

### Mathematics Teaching and Learning Designs

Module designation	Mathematics Teaching and Learning Designs
Semester(s) in which the module is taught	II (even semester)
Person responsible for the module	Dr. Lukman El Hakim, M.Pd. Tian Abdul Aziz, Ph.D. Dr. Flavia Aurelia Hidajat, M.Pd.
Language	Bahasa Indonesia
Relation to curriculum	Compulsory course
Teaching methods	Lecture (i.e., small group discussions and project-based learning) Structured assignments (i.e., project development and presentations)
Workload (incl. contact hours, self-study hours)	For this course, students required to meet a minimum of 232 hours in one semester, which consist of: Contact hours for lecture is 40 hours, assignments are 96 hours, and self-study is 96 hours.
Credit points	7.8 ECTS / 3 CP
Required and recommended prerequisites for joining the module	Completing New Orientation in Education Course
Module objectives/intended learning outcomes	Students are able to: 1. CLO 1: understand the Concepts, Principles and Foundations of Learning Design Psychology 2. CLO 2: Understand the concept and implementation of identifying learning needs, learning analysis and student characteristics 3. CLO 3: Develop instructional design including learning objectives, assessment instruments, development of learning strategies, development of learning materials, and learning evaluation
Content	Students will learn about: 1. The major concept of Instructional Design 2. The Psychological Foundation of Instructional Design 3. Learning Needs 4. Analyze Learning 5. Analyzing Student Characteristics 6. Performance Objectives 7. Assessment Instruments 8. Planning Instructional Strategies 9. Developing Learning Materials 10. Formative and Summative Evaluation
Examination forms	Assessment of the learning process according to the following components: Presentation 20%, Project Paper 60%, dan Discussion and Reflection Paper 20%

Study and examination requirements	<p>Students should have attended all lectures and submitted all scheduled individual and group assignments.</p> <p>Forms of examination: project and presentation</p>
Reading list	<ol style="list-style-type: none"> <li>1. Prawiradilaga, D. S. (2015). Prinsip desain pembelajaran. Kencana.</li> <li>2. Sanjaya, W. (2015). Perencanaan dan desain sistem pembelajaran. Kencana.</li> <li>3. Yaumi, M. (2017). Prinsip-Prinsip Desain Pembelajaran: Disesuaikan dengan Kurikulum 2013 Edisi Kedua. Kencana</li> <li>4. Gagne, R. M., Wager, W. W., Golas, K. C., Keller, J. M., &amp; Russell, J. D. (2005). Principles of instructional design.</li> <li>5. Brown, A. H., &amp; Green, T. D. (2019). The essentials of instructional design: Connecting fundamental principles with process and practice. Routledge.</li> <li>6. Roubides, P. (2015). An instructional design process for undergraduate mathematics curriculum online. <i>Procedia Computer Science</i>, 65, 294-303.</li> </ol>