

# MODULE HANDBOOK



Master Program in Mathematics Education



GEDUNG PASCASARJANA  
FACULTAS KEGURUAN DAN ILMU PENDIDIKAN  
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PROGRAM PASCABARJANA  
FKIP

Faculty of Teacher Training and Education  
**SRIWIJAYA UNIVERSITY**



MINISTRY OF EDUCATION, CULTURE, RESEARCH, AND TECHNOLOGY

**UNIVERSITAS SRIWIJAYA**

FACULTY OF TEACHER TRAINING AND EDUCATION

MATHEMATICS EDUCATION STUDY PROGRAM

Jl. Raya Palembang – Prabumulih Km.32, Indralaya Ogan Ilir 30662 Website: Fkip.unsri.ac.id

Master Program in Mathematics Education

**MODULE HANDBOOK**

Module designation	:	Designing Learning Product and Classroom Observation/ GMA6103
Semester	:	3 <sup>rd</sup> (third) / even
Person responsible for the module	:	Prof. Dr. Zulkardi, M.Sc., M.Ikomp Prof. Dr. Ratu Ilma Indra Putri, M.Si.
Language	:	Indonesian and English
Relation to the curriculum	:	Elective Course
Teaching methods	:	<ul style="list-style-type: none"> <li>● Lecturers: Expository (Week 1 - 2)</li> <li>● Presentation and structured assignment (Week 3 - 7 and Week 11 - 15)</li> <li>● Project Based Learning (PjBL) (Week 8 - 10)</li> </ul>
Workload	:	14 weeks per semester excluding mid-term and final exams. 1 sks per week = 270 minutes, consisting of 50 minutes synchronous learning + 100 minutes asynchronous learning + 120 minutes systematic project. 270 minutes × 3 sks = 810 minutes = 13.5 hours per week 14 weeks × 13.5 hours = 189 hours 189 hours : 25 hours (1 ECTS) = 7.56 ECTS
Credit points	:	3 SKS = 3 × 2.52 ECTS = 7.56 ECTS
Prerequisite's course(s)	:	-
Module objectives	:	After taking this course, students have the ability to: CO 1: Demonstrate discipline, collaboration, and maintain academic ethics in completing assigned tasks. CO 2: Master the theory of the process of designing a mathematics learning product through methodology. CO 3: Master the theory of classroom observation. CO 4: Utilize research and development methodology in designing products. CO 5: Critically examine current issues related to mathematics learning design. CO 6: Solve learning problems through the design of mathematics learning products. CO 7: Submit development results nationally or internationally in academic forums or scientific journals. CO 8: Use the iMindMap application to create mathematics learning designs.
Content	:	This course discusses:



	<ol style="list-style-type: none"> <li>1. Student characteristics and 21<sup>st</sup> century abilities</li> <li>2. Instructional analysis and strategies</li> <li>3. Evaluation of learning outcomes (test and non-test forms)</li> <li>4. Development of teaching materials and instructional media</li> <li>5. Instructional Methods</li> <li>6. Use of ICT in instruction</li> <li>7. Distance learning</li> <li>8. Preparation of learning designs according to the current context (starting from planning, implementation, and evaluation)</li> <li>9. Developing learning activities according to the current context</li> <li>10. Preparation of learning devices</li> <li>11. Test learning tools</li> <li>12. Implementation of evaluation of learning outcomes</li> <li>13. Mathematics learning design presentation</li> </ol>																		
Examination forms	<p>Examination in this course includes:</p> <ol style="list-style-type: none"> <li>1. Affective (actively participating during classroom processes)</li> <li>2. Mid-term evaluation in the 8<sup>th</sup> meeting (Project)</li> <li>3. Final project (collaborative tasks to develop mathematics learning design). The report is submitted in the 16<sup>th</sup> meeting.</li> </ol>																		
Study and examination requirements	<p>It is expected that students attend 80% of the total meetings in the modules.</p> <p><b>Total Score</b> = 25% of Affective and Assignment + 35% of Midterm + 40% of End-of-semester exams</p> <p>The total score is converted into a qualitative score,</p> <table border="1" data-bbox="573 1577 1084 1845"> <thead> <tr> <th>Total Score</th> <th>Grade</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>86 – 100</td> <td>A</td> <td>Excellent</td> </tr> <tr> <td>71 – 85.99</td> <td>B</td> <td>Good</td> </tr> <tr> <td>56 – 70.99</td> <td>C</td> <td>Fair</td> </tr> <tr> <td>41 – 55.99</td> <td>D</td> <td>Bad</td> </tr> <tr> <td>0 – 40.99</td> <td>E</td> <td>Worse</td> </tr> </tbody> </table>	Total Score	Grade	Description	86 – 100	A	Excellent	71 – 85.99	B	Good	56 – 70.99	C	Fair	41 – 55.99	D	Bad	0 – 40.99	E	Worse
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	To successfully pass the module, the minimum grade required is C.
Reading lists	: <ol style="list-style-type: none"> <li>1. Kahn, P., &amp; Kyle, J. (Eds.). (2003). <i>Effective learning and teaching in mathematics and its applications</i>. Routledge.</li> <li>2. Gravemeijer, K., &amp; Cobb, P. (2006). Design research from a learning design perspective. In <i>Educational design research</i> (pp. 29-63). Routledge.</li> <li>3. Cobb, Paul. Et al. (2000). <i>Symbolizing and Communicating in mathematics classroom</i>. Routledge.</li> <li>4. Lerman, Stephen. (2021). <i>Encyclopedia of Mathematics Education. Second Edition</i>. Webb, N. F. and Coxford, A.F. 1993. <i>Assessment in The Mathematics Classroom</i>. Reston, VA: National Council TM.</li> </ol>

### PLO and CO mapping

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8
CO1	√							
CO2				√				
CO3			√					
CO4				√				
CO5					√			
CO6						√		
CO7							√	
CO8								√

PLO	CO
PLO 1 Able to take responsibility, discipline, and collaborate professionally and ethically in completing mathematics education tasks	CO 1 Demonstrate discipline, collaboration, and maintain academic ethics in completing assigned tasks.
PLO 4 Master the development research methodology in mathematics education	CO 2 Master the theory of the process of designing a mathematics learning product through methodology.
PLO 3 Master pedagogical and didactic theory, and assessment in mathematics education	CO 3 Master the theory of classroom observation.
PLO 4	CO 4



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Master the development research methodology in mathematics education	Utilize research and development methodology in designing products.
PLO 5 Able to critically analyze current issues in mathematics education using inter and/or multidisciplinary approaches	CO 5 Critically examine current issues related to mathematics learning design
PLO 6 Able to solve a variety of mathematics education challenges using an inter and/or multidisciplinary approach	CO 6 Solve learning problems through the design of mathematics learning products.
PLO 7 Able to disseminate their research findings	CO 7 Publish development results nationally or internationally in academic forums or scientific journals.
PLO 8 Able to apply technology in mathematics education	CO 8 Use the iMind Map application to create mathematics learning designs