



MINISTRY OF HIGHER EDUCATION, SCIENCE, AND TECHNOLOGY

UNIVERSITAS NEGERI SURABAYA

FACULTY OF MATHEMATICS AND NATURAL SCIENCES
UNDERGRADUATE PROGRAM OF MATHEMATICS EDUCATION

Ketintang Campus, Jalan Ketintang, C8 C9 Building, Surabaya 60231

Phone: +62 895335466373, email: s1-pmat@unesa.ac.id

Website: <https://pendidikan-matematika.fmipa.unesa.ac.id/>

**Undergraduate Program of Mathematics
Handbook**

Module

Module Name:	Innovative Teaching and Learning Pembelajaran Inovatif
Module Level:	Sarjana (S-1) / Undergraduate
Abbreviation, if applicable:	8420200004
Sub-heading, if applicable:	-
Course included in the module, if applicable:	-
Semester/term:	3 th / Second year
Module Coordinator(s):	Dr. Susanah, M.Pd.
Lecturer(s):	Dr. Susanah, M.Pd. Dr. Rini Setianingsih, M.Kes. Dr. Janet Trineke Manoy, M.Pd. Dr. Ismail, M.Pd. Dr. Pradnyo Wijayanti, M.Pd. Dr. Siti Khabibah, M.Pd. Nurus Saadah, S.Pd., M.Pd. Dr. Nia Wahyu Damayanti, S.Pd., M.Pd. Dr. Sugi Hartono, M.Pd. Dr. Ali Shodikin, S.Pd., M.Pd. Dr. Nonik Indrawatiningsih, M.Pd. Dr. Yurizka Melia Sari, M.Pd. Yulia Izza El Milla, S.Pd., M.Pd. Novita Vindri Harini, M.Pd
Language:	Indonesia
Classification within the curriculum:	Compulsory course/elective studies
Teaching format/class hours per week during the semester	Teaching format: lectures, tutorial assignment, and individual Study / 3 x 170 minutes = 510 minutes = 8.5 hours lectures
Workload:	16 weeks per semester consisting of: • 1 hour lectures (1 x 50 minutes) per week,



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	<ul style="list-style-type: none">• 1 hours assignments (1 x 60 minutes) per week,• 1 hours individual study (1 x 60 minutes) per week, <p>Total workload : $16 \times 3 \times 170$ minutes = 8,160 minutes = 136 hours=4.8 ECTS*</p>												
Credit Point:	3												
Requirements:	Foundation of Education, Learning Theories, School Curriculum												
Learning Goals:	<p>PLO-3: Develop logical, critical, systematic, and creative thinking in carrying out specific work in their area of expertise and in accordance with the work competency standards of the relevant field.</p> <p>PLO-7: Master pedagogical knowledge in teaching and evaluation in accordance with transformative curriculum developments and technological developments oriented towards realistic mathematics education and edupreneur-leadership.</p> <p>PLO-8: Demonstrate skills in designing, implementing, and evaluating adaptive and innovative technology-based, realistic mathematics learning.</p> <p>PLO-10: Make data-based decisions in completing student assignments and evaluating work done.</p>												
Content:	Studying the theoretical basis, stages, class management, and evaluation in Differentiated Learning, Deep Learning, Direct Teaching Model, Cooperative Learning Model, Discovery Learning, Problem-based Learning, and Project-based Learning in designing, implementing, and evaluating mathematics learning along with its implementation in learning through individual and group assignments with discussion and reflection activities.												
Study/exam achievements	<ul style="list-style-type: none">• Students are considered competent and pass if the final score is at least 55 or C.• Final score is calculated as follows: <table border="1"><thead><tr><th>Week</th><th>Course Learning Outcomes (CLO)</th><th>Programme Learning Outcomes (PLO)</th><th>Evaluation (%)</th></tr></thead><tbody><tr><td>1</td><td>CLO-1</td><td>PLO-3</td><td>3</td></tr><tr><td>2</td><td>CLO-2</td><td>PLO-7</td><td>3</td></tr></tbody></table>	Week	Course Learning Outcomes (CLO)	Programme Learning Outcomes (PLO)	Evaluation (%)	1	CLO-1	PLO-3	3	2	CLO-2	PLO-7	3
Week	Course Learning Outcomes (CLO)	Programme Learning Outcomes (PLO)	Evaluation (%)										
1	CLO-1	PLO-3	3										
2	CLO-2	PLO-7	3										



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3	CLO-1	PLO-3	3
4	CLO-2	PLO-7	4
5	CLO-3	PLO-8	4
6	CLO-2	PLO-7	4
7	CLO-3	PLO-8	6
8	CLO-4	PLO-10	15
9	CLO-2	PLO-7	5
10	CLO-3	PLO-8	6
11	CLO-2	PLO-7	5
12	CLO-3	PLO-8	6
13	CLO-2	PLO-7	5
14	CLO-3	PLO-8	6
15	CLO-4	PLO-10	10
16	CLO-4	PLO-10	15

- Final index is defined as follow:

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	$0 \leq E < 40$

Forms of Media	Slides and LCD projectors, whiteboard
Literature	<ol style="list-style-type: none">Wijayanti, P., Budiarto, M.T., Ismail, Kurniasari, I., Prihartiwi, N.R. (2021). Model Pembelajaran Matematika Berpusat pada Peserta Didik. Surabaya: Unesa University Press.Arends, R.I. (2012). Learning to Teach. 6th Edition. New York: McGraw-Hill Book Company.Arends, R.I. (2004). Guide to Field Experiences and Portofolio Development: to accompany learning to teach. New York: McGraw-HillBook Company.Tomlinson, C. A. (2017). 3rd Edition How to Differentiate



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	<p>Instruction in Academically Diverse Classrooms. Alexandria, VA: ASCD.</p> <p>5. Hockett, J. A. (2018). Differentiation Strategies and Examples: Grades 6-12. Tennessee Department of Education. Alexandria, VA:ASCD.</p> <p>6. Joyce, B., & Calhoun, E. (2024). Models of Teaching (10th ed.). Routledge. https://doi.org/10.4324/9781003455370</p> <p>7. Fullan, M., Quinn, J., & McEachen, J. (2017). Deep Learning: Engage the World Change the World. Corwin Press.</p> <p>8. McTighe, J., & Silver, H. F. (2020). Teaching for Deeper Learning: Tools to Engage Students in Meaning Making. ASCD.</p> <p>9. Johnson, E. B. (2014). Contextual Teaching and Learning: What It Is and Why It's Here to Stay. Corwin Press.</p> <p>10. Slavin, R. E. (2015). Cooperative Learning: Theory, Research, and Practice. Allyn & Bacon.</p> <p>11. Nur, M. (2000). Pembelajaran Kooperatif. Surabaya: Pusat Sains dan Matematika Sekolah.</p> <p>12. Ibrahim, M., Rachmadiarti, F., Ismono. (2005). Pembelajaran Kooperatif. Surabaya: Pusat Sains dan Matematika Sekolah</p> <p>13. Hunaepi, Samsuri, T., Afriliyana, M. (2014) Model Pembelajaran Langsung Teori dan Praktik. Mataram: Duta Pustaka Ilmu.</p> <p>14. Nur, M., Kardi, S. (2000). Pengajaran Langsung. Surabaya: Pusat Sains dan Matematika Sekolah.</p> <p>15. Hunaepi, Samsuri, T., Afriliyana, M. (2014) Model Pembelajaran Langsung Teori dan Praktik.</p> <p>16. Hassed Craig & Chamber, Richard (2015). Mindfulness Learning. New York: Amazon Publisher.</p>
Note	Based on the regulation of the minister of education and culture of Indonesia number 3 of 2020 concerning national higher education standards, it is state 1 CU equals to 170 minutes per week. Therefore, in one semester (16 weeks, including midterm a final exam) $1 \text{ CU} = 170 \times 16 = 2.720$ minutes or 45.3 hours. Therefore, workhours in $144 \text{ CU} \times 45.3 \text{ hours} = 6.523,2$ hours. Unesa decided that 1 ECTS with 144 CU, $6.523,2/229 \text{ ECTS} = 28.48$ hours, so that $1 \text{ CU} = 1.59 \text{ ECTS}$