



## Master Program of Mathematics Education

## Module Handbook

<b>Module Name:</b>	Philosophy of Mathematics Education
<b>Module Level:</b>	Master (S-2)
<b>Abbreviation, if applicable:</b>	
<b>Sub-heading, if applicable:</b>	-
<b>Course included in the module, if applicable:</b>	-
<b>Semester/term:</b>	2 / First year
<b>Module Coordinator(s):</b>	Prof. Dr. Tatag Yuli Eko Siswono, M.Pd.
<b>Lecturer(s):</b>	1. Prof. Dr. Tatag Yuli Eko Siswono, M.Pd. 2. Prof. Dr. Mega Teguh Budiarto, M.Pd.
<b>Language:</b>	Indonesian
<b>Classification within the curriculum:</b>	Compulsory course / <del>elective studies</del>
<b>Teaching format/class hours per week during the semester</b>	Teaching format: lectures, tutorial assignment, and individual study. $2 \times 240$ minutes = 480 minutes = 8 hours lectures
<b>Workload:</b>	15 weeks per semester consisting of: <ul style="list-style-type: none"><li>• 1 hour lecture (<math>1 \times 50</math> minutes) per week,</li><li>• 2 hours assignments (<math>2 \times 45</math> minutes) per week,</li><li>• 2 hours individual study (<math>2 \times 50</math> minutes) per week,</li></ul> Total workload: $14 \times 2 \times 240$ minutes = 6,720 minutes $\approx$ 4.48 ECTS*
<b>Credit Point:</b>	2
<b>Requirements:</b>	N/A



<b>Learning Goals:</b>	<p><b>Knowledge (KNO-2)</b></p> <p>CLO-1: able to describe the meaning and role of the philosophy of mathematics education</p> <p>CLO-2: able to compare various epistemological educational philosophies and their relations to mathematics</p> <p>CLO-3: able to analyze various epistemological philosophies of mathematics and their relations to education</p> <p>CLO-4: able to evaluate belief in mathematics and aesthetics in mathematics</p> <p>CLO-5: able to analyze the epistemological linkages of mathematics and learning theory in mathematics education</p> <p><b>Competency (COM-1)</b></p> <p>CLO-5: able to communicate ideas and results of analysis of various cases of a problem of philosophy of mathematics and mathematics education effectively in oral and written forms</p> <p><b>Social (SOC-1)</b></p> <p>CLO-6: able to collaborate and be responsible professionally and ethically in completing project assignments on the analysis of a problem in mathematics education</p>
<b>Content:</b>	Studying the nature of mathematics with various views on mathematics, the truth and characteristics of mathematics, beliefs, the aesthetics of mathematics, and the nature of education with various views and the position of mathematics in learning theory, and the basic principles in learning and teaching mathematics.



<p><b>Study/exam achievements</b></p>	<ul style="list-style-type: none"> <li>Students are considered competent and pass if the final score calculated from the score of midterm exam, assignments, participation, and final exam is at least 55 or C.</li> <li>Final score is calculated as follows: 20% midterm exam + 30% assignments + 20% participation + 30% final exam</li> <li>Final index is defined as follows: <table border="1" data-bbox="587 696 1238 1137"> <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><math>85 \leq A \leq 100</math></td> </tr> <tr> <td>A-</td> <td>3.75</td> <td><math>80 \leq A- &lt; 85</math></td> </tr> <tr> <td>B+</td> <td>3.50</td> <td><math>75 \leq B+ &lt; 80</math></td> </tr> <tr> <td>B</td> <td>3.00</td> <td><math>70 \leq B &lt; 75</math></td> </tr> <tr> <td>B-</td> <td>2.75</td> <td><math>65 \leq B- &lt; 70</math></td> </tr> <tr> <td>C+</td> <td>2.50</td> <td><math>60 \leq C+ &lt; 65</math></td> </tr> <tr> <td>C</td> <td>2.00</td> <td><math>55 \leq C &lt; 60</math></td> </tr> <tr> <td>D</td> <td>1.00</td> <td><math>40 \leq D &lt; 55</math></td> </tr> <tr> <td>E</td> <td>0.00</td> <td><math>0 \leq E &lt; 40</math></td> </tr> </tbody> </table> </li> </ul>	Index	Converted Score	Score Range	A	4.00	$85 \leq A \leq 100$	A-	3.75	$80 \leq A- < 85$	B+	3.50	$75 \leq B+ < 80$	B	3.00	$70 \leq B < 75$	B-	2.75	$65 \leq B- < 70$	C+	2.50	$60 \leq C+ < 65$	C	2.00	$55 \leq C < 60$	D	1.00	$40 \leq D < 55$	E	0.00	$0 \leq E < 40$
Index	Converted Score	Score Range																													
A	4.00	$85 \leq A \leq 100$																													
A-	3.75	$80 \leq A- < 85$																													
B+	3.50	$75 \leq B+ < 80$																													
B	3.00	$70 \leq B < 75$																													
B-	2.75	$65 \leq B- < 70$																													
C+	2.50	$60 \leq C+ < 65$																													
C	2.00	$55 \leq C < 60$																													
D	1.00	$40 \leq D < 55$																													
E	0.00	$0 \leq E < 40$																													
<p><b>Media employed</b></p>	<p>Slides and LCD projectors, white board</p>																														
<p><b>Reading list</b></p>	<p>[1] Siswono, T. 2014. <i>Filsafat Pendidikan Matematika dan Sejarah Matematika</i>. Modul PLPG UNESA</p> <p>[2] FitzSimmons, J. A. 2014. <i>Philosophy of Teaching and Learning Mathematics</i>. <a href="http://plato.wilmington.edu/faculty/jfitzs/tchg_phi.htm">http://plato.wilmington.edu/faculty/jfitzs/tchg_phi.htm</a>.</p> <p>[3] Ernest, P. Tanpa tahun. <i>What is the Philosophy of Mathematics Education</i>. <a href="http://people.exeter.ac.uk/PErnest/pome18/PhoM_%20for_ICME_04.htm">http://people.exeter.ac.uk/PErnest/pome18/PhoM_%20for_ICME_04.htm</a></p> <p>[4] Ernest, P. 1991. <i>The Philosophy of Mathematics Education</i>. Falmer Press.</p> <p>[5] <i>Philosophy of Mathematics Education Journal</i> ISSN 1465-2978 (Online).</p> <p>[6] Soedjadi, R. 1999. <i>Kiat-Kiat Pendidikan Matematika</i>. Dirjen Dikti, Depdikbud.</p>																														
<p><b>Note</b></p>	<p>*Total hours per 1 credit in 1 semester = <math>\{(1 \text{ credit} \times 240 \text{ minutes} \times 14 \text{ weeks})/60 \text{ minutes}\} = 56 \text{ hours}</math>.</p> <p>Each ECTS equals 25 hours, so 1 credit in 1 semester is equivalent to 2.24 ECTS.</p>																														
<p><b>Last amendment</b></p>	<p>January 2023</p>																														



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)

---