KEMENTERIAN PENDIDIKAN TINGGI,
SAINS, DAN TEKNOLOGI
UNIVERSITAS LAMPUNG
FAKULTAS KEGURUAN DAN ILMU PENDIDIKAN
Jalan Prof. Dr. Sumantri Brojonegoro No.1 Gedong Meneng - Bandar Lampung 35145
Telp./Fax: (0721) 704624 *e-mail*: fkip@unila.ac.id,
laman: http://fkip.unila.ac.id

Bachelor of Education in Physics **MODULE HANDBOOK**

Module Name	Physics Learning Strategy
Module Level, if Applicable	Bachelor
Code	KFI620108
Sub-Heading, (*if Applicable)	-
Classes, (*if Applicable)	-
Description	This course is one of the Compulsory Study Programme Expertise Courses oriented towards mastering learning theories, learning models, learning approaches, learning strategies, methods, techniques, and learning tactics. After attending this lecture students are expected to be able to explain and apply various learning models to teach physics materials at the SMA/MA level. Study materials include learning theories, learning models, learning approaches, learning strategies, learning methods, learning techniques, learning tactics, and syllabus. learning techniques, learning tactics, and the current SMA/MA physics syllabus. TPACK is integrated on Use of **PhET simulations** to visualize abstract concepts, Application of **technology-based PBL**, Development of **interactive e-modules** and **virtual practicums** for physics experiments. NOS is applied as 1).Showing how Newton's laws developed from **observation to theory**, 2)using experiments to v**erify the laws of motio**n, and 3)Discussing how mathematical models were developed to **explain phenomena**. SSI is integrated in learning such as investigating r**adiation levels from everyday devices**, **Smart grid, energy sustainability** and Climate Change (Greenhouse effect and global warming).
Semester	2nd
Module Coordinator	Dr. Kartini Herlina, M.Si.
Lecturers	Teaching of Physics Learning Strategy

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Language	Indonesian/English
Classification With in the Curriculum	Compulsory Courses in the first year (2nd semester) Bachelor Degree
Teaching Format/Class Hours Per Week During the Semester	Learning activity can be carried out in the form of lecture or students' response: a. Face to face : 50 minutes/SKS b. Structured activity : 60 minutes/SKS c. Independent activity : 60 minutes/SKS
Teaching methods	In class activity : Case Method Structured activity : Group Discussion using Worksheet Independent activity : Individual task
Workload	1 CU (SKS) for bachelor degree equal to 3 work hours per week or 170 minutes. 3x50 minutes face to face, 3x60 minutes structured tasks, 3x60 minutes independent learning, for 16 weeks (including midterm and final exam), a total of 136 hours/semester. One CU equals to 1.51 ECTS
Credit Points	3 CU (SKS) = 3 x 1.51 = 4.53 ECTS
Prerequisites Courses	
Course Outcomes (CO)	After completing this module, a student is expected to: 1. PLO 3 : Applying Technology, Pedagogy, and Content Knowledge (TPACK) in planning, teaching, and evaluating physics learning. 2. PLO 5 : Able to plan, implement, and evaluate physics learning based on learning activities to develop critical thinking, creativity, and problem solving skills

	3. CO-1 : Students are able to explain various theories of learning. 4. CO-2 : Students are able to embed techniques, methods, strategies, approaches, and learning models. 5. CO-3 : Students are able to explain the discovery learning learning model and apply it in physics learning. 6. CO-4 : Students are able to explain the guided inquiry learning model and apply it in physics learning. 7. CO-5 : Students are able to explain the free inquiry learning model and apply it in physics learning. 8. CO-6 : Students are able to explain problem-based learning models and apply them in physics learning. 9. CO-7 : Students are able to explain project-based learning models and apply them in physics learning. 10. CO-8 : Students are able to explain STEM-based learning and apply it in STEM-based physics learning.
Content	Learning theory, Learning model, Learning approach, Learning strategies, Learning methods, Techniques and tactics, High School/MA Physics Syllabus
Study/Exam Achievements	Participants are evaluated based on ; 1. Participants Activities10% 2. Midterm Exam 20% 3. Final Exam 20% 4. Assignment 10% 5. Case study 40% The initial cut - off points for grades A, B+, B, C+ ,C, and D should not be less than 85%, 80%, 75%, 70%, 65%, 60%, 55%, 50%, and 40%, respectively.
Examination Methods	1. Participation Activities The assessment for Participation Activities aims to assess the level of active involvement of students in the learning process.

Participation activities include discussions, group work, presentations, and in-class interactions.

2. Midterm Exam (UTS)
   - UTS is held at the 8th meeting
   - UTS is a written test in the form of objective and essay, and carried out in the classroom with an implementation time of 120 minutes according to the module schedule
   - UTS is carried out to see the achievements of the PLO and CO which are in accordance with the characteristics of Physics Learning Strategy module

3. Final Exam (UAS)
   - UAS is held at the 16th meeting
   - UAS is a written test in the form of objective and essay, and carried out in the classroom with an implementation time of 120 minutes which follows the UAS implementation schedule of the department
   - UAS is carried out to see the achievements of the PLO and CO which are in accordance with the characteristics of the Physics Learning Strategy module.

4. Assignments
   - Assignments are given as individual tasks or group tasks and submitted in a limited time.
   - The assignments are carried out to see the achievements of the PLO and CO which are in accordance with the characteristics of the Physics Learning Strategy module.

	5. Rubric for Case Study ● Case study is given as group task in analyzing case studies and problems ● Case study is carried out for one semester and presented at the end of semestes ● Case study is carried out to see the achievements of the PLO and CO which are in accordance with the characteristics of the Physics Learning Strategy module.
Forms of Media	E-learning, e-book, video, LCD, whiteboard, and online resources
Literature	1. Department of Physics, University of Nottingham. (2024). Physics undergraduate handbook 2024-2025. University of Nottingham Press. 2. Giancoli, D. C. (2024). Physics: Principles with applications (8th ed.). Pearson Education. 3. Halliday, D., Resnick, R., & Walker, J. (2023). Fundamentals of physics (12th ed.). John Wiley & Sons. 4. Knight, R. D. (2023). Physics for scientists and engineers: A strategic approach (5th ed.). Pearson Education. 5. Wibowo, H. (2020). Introduction to Learning theories and Learning models. Puri Cipta Media. 6. European Journal of Physics Education. (2023). Special issue: Physics education in UK universities, 44(2). 7. Physics Education Research Conference Proceedings. (2024). Teaching and learning physics in higher education, 15(1).

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PLO and CO Mapping

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO 11
CO 1			√								
CO 2			√								
CO 3					√						
CO 4					√						
CO 5					√						
CO 6					√						
CO 7					√						
CO 8					√						