



MINISTRY OF EDUCATION, CULTURE, RESEARCH,  
AND TECHNOLOGY

UNIVERSITAS NEGERI SURABAYA

**FACULTY OF MATHEMATICS AND NATURAL SCIENCES**

Ketintang Campus, D-1 Building, Surabaya 60231 +6231-8296427

Website: [www.fmipa.unesa.ac.id](http://www.fmipa.unesa.ac.id), email: [info\\_fmipa@unesa.ac.id](mailto:info_fmipa@unesa.ac.id)

**Master Program of Science Education**

**Module Handbook**

Module Name :	<i>Filsafat Pendidikan IPA/</i> Philosophy of Science Education
Module level :	Master Program of Science Education
Course Code :	8410102188
Abbreviation, if applicable:	-
Courses included in the module, if applicable:	Not Applicable
Semester/Term	1 <sup>st</sup> /First Year
Module coordinator(s)	Prof. Dr. Suyono, M.Pd.
Lecturer(s):	Dr. Z A Imam Supardi, M.Si. Prof. Nadi Suprpto, Ph.D Dr. Eko Hariyono, M.Pd.
Language:	Indonesian Language
Classification within the curriculum:	Compulsory/ <del>Elective</del>
Teaching format/class hours per week during the semester:	2 contact hours of lectures (Indonesia credit semester or CU*)
Workload :	2 x 50 minutes lectures, 2 x 90 minutes structured activity, 2 x 100 minutes individual activity, 14 weeks per semester, 112 total hours per semester ~ 4.48 ECTS**
Credit Point:	2 CU (4.4 ECTS)
Requirements:	
Learning goals/competencies:	<p><b>Knowledge (KN-1)</b>  <b>CLO-1</b>  Mastering the general approach to the philosophy of science, conceptualization, and the basic principles of scientific (scientific) development.  <b>CLO-2</b>  Mastering in solving science learning problems by applying a philosophical approach, especially the philosophy of science.</p> <p><b>Social (SOC-1)</b>  <b>CLO-3</b>  Have the character of "beautiful ideals" (faith, intelligent, independent, honest, caring, and tough).</p>
Content	This course discusses general approaches to philosophy of science, conceptualization, and scientific methodology, as well as in-depth issues relevant to education. In addition, this course is designed to provide an in-depth understanding of ontology, epistemology and axiology, the characteristics and nature of science as a vehicle to broaden the vision of prospective masters



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	and be critical in developing and applying science.																														
Attribute Soft skill:	Scientific report, public speaking, and team work																														
Study/exam achievements:	<p>Students are considered to be competent and pass if at least get 70. Final score is calculated as follows: 20% Participation + 30% Assignment + 20% Middle Exam (UTS) + 30% Final Exam (UAS)</p> <p><b>Final index is defined as follow:</b></p> <table border="1"> <thead> <tr> <th>Index</th> <th>Converted Score</th> <th>Score Range</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>4.00</td> <td>85 ≤ A ≤ 100</td> </tr> <tr> <td>A-</td> <td>3.75</td> <td>80 ≤ A- &lt; 85</td> </tr> <tr> <td>B+</td> <td>3.50</td> <td>75 ≤ B+ &lt; 80</td> </tr> <tr> <td>B</td> <td>3.00</td> <td>70 ≤ B &lt; 75</td> </tr> <tr> <td>B-</td> <td>2.75</td> <td>65 ≤ B- &lt; 70</td> </tr> <tr> <td>C+</td> <td>2.50</td> <td>60 ≤ C+ &lt; 65</td> </tr> <tr> <td>C</td> <td>2.00</td> <td>55 ≤ C &lt; 60</td> </tr> <tr> <td>D</td> <td>1.00</td> <td>40 ≤ D &lt; 55</td> </tr> <tr> <td>E</td> <td>0.00</td> <td>0 ≤ E &lt; 40</td> </tr> </tbody> </table>	Index	Converted Score	Score Range	A	4.00	85 ≤ A ≤ 100	A-	3.75	80 ≤ A- < 85	B+	3.50	75 ≤ B+ < 80	B	3.00	70 ≤ B < 75	B-	2.75	65 ≤ B- < 70	C+	2.50	60 ≤ C+ < 65	C	2.00	55 ≤ C < 60	D	1.00	40 ≤ D < 55	E	0.00	0 ≤ E < 40
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Learning Methods :	Case Method, Discussion, and Article Review																														
Form of Media:	<i>Power Point</i> slides, e-book file, and multimedia.																														
Literature (primary references):	<ol style="list-style-type: none"> <li>1. Thomas J. Hickey, 2011, Introduction to philosophy of science. NewYork: Springer</li> <li>2. Craigh Dilworth, 2006, The methaphysics of science: Boston studies in the philosophy of science, Netherland: Springer.</li> <li>3. Cornel M. Hamm, 2005, Philosophical Issues in Education: An introduction, London: Routledge.</li> <li>4. James Ladyman, 2002, Understanding philosophy of science, London and New York: Roudledge</li> <li>5. Anna Poedjadi, 2001. , Filsafat Ilmu Kependidikan, Bandung</li> <li>6. Wilburg Applebaum, 2005, The scientific revolution and the foundation of modern science, London: Greenwood Press</li> <li>7. Herron, J. Dudley; Cantu, Luis L.; Ward, Richard; and Srinivasan, Venu. (1977). Problems Associated with Concept Analysis. Science Education 61 (2): 185-199. John Wiley &amp; Sons, Inc.</li> <li>8. Tafsir, A. (2009). <i>Filsafat Ilmu</i>. Bandung: PT Remaja Rosda Karya.</li> <li>9. Suriasumantri, J.S., 2013. <i>Filsafat Ilmu; Sebuah Pengantar Populer</i>, Jakarta: Pustaka Sinar Harapan, 2013.</li> <li>10. Anderson, Lorin W. &amp; Krathwohl, David R. 2001. <i>A Taxonomy for Learning, Teaching, ans Assessing: A Revision of Bloom's Taxonomy of Educational Objectives</i>. Abridge Edition. New York: Longman, Inc.</li> </ol>																														
Notes:	*1 CU in learning process = three periods consist of: (a) scheduled																														



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	instruction in a classroom (50 minutes); (b) structured activity (90 minutes); and (c) individual activity (100 minutes) according to according to Rector Decree of Universitas Negeri Surabaya No. 598/UN38/HK/AK/2020
	**1 CU = 2.24 ECTS according to Rector Decree of Universitas Negeri Surabaya No. 598/UN38/HK/AK/2020
	*Total ECTS = (total hours workload/ 60 min) / 25 hours <b>Each ECTS is equals with 25 hours</b>
Last Amendment	5 January 2023