

1	1. Understand sets and their operations 2. Understand functions and function composition	<ul style="list-style-type: none"> · Determine the results of operations on two sets · 1. · Determine the cross product of two known sets · 2. Show the relationship between relations and the cross product of two sets · 3. Determine whether a mapping is an injective or surjective or bijective mapping · 4. Determine the composition of two or more functions 5. Identify whether An operation on a set is commutative, associative, has an identity element and has an inverse 	Criteria: -	Discussion and Questions and Answers 3 X 50			0%
2	1. Understand sets and their operations 2. Understand functions and function composition	<ul style="list-style-type: none"> · Determine the results of operations on two sets · 1. · Determine the cross product of two known sets · 2. Show the relationship between relations and the cross product of two sets · 3. Determine whether a mapping is an injective or surjective or bijective mapping · 4. Determine the composition of two or more functions 5. Identify whether An operation on a set is commutative, associative, has an identity element and has an inverse 	Criteria: -	Discussion and Questions and Answers 3 X 50			0%
3	1. Understand the structure, types and characteristics of groups 2. Understand the meaning of subgroups and their properties	<ul style="list-style-type: none"> · 1. Shows that a set with certain operations forms a group · 2. Gives examples of groups · 3. Shows that a group is a commutative group 4. Gives examples from everyday life that form a group structure · 5. Shows that a subset with certain operations is a subgroup of super set with the same operation · 6. Declaring whether a particular subgroup is a true or non-true subgroup 	Criteria: -	Expository, Question and answer and discussion 3 X 50			0%

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6	Understand the structure of cyclic groups and permutation groups with examples	· 1. Identify cyclic groups · 2. Determine the generator elements of a cyclic group 3. Identify permutation groups	Criteria: -	Expository, Question and answer and discussion 3 X 50			0%
7	Understand the structure of cyclic groups and permutation groups with examples	· 1. Identify cyclic groups · 2. Determine the generator elements of a cyclic group 3. Identify permutation groups	Criteria: -	Expository, Question and answer and discussion 3 X 50			0%
8	UTS			3 X 50			0%
9	Understand the meaning of koset and its properties	· 1. Give examples of left/right cosets in a group · 2. Determine the index of a subgroup in a group 3. Prove the properties of subgroups	Criteria: -	Expository, Question and answer and discussion 3 X 50			0%

10	Understand the meaning of koset and its properties	<ul style="list-style-type: none"> 1. Give examples of left/right cosets in a group 2. Determine the index of a subgroup in a group 3. Prove the properties of subgroups 	Criteria: -	Expository, Question and answer and discussion 3 X 50			0%
11	Understand the meaning of normal subgroups and factor groups	<ul style="list-style-type: none"> Determining that a subgroup is a normal subgroup of a specified group Applying the normal subgroup theorem that left coset = right coset Proving that the intersection of two normal subgroups is a normal subgroup Showing that the collection of all left/right cosets of a normal subgroup forms a group 	Criteria: -	Expository, Question and answer and discussion 3 X 50			0%
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14	Understand the meaning of homomorphism and isomorphism from one group to another group	<ul style="list-style-type: none"> Identify whether a mapping from group to group is an isomorphism or not Give examples of homomorphisms Identify whether a homomorphism is an isomorphism or not 	Criteria: -	Expository, Question and answer and discussion 3 X 50			0%

15	Understand the meaning of homomorphism and isomorphism from one group to another group	- Identify whether a mapping from group to group is an isomorphism or not · Give examples of homomorphisms Identify whether a homomorphism is an isomorphism or not	Criteria: -	Expository, Question and answer and discussion 3 X 50			0%
16							0%

Evaluation Percentage Recap: Case Study

No	Evaluation	Percentage
		0%

Notes

- 1. Learning Outcomes of Study Program Graduates (PLO - Study Program)** are the abilities possessed by each Study Program graduate which are the internalization of attitudes, mastery of knowledge and skills according to the level of their study program obtained through the learning process.
- 2. The PLO imposed on courses** are several learning outcomes of study program graduates (CPL-Study Program) which are used for the formation/development of a course consisting of aspects of attitude, general skills, special skills and knowledge.
- 3. Program Objectives (PO)** are abilities that are specifically described from the PLO assigned to a course, and are specific to the study material or learning materials for that course.
- 4. Subject Sub-PO (Sub-PO)** is a capability that is specifically described from the PO that can be measured or observed and is the final ability that is planned at each learning stage, and is specific to the learning material of the course.
- 5. Indicators for assessing** abilities in the process and student learning outcomes are specific and measurable statements that identify the abilities or performance of student learning outcomes accompanied by evidence.
- 6. Assessment Criteria** are benchmarks used as a measure or measure of learning achievement in assessments based on predetermined indicators. Assessment criteria are guidelines for assessors so that assessments are consistent and unbiased. Criteria can be quantitative or qualitative.
- 7. Forms of assessment:** test and non-test.
- 8. Forms of learning:** Lecture, Response, Tutorial, Seminar or equivalent, Practicum, Studio Practice, Workshop Practice, Field Practice, Research, Community Service and/or other equivalent forms of learning.
- 9. Learning Methods:** Small Group Discussion, Role-Play & Simulation, Discovery Learning, Self-Directed Learning, Cooperative Learning, Collaborative Learning, Contextual Learning, Project Based Learning, and other equivalent methods.
- 10. Learning materials** are details or descriptions of study materials which can be presented in the form of several main points and sub-topics.
- 11. The assessment weight** is the percentage of assessment of each sub-PO achievement whose size is proportional to the level of difficulty of achieving that sub-PO, and the total is 100%.
- 12. TM=Face to face, PT=Structured assignments, BM=Independent study.**