

<b>Module name</b>	Course Module
<b>Module level, if applicable</b>	Master of Physics Education
<b>Code, if applicable</b>	32363172
<b>Subtitle, if applicable</b>	-
<b>Course, if applicable</b>	Physics Learning Innovation
<b>Semester(s) in which the module istaught</b>	I (Odd semester)
<b>Person responsiblefor the module</b>	Lecturer of Courses
<b>Lecturer</b>	1. Prof. Dr. I Made Astra, M.Si
<b>Language</b>	Indonesian Language [Bahasa Indonesia]
<b>Relation to Curriculum</b>	This course is a compulsory course and offered in the 1 <sup>st</sup> semester.
<b>Type of teaching, contact hours</b>	Teaching methods used in this course are: - Lecture (i.e., group investigation, small group discussion, casestudy, and video-based learning) - Structured assignments (i.e., essays and case studies) - Project-based Learning The class size for the lecture is 20 students. Contact hours for the lecture is 26.67 hours, assignments are 64.00 hours, and private study is 64.00 hours.
<b>Workload</b>	For this course, students required to meet a minimum of 154.67 hours in one semester, which consist of: 26.67 hours for lecture, 64.00 hours for structured assignments, 64.00 hours for private study.
<b>Credit points</b>	5.2 ECTS
<b>Requirements according to the examination regulations</b>	Students should have attended all lectures and submitted all scheduled individual and group assignments prior to the final examination.
<b>Recommended prerequisites</b>	Students should have attended all lectures and submitted all scheduled individual and group assignments prior to the final examination.

<b>Program learning outcomes</b>	<p>PL0 2. Master advanced knowledge of classical physics and modern physics</p> <p>PL0 3. Able to design innovative physics learning in accordance with the demands of the curriculum by using appropriate evaluation and assessment techniques.</p> <p>PL0 8. Able to produce scientific articles that have novelty, and publish them in accredited national scientific journals, proceedings of international seminars, or international journals.</p>
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<b>Content</b>	<p><b>Students will learn about:</b></p> <p>This course aims to discuss the concept of learning and learning, various learning innovations, and their application in learning physics. Topics discussed include: learning theory and learning philosophy, psychological factors and student development towards learning, multiple intelligence theory, content standards (curriculum) that are relevant to the demands of the National Education Standards, learning models, learning management (determining strategies, approaches, methods, and learning models), components of classroom management and physics teaching and learning interactions, and field studies. Lectures will be held with a case-based learning approach. Through this lecture, it is hoped that students will be able to increase advanced knowledge in science, innovation, and develop their professionalism in the field of physics education.</p>
<b>Forms of Assessment</b>	<p>Assessment of the learning process follows the following components: attendance 5%; assignments and presentations 30%; mid-test 30%, and final-test 35%.</p>
<b>Study and examination requirements</b>	<p><b>Study and examination requirements:</b></p> <ul style="list-style-type: none"> <li>- Students must attend 15 minutes before the class starts.</li> <li>- Students must switch off all electronic devices.</li> <li>- Students must inform the lecturer if they will not attend the class due to sickness, etc.</li> <li>- Students must submit all class assignments before the deadline.</li> <li>- Students must attend the exam to get final grade.</li> </ul> <p><b>Form of examination:</b> Forms of examination: project and presentation</p>
<b>Media employed</b>	<p>Powerpoint presentation, Simulation Videos, internet, learning management system (LMS), ZOOM application, and e-learning</p>

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<b>Reading list</b>	<ol style="list-style-type: none"> <li>1. --Walter Dick, Lou Carey, James O Carey (2015)</li> <li>2. The Systematic Design of Instructional 8th Edition, Pearson, New York Arends, R. I. (2014).</li> <li>3. Learning to Teach. New York: McGraw-Hill Companies, Inc. Mc Loughlin, Eilish, dan Van Kampen, Paul (2019)</li> <li>4. Concepts, Strategies and models to enhance physics teaching and learning, Springer. Hassard, J (2018)</li> <li>5. The Art of Teaching Science: Inquiry and Innovation in Middle School and Secondary High School, New York: Oxford University Press. 6 Don Lincoln (2019)</li> <li>6. Understanding the Misconceptions of Science. The Teaching Company. Kemmdikbud, Permendikbud No. 37 Tahun 2018 - Perubahan KI KD K13.</li> </ol>