



1	Able to determine the azimuth and coordinates of the point. Time: 2 X 50	1. Determine the azimuth of two fixed points 2. Determine the azimuth from the initial azimuth 3. Determine the coordinates of the points	<b>Criteria:</b> Full marks are obtained if the image azimuth angle is correct, the value of the azimuth angle and the distance between two points remain correct	Lectures, discussions, questions and answers and practical demonstrations in the 3 X 50 field			0%
2	Able to determine azimuth and point coordinates	1. Determine the azimuth of two fixed points 2. Determine the azimuth from the initial azimuth 3. Determine the coordinates of the points	<b>Criteria:</b> Full marks are obtained if the image azimuth angle is correct, the value of the azimuth angle and the distance between two points remain correct	Lectures, discussions, questions and answers and practical demonstrations in the 3 X 50 field			0%
3	Able to determine azimuth and point coordinates	1. Determine the azimuth of two fixed points 2. Determine the azimuth from the initial azimuth 3. Determine the coordinates of the points	<b>Criteria:</b> Full marks are obtained if the image azimuth angle is correct, the value of the azimuth angle and the distance between two points remain correct	Lectures, discussions, questions and answers and practical demonstrations in the 3 X 50 field			0%
4	Able to determine azimuth and point coordinates	1. Determine the azimuth of two fixed points 2. Determine the azimuth from the initial azimuth 3. Determine the coordinates of the points	<b>Criteria:</b> Full marks are obtained if the image azimuth angle is correct, the value of the azimuth angle and the distance between two points remain correct	Lectures, discussions, questions and answers and practical demonstrations in the 3 X 50 field			0%
5	Able to determine the coordinates of closed polygon points	1. Determine the azimuth 2. Determine the difference in abscissa (DX) 3. Determine the difference in ordinates (DY) 4. Determine the coordinates of the point	<b>Criteria:</b> Full marks are obtained if the azimuth angle image is correct and the azimuth angle value is correct	Lectures, discussions, questions and answers and practical demonstrations in the 3 X 50 field			0%
6	Able to determine the coordinates of closed polygon points	1. Determine the azimuth 2. Determine the difference in abscissa (DX) 3. Determine the difference in ordinates (DY) 4. Determine the coordinates of the point	<b>Criteria:</b> Full marks are obtained if the azimuth angle image is correct and the azimuth angle value is correct	Lectures, discussions, questions and answers and practical demonstrations in the 3 X 50 field			0%
7	Able to determine the coordinates of closed polygon points	1. Determine the azimuth 2. Determine the difference in abscissa (DX) 3. Determine the difference in ordinates (DY) 4. Determine the coordinates of the point	<b>Criteria:</b> Full marks are obtained if the azimuth angle image is correct and the azimuth angle value is correct	Lectures, discussions, questions and answers and practical demonstrations in the 3 X 50 field			0%
8	USS (2 x 50)	-	<b>Criteria:</b> -	- 3 X 50			0%

9	Able to determine the coordinates of open polygon points	1. Determine the azimuth 2. Determine the difference in abscissa (DX) 3. Determine the difference in ordinates (DY) 4. Determine the coordinates of the point	<b>Criteria:</b> Full marks are obtained if the image azimuth angle is correct, the value of the azimuth angle and the point coordinates are correct	Lectures, discussions, questions and answers and practical demonstrations in the 3 X 50 field			0%
10	Able to determine the coordinates of open polygon points	1. Determine the azimuth 2. Determine the difference in abscissa (DX) 3. Determine the difference in ordinates (DY) 4. Determine the coordinates of the point	<b>Criteria:</b> Full marks are obtained if the image azimuth angle is correct, the value of the azimuth angle and the point coordinates are correct	Lectures, discussions, questions and answers and practical demonstrations in the 3 X 50 field			0%
11	Able to determine point coordinates using the Front Binding method	1. Determine the azimuth 2. Determine the difference in abscissa (DX) 3. Determine the difference in ordinates (DY) 4. Determine the coordinates of the point	<b>Criteria:</b> Full marks are obtained if the coordinates of the points of the polygon are closed and the writing layout and completeness of the report are correct	Lectures, discussions, questions and answers and practical demonstrations in the 3 X 50 field			0%
12	Able to determine point coordinates using the Backward Binding method: Collins	1. Determine the azimuth 2. Determine the coordinates of the assistance point, namely point H3. 3. Determine the coordinates of the point you are looking for	<b>Criteria:</b> Full marks are obtained if the coordinates of the points of the open polygon / closed polygon and the writing layout and completeness of the report are correct	Lectures, discussions, questions and answers and practical demonstrations in the 2 X 50 field			0%
13	Able to determine point coordinates using the Backward Binding method: Cassini	1. Determine the azimuth 2. Determine the coordinates of the assistance points, namely point D and point E 3. Determine the coordinates of the point you are looking for	<b>Criteria:</b> Full marks are obtained if the point coordinates of the front binding and the writing layout and completeness of the report are correct	Lectures, discussions, questions and answers and practical demonstrations in the 2 X 50 field			0%

14	Able to determine basic framework points, detailed points and situation mapping contours, and describe situation maps	1. Determine the basic framework points by: closed polygon, open polygon, forward binding and backward binding 2. Determine detailed points using: perpendicular coordinates, polar coordinates and trilateration 3. Determine contour lines using radial, profile, path and raster (box) methods 4. Draw a situation map	<b>Criteria:</b> Full marks are obtained if the coordinates of the points from the backward binding and the writing layout and completeness of the report are correct. The situation mapping image at a certain scale matches the original form.	Lectures, discussions, questions and answers and practical demonstrations in the 2 X 50 field			0%
15	Able to determine basic framework points, detailed points and situation mapping contours, and describe situation maps	1. Determine the basic framework points by: closed polygon, open polygon, forward binding and backward binding 2. Determine detailed points using: perpendicular coordinates, polar coordinates and trilateration 3. Determine contour lines using radial, profile, path and raster (box) methods 4. Draw a situation map	<b>Criteria:</b> Full marks are obtained if the coordinates of the points from the backward binding and the writing layout and completeness of the report are correct. The situation mapping image at a certain scale matches the original form.	Lectures, discussions, questions and answers and practical demonstrations in the 2 X 50 field			0%
16							0%

#### Evaluation Percentage Recap: Project Based Learning

No	Evaluation	Percentage
		0%

#### Notes

- 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.
- 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.
- 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.
- 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.
- Indicators for assessing** ability in the process and student learning outcomes are specific and measurable statements that identify the ability or performance of student learning outcomes accompanied by evidence.
- 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.
- 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.