Module designation	**Development of Learning Assessment** **Indonesian title:** *Pengembangan Asesmen Pembelajaran* **Course code:** 1000002055
Semester(s) in which the module is taught	Semester 6 (Third year)
Person responsible for the module	**Coordinator:** Dr. Yurizka Melia Sari, M.Pd. **Teaching staff:** Dr. Yurizka Melia Sari, M.Pd.
Language	Indonesian
Relation to curriculum	Compulsory
Teaching methods	Lectures, analysis of school assessment documents, hands-on data analysis workshops, project-based learning (an assessment development portfolio tried out in a class), and individual and group assignments **Media and tools:** Slides, LCD projector, whiteboard, UNESA Learning Management System (LMS), Google Forms, spreadsheet software (Excel or Google Sheets), JASP or jamovi, Rasch analysis software (Winsteps or R), generative AI tools
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	Evaluation of Teaching and Learning
Module objectives/intended learning outcomes	**Programme learning outcomes (PLO) addressed:** • PLO-6: Demonstrate mathematical knowledge and insight. • 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. **Course learning outcomes (CLO): after completing this module, students are able to:** • CLO-1: Analyse school assessment policy and national and international assessment frameworks (AKM numeracy, PISA, TIMSS), and plan an assessment system for a mathematics unit to be used in Teaching Practice (PLO 10) • CLO-2: Develop assessment instruments through the full development cycle, from construct definition and test specification

<table>
<tr><td></td><td>to item writing, expert review, and revision, including critical use of generative AI to draft items (PLO
• CLO-3: Use spreadsheets, statistical software, and learning management systems to administer try-outs and to analyse test data (PLO 6)
• CLO-4: Evaluate instrument quality using classical test theory and the Rasch model (validity evidence, reliability, item difficulty and discrimination, item fit, and person-item maps) and decide which items to revise or drop (PLO 8)
• CLO-5: Interpret assessment data to decide on feedback, remedial and enrichment actions, and reporting, while applying principles of fairness, inclusion, and ethical use of student data (PLO 8)
• CLO-6: Design, try out, and present an assessment development portfolio with an empirical try-out report and reflection (PLO 6)</td></tr>
<tr><td>Content</td><td>Building on Evaluation of Teaching and Learning, which introduces basic assessment concepts and the design of IT-based instruments, this course focuses on how assessment instruments for mathematics learning are developed and shown to be of good quality. Students analyse school assessment policy and large-scale assessment frameworks such as AKM, PISA, and TIMSS, plan an assessment system for a unit of teaching, and follow the instrument development cycle: defining the construct, writing a test specification, drafting items (including critical use of generative AI), expert review, try-out, and revision. Students analyse try-out data using classical test theory and an introduction to the Rasch model with spreadsheets and statistical software, use the results to decide on item revision, feedback, and remedial or enrichment actions, and consider fairness, inclusion, and the ethical use of student data. Learning is project-based: each student produces an assessment development portfolio for a mathematics topic, tried out in a real class, which supports their Teaching Practice.</td></tr>
<tr><td>Examination forms</td><td>Final score is calculated from the weekly assessment scheme below (CLO/PLO addressed and weight of each assessment):
<table>
<tr><th>Week</th><th>CLO</th><th>PLO</th><th>Weight (%)</th></tr>
<tr><td>1</td><td>CLO-1</td><td>PLO-6</td><td>3</td></tr>
<tr><td>2</td><td>CLO-1</td><td>PLO-6</td><td>3</td></tr>
<tr><td>3</td><td>CLO-1</td><td>PLO-6</td><td>3</td></tr>
<tr><td>4</td><td>CLO-2</td><td>PLO-6</td><td>3</td></tr>
<tr><td>5</td><td>CLO-2</td><td>PLO-6</td><td>3</td></tr>
<tr><td>6</td><td>CLO-2</td><td>PLO-6</td><td>3</td></tr>
<tr><td>7</td><td>CLO-2</td><td>PLO-6</td><td>3</td></tr>
<tr><td>8</td><td>CLO-2</td><td>PLO-6</td><td>20</td></tr>
<tr><td>9</td><td>CLO-3</td><td>PLO-8</td><td>4</td></tr>
<tr><td>10</td><td>CLO-3</td><td>PLO-8</td><td>4</td></tr>
<tr><td>11</td><td>CLO-4</td><td>PLO-10</td><td>4</td></tr>
<tr><td>12</td><td>CLO-4</td><td>PLO-10</td><td>4</td></tr>
<tr><td>13</td><td>CLO-5</td><td>PLO-10</td><td>4</td></tr>
<tr><td>14</td><td>CLO-5</td><td>PLO-10</td><td>4</td></tr>
<tr><td>15</td><td>CLO-6</td><td>PLO-8</td><td>5</td></tr>
<tr><td>16</td><td>CLO-6</td><td>PLO-8</td><td>30</td></tr>
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<tr><td>Study and examination requirements</td><td>Students are considered competent and pass if the final score, calculated from weekly tasks and participation (45%), the midterm instrument development portfolio consisting of the test specification, draft items, and expert review results (20%), the final portfolio presentation (5%), and the final examination (30%), is at least 55 or C.
Final index (grade conversion):
<table>
<tr><th>Index</th><th>Converted score</th><th>Score range (A = final score)</th></tr>
<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 < 85</td></tr>
<tr><td>B+</td><td>3.50</td><td>75 ≤ A < 80</td></tr>
<tr><td>B</td><td>3.00</td><td>70 ≤ A < 75</td></tr>
<tr><td>B-</td><td>2.75</td><td>65 ≤ A < 70</td></tr>
<tr><td>C+</td><td>2.50</td><td>60 ≤ A < 65</td></tr>
<tr><td>C</td><td>2.00</td><td>55 ≤ A < 60</td></tr>
<tr><td>D</td><td>1.00</td><td>40 ≤ A < 55</td></tr>
<tr><td>E</td><td>0.00</td><td>0 ≤ A < 40</td></tr>
</table></td></tr>
<tr><td>Reading list</td><td>1. Bond, T. G., & Fox, C. M. (2015). Applying the Rasch model: Fundamental measurement in the human sciences (3rd ed.). Routledge.
2. Boone, W. J., Staver, J. R., & Yale, M. S. (2014). Rasch analysis in the human sciences. Springer.
3. Wilson, M. (2005). Constructing measures: An item response modeling approach. Lawrence Erlbaum Associates.
4. Haladyna, T. M., & Rodriguez, M. C. (2013). Developing and validating test items. Routledge.
5. Mislevy, R. J., Almond, R. G., & Lukas, J. F. (2003). A brief introduction to evidence-centered design (ETS Research Report RR-03-16). Educational Testing Service.
6. Webb, N. L. (1997). Criteria for alignment of expectations and assessments in mathematics and science education (Research Monograph No. 6). Council of Chief State School Officers.
7. OECD. (2023). PISA 2022 assessment and analytical framework. OECD Publishing.
8. Pusat Asesmen dan Pembelajaran, Kemendikbud. (2020). AKM dan implikasinya pada pembelajaran.
9. Badan Standar, Kurikulum, dan Asesmen Pendidikan, Kemendikbudristek. (2022). Panduan pembelajaran dan asesmen pendidikan anak usia dini, pendidikan dasar, dan pendidikan menengah.
10. Mardapi, D. (2008). Teknik penyusunan instrumen tes dan nontes. Mitra Cendikia Press.
11. Retnawati, H. (2016). Analisis kuantitatif instrumen penelitian. Parama Publishing.</td></tr>
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