

Philosophy of Science and Research Methodology



**MASTER PROGRAM OF ENVIRONMENTAL SCIENCE
SCHOOL OF POSTGRADUATE STUDIES
DIPONEGORO UNIVERSITY**



A Module Handbook or collection of module descriptions that is also available for students to consult should contain the following information about the individual modules:

Module design	Philosophy of Science and Research Methodology
Module level, if applicable	
Code, if applicable	CIL-2.2600
Subtitles, if applicable	
Courses, if applicable	
Semester(s) in which the module is taught	1 st Semester
Person responsible for the module	Prof. Drs. Sudharto Prawata Hadi, MES, Ph.D.
Lecturer	• Prof. Drs. Sudharto Prawata Hadi, MES, Ph.D. • Prof. Dr. Ir. Purwanto, DEA
Language	<i>Indonesian and English</i>
Relations to curriculum	Students are able to understand the position of knowledge, study of knowledge and scientific perspectives and philosophy of science through lectures and discussion activities
Type of teaching, contact hours	<i>Lecture: 60 minutes</i> <i>Q&A: 10 minutes</i> <i>Discussion: 10 minutes</i> <i>Presentation: 10 minutes</i>
Workload	<i>(Estimated) workload, divided into contact hours (lecture, exercise, laboratory session, etc.) and private study, including examination preparation, specified in hours,¹ and in total.</i>
Credit points	<i>3 credits</i>
Requirements according to the examination regulations	<i>Minimum attendance of lectures 75%</i>
Recommended prerequisites	<i>eg existing competences in...</i>

¹ When calculating contact time, each contact hour is counted as a full hour because of the organization of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

Module objectives/intended learning outcomes	• Have the ability to explore, integrate and construct various sources of knowledge in the reality of life into the scope of science • Have the ability to select and build linkages between; the uniqueness of various local knowledge for scientific development according to the rules of science • Able to describe the relationship between knowledge, philosophy and philosophy of science from sociology, epistemology, and axiology.
Content	The Philosophy of Science course discusses; the position of knowledge, habits, beliefs of a person or group of people in science, science as a source of knowledge, scientific methods, scientific results, scientific attitudes, sources of truth and limitations of science, as well as the role of science and technology in the development of human civilization. This course trains students to think logically, critically, comprehensively, and contemplatively so that they can understand the interrelationships of various sources of knowledge in the past with the present and the future in the development of science and technology which relies on the integration of axiological anatraontology in building artifacts as scientific products.
Study and examination requirements and forms of examination	• <i>Open book and close book</i> • <i>Multiple choice, case studies, interviews</i>
Media employed	<i>Powerpoint, youtube, website</i>

Reading list	• Team of Lecturers of Philosophy of Science, Faculty of Philosophy, UGM. 2002. Philosophy of Science as the basis for the development of science. Yogyakarta: Liberty Publishers. • Noeng Muhajir. 2011. Philosophy of Science: ontology, epistemology, axiology. Yogyakarta: Rake Sarasin. • Jujun Suria sumantri. 1995. Science in Perspective: A collection of essays on the nature of science. Indonesian Torch Foundation. • Bronowski, Jacob. 1973. The Accent of Man. Boston: Little Brown, Company • Kant, Immanuel. 2004. Critique of Practical Reason. Mineola, NY.: Dover Publications, Inc. • Whitehead, N. Alfred. 2001. Ratio Function. Translate. Yogyakarta: Publisher Kanisius. • Zainal Abidin. 2003. Human Philosophy: understanding humans through philosophy. Bandung: PT. Youth Rosdakarya. • Kattsoff, Louis O. 1992. Introduction to Philosophy. Translated by Soejono. Yogyakarta: Tiara Wacana
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