



UNIVERSITAS NEGERI PADANG
 FACULTY OF MATHEMATICS AND NATURAL SCIENCES
 MATHEMATICS DEPARTMENT, MATHEMATICS EDUCATION STUDY PROGRAM
 Main Campus Universitas Negeri Padang.
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Bachelor of Mathematics Education

MODULE HANDBOOK

Module name:	Psychology of Mathematical Instructions
Module level, if applicable:	Bachelor
Code:	MAT1.61.3303
Sub-heading, if applicable:	-
Classes, if applicable:	Psychology of Mathematical Instructions
Semester:	3rd (third)
Module coordinator:	Dr. Armiami, M.Pd.
Lecturer(s):	Dr. Armiami, M.Pd., and Team
Language:	Bahasa Indonesia and English
Classification within the curriculum:	Study Program Compulsory Course
Teaching format / class hours per week during the semester:	<p>Teaching format:</p> <ul style="list-style-type: none"> • Lectures (face to face activities): Project Based Learning with Presentations, Group and Class Discussion methods, • Structured assignment, • Independent activities <p>2 x 170 minutes = 340 minutes = 5.67 hours lectures</p>
Workload:	<p>16 weeks per semester include Midterm and Final Exam which consist of:</p> <ul style="list-style-type: none"> • 1.67 hours lectures (2 x 50 minutes) per week, • 2 hours structured assignment (2 x 60 minutes) per week, • 2 hours independent activities (2 x 60 minutes) per week <p>16 x 170 x 2 = 5440 Minute = 90.67 hours = 3.02 ECTS</p>
Credit points:	2 SKS (3.02 ECTS)
Prerequisite's course(s):	-
Course outcomes:	<p>After taking this course the students have ability to:</p> <p>CO1 : Explain the notion of psychology, learning psychology, mathematics learning psychology, character education in mathematics learning; individual characteristics based on learning styles, gender, heredity, and environment; the nature of mathematics, the characteristics of mathematics, and the objectives of learning</p>

	<p>mathematics; the characteristics of constructivist-based learning, procedures for forming mathematical concepts and schema ideas in understanding mathematical concepts; the meaning of each noticing, anxiety, authoritarian, democratic, in mathematics learning; interpersonal and emotional factors, various types of imagery; the ability to relate to the school environment</p> <p>CO2 : Distinguish various learning theories based on cognitive psychology, behavior, and its application in mathematics; between intuitive and reflective intelligence, short term memory, long term memory, and metacognition</p> <p>CO 3 : Show the responsibility attitude in own works</p> <p>CO 4 : Maintain the responsibility attitude in team works</p>
Content:	<p>This course discusses:</p> <ol style="list-style-type: none"> 1. the definition of the psychology of learning mathematics 2. the essence of mathematics 3. character education 4. individual characteristics 5. the learning theory based on behavioral psychology and cognitive psychology, constructivism in mathematics learning 6. the formation of concepts and schema ideas in mathematics 7. intuitive and reflective intelligence 8. symbols in mathematics 9. various types of imagery (parable) 10. interpersonal and emotional factors 11. short term memory and long term memory 12. noticing, anxiety, metacognition in mathematics learning 13. democratic, authoritarian, thorough mathematics learning 14. improving mathematics teacher skills related to the school environment
Study/exam achievements:	<p>Total Score = (35% x Midterm Exam score) + (35% x Final Exam Score) + (20% x assignments/project) + (10% x Affective Assessment)</p> <p>The initial cut - off points for grades A, A-, B+, B, B-, C+, C, C-, and D should not be less than 85, 80, 75, 70, 65, 60, 55, 50, and 40 out of 100 respectively.</p> <p>Explanation:</p> <ol style="list-style-type: none"> 1. Midterm Exam <ul style="list-style-type: none"> ✓ Midterm Exam will be conducted in the 8th meeting ✓ Midterm Exam is in the form of a written test (essay) and will be conducted in the classroom ✓ The time allocation is 100 minutes according to the module schedule 2. Final Exam <ul style="list-style-type: none"> ✓ Final Exam will be conducted in the 16th meeting.

	<ul style="list-style-type: none"> ✓ Final Exam is in the form of a written test (essay) and will be conducted in the classroom. ✓ The time allocation is 100 minutes which follows the Final Exam schedule provided by the Department. <p>3. Project/Assignment</p> <ul style="list-style-type: none"> ✓ Projects are given as group task and it is in form paper and presentation and it is assessed by rubric assessment ✓ Project is about making essay/report of the content that students read from any references. ✓ The project/assignment is carried out to see the achievements of the PLO and CO which are in accordance with the characteristics of Psychology of mathematical instruction module. <p>4. Affective Assessment</p> <ul style="list-style-type: none"> ✓ Affective assessment is held in every meeting by observing students' attitude in the classroom. ✓ The assesment is based on the observation sheet by using the given scoring rubrics.
Forms of media:	Board, LCD Projector
Literature	<ol style="list-style-type: none"> 1. Amir, Z, & Risnawati. (2016). Psikologi Pembelajaran Matematika. Yogyakarta: Aswaja Pressindo. 2. Rivera, F. (2013). Teaching and Learning Patterns in School Mathematics: Psychological and Pedagogical Considerations. Germany: Springer Netherlands. 3. Resnick, L. B., Ford, W. W. (2012). Psychology of Mathematics for Instruction. United States: Taylor & Francis. 4. Dewanti Sintha Sih. (2010). Diktat Psikologi Belajar Matematika, Yogyakarta. Program Studi Pendidikan Matematika Fakultas Sains dan Teknologi, UIN Sunan Kali Jaga 5. Brosnan, Patricia., Diana B. Erchick., & Lucia Fleveres (eds). (2010). Proceedings of the Thirty Second Annual Meeting of the North American Chapter of the International Group for The Psychology of Mathematics Education. Columbus, OH: Ohio State University.

PLO and CO mapping

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	PLO11	PLO12
CO1					✓							
CO2					✓							
CO3										✓		
CO4										✓		