

MODULE HANDBOOK

Modul Name	Philosophy of Science
Module Level	Bachelor
Abbreviation, if applicable	3074212025
Sub-heading, if applicable	-
Course included in the module, if applicable	-
Semester/term	7 th /Fourth Year
Modul coordinator(s)	Prof. Dr. Sari Edi C, M.Si., ; Dr. Nuniek Herdyastuti, M.Si
Lecturer(s)	Prof. Dr. Suyono, M.Pd. ; Dr. Harun Nasrudin, M.S., ; Samik, S.Si., M.Si
Language	Bahasa Indonesia
Classification within the curriculum	Elective Course
Teaching format/class hours per week during the semester	2 hours lectures (50 min / hour)
Workload	1 CU for bachelor degree equals to 3 workhours per week or 170 minutes (50' face to face learning, 60' structured learning, and 60' independent learning). In one semester, courses are conducted in 14 weeks (excluding mid and end-term exam). Thus, 1 CU equals to 39.67 workhours per semester. One CU equals to 1.59 ECTS.
Credit point	2 CU = 2 x 1.59 = 3.18 ECTS
Prerequisite Course(s)	-
Learning Outcomes	<p>General Competence (knowledge): Students are able to apply logical, critical, systematic and innovative thinking in the context of the development or implementation of natural science, especially chemistry</p> <p>Specific Competence : At the end of the lecture, students are able to correct and comprehensive reasoning in gaining an understanding of science and students have knowledge in defining natural science comprehensively, classifying scientific products, developing concepts, understanding scientific methods, distinguishing the flow of thinking in science, developing syllogism, and showing the role of tools of science in the development of science.</p>
Content	The study of the flow of thinking in science, philosophical questions of science (ontology, epistemology, and axiology), the role of science tools, and scientific components (scientific products, scientific methods, and scientific attitudes) in the field of Natural Sciences especially chemistry and its implementation in religious life. This study is carried out through lectures, discussions, practices, presentations, and chapter reports.
Study/exam achievements	<p>Students are considered to be competent and pass if at least get 55</p> <p>Final score is calculated as follows: 20% participation + 30% assignment + 20% middle exam (UTS) & 30% final exam (UAS)</p>

	<p>Table index of graduation</p> <ul style="list-style-type: none"> • A = 4 (85 ≤ - ≥ 100) • A- = 3,75 (80 ≤ - < 85) • B+ = 3,5 (75 ≤ - < 80) • B = 3 (70 ≤ - < 75) • B- = 2,75 (65 ≤ - < 75) • C+ = 2,5 (60 ≤ - < 65) • C = 2 (55 ≤ - < 60) • D = 1 (40 ≤ - < 55) • E = 0 (0 ≤ - < 40)
Forms of media	Computer, LCD, White board
Learning Methods	Lectures, discussion, assignment and chapter report
Literatur	<ol style="list-style-type: none"> 1. Materi Dasar Pendidikan Program Akta Mengajar V. 1985. <i>Buku IA Filsafat Ilmu</i>. Jakarta: Departemen Pendidikan dan Kebudayaan, Universitas Terbuka. 2. Bunge, Mario. 2007. <i>Philosophy of Science from Explanation to Justification</i>. London: Transaction Publishers. 3. McLelland, Christine V. 2006. <i>The Nature of Science and The Scientific Method</i>. USA: <i>The Geological Society of America</i>. 4. Dane, F.C. 2010. <i>Evaluating Research: Methodology for People Who Need to Read Research</i> (Chapter 2: <i>The Scientific Approach</i>). California: SAGE Publication, Inc. 5. Herron, J.D. et al. 1977. <i>Problems Associated with Concept Analysis</i>. <i>Science Education</i> 61(2). P. 185-199 6. Camarinha, L. M. & Matos. (tanpa tahun). <i>Scientific Research, Methodologies and Techniques</i>. cam@uninova.pt 7. <i>The Scientific Approach in Education</i>