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

Module Name	Science Laboratory Management
Module Level, if Applicable	Bachelor
Code	KFI620105
Sub-Heading, (*if Applicable)	-
Classes, (*if Applicable)	-
Description	This course is a compulsory course and serves as the foundation for pedagogical understanding of physics teaching materials in schools, equipping students with physics learning based on school laboratories and the environment. After attending this lecture, students are expected to formulate physics concepts, principles/laws, and procedures based on data analysis following scientific approaches. They will also learn to design and manage school physics laboratories, focusing on utilizing both standard laboratory equipment and tools/materials from the surrounding natural environment. The course includes the creation of practicum guides and student worksheets (LKPD) based on thematic, integrated thematic, problem-solving, discovery, inquiry (free discovery), and project approaches. Laboratory management encompasses administration, storage, circulation, maintenance, and repair of equipment, as well as health and safety protocols. Additionally, the course discusses the current conditions of school laboratories and explores development alternatives. This course is integrated with Social Science Issues (SSI) by addressing the relevance of physics education in real-world contexts and societal challenges. TPACK (Technological Pedagogical Content Knowledge) is applied through the incorporation of technology, such as Google Classroom and simulation software, to enhance laboratory activities and facilitate interactive learning. Furthermore, the Nature of Science (NOS) is emphasized by encouraging students to understand the scientific

	inquiry process and the role of experimentation in developing scientific knowledge and practices.
Semester	2nd
Module Coordinator	Dr. Chandra Ertikanto, M.Pd.
Lecturers	Team Teaching of Science Laboratory Management
Language	Indonesian/English
Classification With in the Curriculum	Study Program Compulsory Course
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: Team Based Project 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)	1. PLO 7 : Able to manage, use, and develop physics learning laboratory tools. 2. Have knowledge in planning and managing resources in the organisation of classrooms, laboratories and schools under their responsibility.

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	3. Able to develop the concept of designing and managing school physics laboratories from the aspect of pedagogical understanding of physics teaching materials in schools that are verification, discovery, analysis or synthesis conventionally or instrumentally by equipping students with the development of physics laboratories in schools.
Content	1. Basic Measurement Science (significant figures, measurement uncertainty, single measurement, repeated measurement) 2. Development of LKPD 3. Laboratory Facilities 4. Laboratory Tools and Materials 5. Laboratory Management (Laboratory Organisation, Inventory of laboratory equipment and facilities, Laboratory administration, Work safety) 6. Laboratory Organisation 7. Laboratory Planning (Preparation of laboratory equipment, making simple physics tools, practicum and demonstration.
Study/Exam Achievements	1. Attendance = 20% 2. Midterm exams = 25% 3. Final Semester Exam= 25% 4. Assignment = 10% 5. Participation =20% 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. 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 Science Laboratory Management module **2. 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 Science Laboratory Management module. **3. 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 Science Laboratory Management module. **4. Participation** 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
Forms of Media	LCD, whiteboard, physics teaching aid and online resources
Literature	1. Fred Grover and Peter Wallace (1979). Laboratory Organization and Management. London: Butterworth & Co (Publisher) Ltd.

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	2. G.L. Squires (1986). Practical physics. Bristol: J.W. Arrowsmith Ltd. 3. Wahyudi, Ismu dan Wicaksono, B. A. 2018. Pengelolaan Laboratorium IPA Berpedoman pada Permendiknas. Yogyakarta. Graha Ilmu. 132 hal. **4.** I Dewa Putu Nyeneng (2011). Pengelolaan Laboratorium IPA. Lampung: Universitas Lampung.

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PLO and CO Mappimg

	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							√				