

MODULE HANDBOOK

Module Name:	Reasoning and Proof
Module Level:	Sarjana (S-1) / Bachelor
Abbreviation, if applicable:	
Sub-heading, if applicable:	-
Course included in the module, if applicable:	-
Semester/term:	4/ Second year
Module Coordinator(s):	Dayat Hidayat, M.Pd.,M.Si.
Lecturer(s):	Dayat Hidayat, M.Pd.,M.Si..
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:	<p>15 weeks per semester consisting of:</p> <ul style="list-style-type: none"> • 2.5 hours lectures (3 x 50 minutes) per week, • 3 hours tutorial assignments (3 x 60 minutes) per week, • 3 hours individual study (3 x 60 minutes) per week, <p>Total workload : 14x3x170 minutes = 7,140 minutes = 4.76 ECTS*</p>
Credit Point:	3
Requirements:	Foundation of Mathematics
Learning Goals:	<p>Knowledge</p> <p>CLO-1: Classify deductive, inductive and abductive reasoning</p> <p>CLO-2: Classify between inductive proof, deductive proof, formal proof, informal proof.</p> <p>CLO-3: Design mathematical problems in learning related to reasoning and proof</p> <p>CLO-4: Solve mathematical problems related to proof using several types of reasoning</p> <p>Skill</p> <p>CLO-5: Implement basic principles of mathematics to solve simple mathematics problems</p>

Content:	Understanding the basic mathematical able to classify deductive, inductive, and abductive reasoning as well as inductive proof, deductive proof, formal proof, informal proof																														
Study/exam achievements	<ul style="list-style-type: none"> • This lecture materials provided with lectures, independent tasks, and discussions. To improve understanding of the material, students were given the task in the form of individual tasks and task groups. Exam in the subject of numerical methods include UTS and UAS. On this subject there is a soft skill assessment. • 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 score is calculated as follows: • 20% midterm exam + 30% assignments + 20% participation + 30% final exam • Final index is defined as follow: <table border="1" data-bbox="699 785 1243 1289"> <thead> <tr> <th>Index</th> <th>Converted Score</th> <th>Score Range</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>4.00</td> <td>$85 \leq A \leq 100$</td> </tr> <tr> <td>A-</td> <td>3.75</td> <td>$80 \leq A - < 85$</td> </tr> <tr> <td>B+</td> <td>3.50</td> <td>$75 \leq B + < 80$</td> </tr> <tr> <td>B</td> <td>3.00</td> <td>$70 \leq B < 75$</td> </tr> <tr> <td>B-</td> <td>2.75</td> <td>$65 \leq B - < 70$</td> </tr> <tr> <td>C+</td> <td>2.50</td> <td>$60 \leq C + < 65$</td> </tr> <tr> <td>C</td> <td>2.00</td> <td>$55 \leq C < 60$</td> </tr> <tr> <td>D</td> <td>1.00</td> <td>$40 \leq D < 55$</td> </tr> <tr> <td>E</td> <td>0.00</td> <td>$0 \leq E < 40$</td> </tr> </tbody> </table> 	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	$0 \leq E < 40$
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Forms of Media	Slides and LCD projectors, whiteboard																														
Literature	<ol style="list-style-type: none"> 1. Garnier, Rowan and John Taylor (1996).100%Mathematical Proof. JohnWiley. 2. Fletcher, Peter (1996).Foundations of Higher Mathematics. Brooks/Cole 3. Adegoke, B. A. 2013. Modeling the Relationship between Mathematical Reasoning Ability and Mathematics Attainment. Journal of Education and Practice, 4(17): 222. 4. Manin, Yu I. (2009).A Course in Mathematical Logic for Mathemati-cians (Graduate Texts in Mathematics), 2nd ed.. Springer. 5. Velleman, Daniel J. (2006).How to Prove It, 2nd ed.. Cambridge. 6. Russell, Bertrand (2010).Principles of Mathematics. Routledge Classics. 7. Sibley, Thomas Q. (2009).Foundations of Mathematics. John Wiley. 																														

	8. Rosen, Kenneth H., 1999. Discrete Mathematic and Its Applications, 4thedition, McGraw Hill International Editions,
Note	*Total hours per 1 credit in 1 semester= $\{(1 \text{ credit} \times 170 \text{ minutes} \times 14 \text{ weeks})/60 \text{ minutes}\}=39,67 \text{ hours}$. Each ECTS equals with 25 hours therefore 1 credit in 1 semester equals 1,59 ECTS.