Module designation	**Realistic Mathematics Education** **Course code:** 8420202004
Semester(s) in which the module is taught	Semester 2 (First year)
Person responsible for the module	**Coordinator:** Prof. Rooselyna Ekawati, Ph.D **Teaching staff:** Dr. Rini Setianingsih, M.Kes.; Prof. Rooselyna Ekawati, Ph.D.; Dr. Lestariningsih, S.Pd., M.Pd.; Evangelista Lus Windyana Palupi, S.Pd., M.Sc.; Dr. Yurizka Melia Sari, M.Pd.; Dr. Mukhtamilatus Sa'diyah, M.Pd.; Liza Puspita Yanti, S.Pd., MAE.
Language	Indonesian
Relation to curriculum	Compulsory
Teaching methods	Lectures, tutorial assignments, and individual study **Media and tools:** Slides and LCD projectors, whiteboard
Workload (incl. contact hours, self-study hours)	**(Estimated) total workload:** 2 CU × 170 minutes × 16 weeks = 5,440 minutes = 90.67 hours (≈ 3.18 ECTS) **Contact hours:** lectures, 2 × 50 minutes per week × 16 weeks = 26.67 hours (class hours per week: 340 minutes = 5.67 hours, including structured activities) **Private study including examination preparation:** structured assignments, 2 × 60 minutes per week × 16 weeks = 32.00 hours; independent study, 2 × 60 minutes per week × 16 weeks = 32.00 hours (total 64.00 hours)
Credit points	2 CU (3.18 ECTS) *1 CU = 170 minutes per week × 16 weeks = 45.3 hours; 1 ECTS = 28.48 hours (144 CU = 229 ECTS), so 1 CU = 1.59 ECTS (UNESA Rector's Decree No. 736/HK/KM/2023).*
Required and recommended prerequisites for joining the module	None
Module objectives/intended learning outcomes	**Programme learning outcomes (PLO) addressed:** • PLO-3: Develop logical, critical, systematic and creative thinking in carrying out specific work in the field of expertise and in accordance with the work competency standards in the relevant field. • PLO-7: Demonstrate pedagogical knowledge in designing, implementing and evaluating mathematics learning. • PLO-8: Design, implement and evaluate mathematics learning using IT. • PLO-10: Make decisions based on data/information in completing tasks that are the student's responsibility and evaluating the work that has been done. • PLO-11: Communicate ideas and research results effectively, orally, and in writing.
Content	Explain the principles and characteristics of Realistic Mathematics Education (RME) as an instructional approach, including the types of contexts used and their applications in the teaching–learning process. Describe the development of a hypothetical learning trajectory (HLT) within the framework of realistic mathematics teaching. Design hypothetical learning trajectories and evaluate mathematics learning in

	elementary and secondary schools using the principles of Realistic Mathematics Education, supported by ICT-based presentations. Communicate ideas and research findings related to Realistic Mathematics Education effectively, both orally and in written form, based on scholarly sources. Identify appropriate context types derived from real-life phenomena relevant to number, algebra, measurement and geometry, probability and statistics, calculus, and combinatorics, and apply them to mathematics teaching in elementary and secondary education. Critically evaluate mathematics lessons developed within the RME framework based on its underlying principles and characteristics.
Examination forms	Final score is calculated from the weekly assessment scheme below (CLO/PLO addressed and weight of each assessment):

Week	CLO	PLO	Weight (%)
1	CLO-1	PLO-3	5
2	CLO-6	PLO-3	5
3	CLO-6	PLO-7	5
4	CLO-6	PLO-7	10
5	CLO-6	PLO-7	5
6	CLO-1	PLO-10	5
7	CLO-1	PLO-10	5
8	CLO-1	PLO-10	10
9	CLO-1	PLO-10	5
10	CLO-3	PLO-8	10
11	CLO-3	PLO-8	5
12	CLO-3	PLO-8	5
13	CLO-3	PLO-8	5
14	CLO-6	PLO-11	5
15	CLO-4	PLO-11	5
16	CLO-4	PLO-11	10

Study and examination requirements

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.

Final index (grade conversion):

Index	Converted score	Score range (A = final score)
A	4.00	85 ≤ A ≤ 100
A-	3.75	80 ≤ A < 85
B+	3.50	75 ≤ A < 80
B	3.00	70 ≤ A < 75
B-	2.75	65 ≤ A < 70
C+	2.50	60 ≤ A < 65
C	2.00	55 ≤ A < 60
D	1.00	40 ≤ A < 55
E	0.00	0 ≤ A < 40

Reading list	1. Hadi,S. (2017).Pendidikan Matematika Realistik. PT Raja Grafindo Persada. 2. Holt, Rinehart, Winston.2006. Mathematics in Context. Chicago: Encyclopædia Britannica,Inc. 3. Johnson, Elanie B. 2002. Contextual Teaching and Learning. California: Corwin Press,Inc. 4. Vanden Heuvel, M.& Wijers,M.2005. Mathematics Standards and Curricula in the Netherlands.ZDMvol37(4) 5. Hadi,S.2016. Realistic Mathematics Education: Theory, Development and Implementation. 6. Vanden Heuvel, M.1996. Assessmentand Realistic Mathematics Education.Technipress Culemborg,Utrecht 7. Teaching books developed by the PMRI (Indonesian Realistic Mathematics Education)t eam 8. Almuna Salgado, F. (2016). Developing a Theoretical Framework for Classifying Levels of Context Use for Mathematical Problems. Mathematics Education Research Group of Australasia. 9. Clements,D.H.,&Sarama,J.(2004). Learning trajectories in mathematics education. Mathematical thinking and learning,6(2),81-89.