics learning media. 2. Students are able to synthesise the meaning, types, classification, and characteristics of physics learning media. 3. Students are able to synthesise the meaning of audio-based learning media. 4. Students are able to synthesise understanding of video-based learning media. 5. Students are able to synthesise understanding of learning media based on the Learning Management System (LMS). 6. Students are able to synthesise the development of learning media and planning science-based physics learning media, contextual technology, especially ICT and the surrounding environment. 7. Students are able to design and produce print-based physics learning media (analog and digital physics images). 8. Students are able to design and produce audio-based physics learning media producing Adobe Audition. 9. Students are able to design and produce video-based physics learning media 10. Students are able to use virtual reality-based physics learning laboratories. 11. Students are able to use smartphone and Android-based physical measurement tools. 12. Students are able to use the LMS for Baruan learning (edusmart.fkip.unila.ac.id and Schoology.com). 13. Students are able to use PhetColorado for virtual laboratory learning. 14. Students are able to analyse the development of learning multimedia in the field of physics

Contents	1. Print-based physics learning media 2. Physics learning text 3. Utilisation and production of analog physics drawings (paintings and illustrations) 4. Utilisation and production of digital physics images (utilising cameras and scanners) 5. Utilisation and production of Audio-based physics learning audio (using Adobe Audition) 6. Utilisation and production of physics learning videos 7. Virtual reality-based physics learning laboratory 8. Utilisation of smartphone-based and Android-based physics measurement tools 9. Utilisation of LMS (edusmart.fkip.unila.ac.id & Schoology.com) for New Learning 10. Utilisation of PhetColorado for virtual laboratories. 11. Study of updated learning multimedia articles from reputable publishers.
Study and examination requirements and forms of examination	participants are evaluated based on ; 1. written test (50%) 2. product assessment(25%) 3. practicum assessment (25%)
Media employed	LCD, whiteboard, and online resources
Assessments and Evaluation	Written tests and practicum assessment.
Reading list	Edusmart.fkip.unil a.ac.id dan Schoology.com