

Module Description

Module name	Course Module
Module level, if applicable	Master of Physics Education
Code, if applicable	30062013
Subtitle, if applicable	-
Course, if applicable	Educational Research Statistics
Semester(s) in which the module istaught	II (Even Semester)
Person responsiblefor the module	Lecturer of Courses
Lecturer	1. Dr. Firmanul Catur Prabowo, M.Pd
Language	Indonesian Language [Bahasa Indonesia]
Relation to Curriculum	This course is a general course and offered in the 2 st semester.
Type of teaching, contact hours	<p>Teaching methods used in this course are:</p> <ul style="list-style-type: none"> - Lecture (i.e., group investigation, small group discussion, case study, and video-based learning) - Structured assignments (i.e., essays and case study) <p>The class size for lecture is 20 students.</p> <p>Contact hours for lecture is 40 hours, assignments are 96 hours, and privat study is 96 hours.</p>
Workload	<p>For this course, students required to meet a minimum of 232 hours in one semester, which consist of:</p> <p>40 hours for lecture, 96 hours for structured assignments, 96 hours for private study,</p>
Credit points	7.8 ECTS
Requirements according to the examination regulations	Students should have attended all lectures and submitted all scheduled individual and group assignments prior to the final examination.
Recommended prerequisites	Students should have attended all lectures and submitted all scheduled individual and group assignments prior to the final examination.

Program learning outcomes	<p>PLO 2 Master advanced knowledge of classical physics and modern physics</p> <p>PLO 7 Able to carry out scientific research in the field of physics education based on scientific methodology, logical, critical, systematic and creative thinking.</p> <p>PLO 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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Content	<p>Students will learn about:</p> <p>This course aims to discuss data analysis techniques using descriptive and inferential statistics and their interpretations. Topics covered include: basic statistical concepts, error theory, descriptive statistics, probability distribution, sampling technique, statistical hypothesis testing, normality test, homogeneity test, average similarity test, regression and correlation analysis, analysis of variance, analysis of covariance, path analysis, and a structural equation model (SEM). Students will also learn to process and analyze data using special software so that it will help them in practical research activities. Lectures will be held with a case-based learning approach. Mastery of lecture material will assist students in conducting quality research.</p>
Forms of Assessment	<p>Assessment of the learning process follows the following components: attendance 5%; assignments and presentations 30%; mid-test 30%, and final-test 35%.</p>
Study and examination requirements	<p>Study and examination requirements:</p> <ul style="list-style-type: none"> - Students must attend 15 minutes before the class starts. - Students must switch off all electronic devices. - Students must inform the lecturer if they will not attend the class due to sickness, etc. - Students must submit all class assignments before the deadline. - Students must attend the exam to get final grade. <p>Form of examination: Written exam: Essay</p>
Media employed	<p>Powerpoint slides, simulation videos, learning management system (LMS), ZOOM application, and UNJ e-learning.</p>

Reading list	<ol style="list-style-type: none"><li data-bbox="555 185 1457 280">1. Neil A Weiss (2017) Introductory Statistics 10th Edition, Pearson.<li data-bbox="555 280 1457 374">2. Jimmie Leppink (2019) Statistical Methods for Experimental Research in Education and Psychology. Springer<li data-bbox="555 374 1457 452">3. Ronald E. Walpole (1997) Pengantar Statistika, Jakarta: PT Gramedia Pustaka
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