	Universitas Negeri Surabaya Faculty of Social Sciences and Law Geography Education Undergraduate Study Program	Document Code

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight			SEMESTER	Compilation Date
APPLIED REMOTE SENSING (PJ).	8720202215	Compulsory Curriculum Subjects - National	T=1	P=1	ECTS=3.18	5	July 17, 2024

AUTHORIZATION	SP Developer	Course Cluster Coordinator	Study Program Coordinator
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Learning model	**Project Based Learning**

Program Learning Outcomes (PLO)

PLO study program that is charged to the course

PLO-5	Able to make appropriate decisions to solve educational problems and transformative geography learning by utilizing various learning resources based on science and technology and the arts
PLO-8	Able to obtain, process, analyze, present geosphere data and information using geospatial technology in integrated geographic studies with in-depth urban studies that support regional sustainability

Program Objectives (PO)

PO - 1	Design PJ applications for land cover, land use analysis, natural resources, agriculture, forestry
PO - 2	Designing PJ applications for disasters, settlements, economics, transportation

PLO-PO Matrix

P.O	PLO-5	PLO-8
PO-1		
PO-2		

PO Matrix at the end of each learning stage (Sub-PO)

P.O	Week															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PO-1																
PO-2																

Short Course Description	This course discusses Applied Remote Sensing for land cover analysis, Applied Remote Sensing for land use analysis, Applied Remote Sensing for natural resource analysis, Applied Remote Sensing for agricultural analysis, Applied Remote Sensing for forestry analysis, Applied Remote Sensing for disaster analysis, Applied Remote Sensing for economic analysis, Applied Remote Sensing for transportation analysis. The models/methods used in this lecture include project-based learning, self-directed learning and small group discussions.
References	**Main :**

1. 1. Adams, JB, Gillespie, AR, 2006. Penginderaan Jauh Lanskap dengan Gambar Spektral – Sebuah Pendekatan Pemodelan Fisik. Pers Universitas Cambridge. New York.
2. 2. Elachi, C., Zyl, Vj 2006. Pengantar Fisika dan Teknik Penginderaan Jauh. John Willey & Sons Inc. New Jersey.
3. 3. Hornng, N., Robinson, JA, Sterling, Ej, Turner, W., Spector, S., 2010. Penginderaan Jauh untuk Ekologi dan Konservasi. Oxford University Press, New York.
4. 4. Liu, JG, Mason, PJ 2009. Pemrosesan Gambar Esensial dan GIS untuk Penginderaan Jauh, John Willey & Sons Inc. Chichester.
5. 5. Mather, PM 2004. Pemrosesan Komputer Gambar Penginderaan Jauh Sebuah Pengantar. John Willey & Sons Inc. Chichester.

Supporters:

1. Liang, S. 2004. Penginderaan Jauh Kuantitatif Permukaan Tanah. John Willey & Sons Inc. New Jersey.

Supporting lecturer	Dr. Eko Budiyanto, S.Pd., M.Si. Dr. Aida Kurniawati, S.Pd., M.Si.

Week-	Final abilities of each learning stage (Sub-PO)	Evaluation		Help Learning, Learning methods, Student Assignments, [Estimated time]		Learning materials [References]	Assessment Weight (%)
		Indicator	Criteria & Form	Offline (*offline*)	Online (*online*)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Design PJ applications for land cover, land use analysis, natural resources, agriculture, forestry	Accuracy of PJ applied design for land cover, land use analysis, natural resources, agriculture, forestry	**Criteria:** Complete > 69 **Form of Assessment** : Project Results Assessment / Product Assessment, Practice / Performance, Test	practice discussion 2 x 50	practice discussion 1 x 50	**Material:** applied PJ **Library:**	6%
2	Design PJ applications for land cover, land use analysis, natural resources, agriculture, forestry	Accuracy of PJ applied design for land cover, land use analysis, natural resources, agriculture, forestry	**Criteria:** Complete > 69 **Form of Assessment** : Project Results Assessment / Product Assessment, Practice / Performance, Test	practice discussion 2 x 50	practice discussion 1 x 50	**Material:** applied PJ **Library:**	6%
3	Design PJ applications for land cover, land use analysis, natural resources, agriculture, forestry	Accuracy of PJ applied design for land cover, land use analysis, natural resources, agriculture, forestry	**Criteria:** Complete > 69 **Form of Assessment** : Project Results Assessment / Product Assessment	practice discussion 2 x 50	practice discussion 1 x 50	**Material:** applied PJ **Library:**	6%
4	Design PJ applications for land cover, land use analysis, natural resources, agriculture, forestry	Accuracy of PJ applied design for land cover, land use analysis, natural resources, agriculture, forestry	**Criteria:** Complete > 69 **Form of Assessment** : Assessment of Project Results / Product Assessment, Practices / Performance	practice discussion 2 x 50	practice discussion 1 x 50	**Material:** applied PJ **Library:**	6%
5	Design PJ applications for land cover, land use analysis, natural resources, agriculture, forestry	Accuracy of PJ applied design for land cover, land use analysis, natural resources, agriculture, forestry	**Criteria:** Complete > 69 **Form of Assessment** : Assessment of Project Results / Product Assessment, Practices / Performance	practice discussion 2 x 50	practice discussion 1 x 50	**Material:** applied PJ **Library:**	6%

6	Design PJ applications for land cover, land use analysis, natural resources, agriculture, forestry	Accuracy of PJ applied design for land cover, land use analysis, natural resources, agriculture, forestry	**Criteria:** Complete > 69 **Form of Assessment** : Project Results Assessment / Product Assessment, Practice / Performance, Test	practice discussion 2 x 50	practice discussion 1 x 50	**Material:** applied PJ **Library:**	10%
7	Design PJ applications for land cover, land use analysis, natural resources, agriculture, forestry	Accuracy of PJ applied design for land cover, land use analysis, natural resources, agriculture, forestry	**Criteria:** Complete > 69 **Form of Assessment** : Assessment of Project Results / Product Assessment, Practices / Performance	practice discussion 2 x 50	practice discussion 1 x 50	**Material:** applied PJ **Library:**	5%
8	UTS	rubric accuracy	**Criteria:** Completed > 65 **Form of Assessment** : Test	Test		**Material:** applied to land use **References:** *1. Adams, JB, Gillespie, AR, 2006. Remote Sensing of Landscapes with Spectral Images – A Physical Modeling Approach. Cambridge University Press. New York.*	5%
9	Designing PJ applications for disasters, settlements, economics, transportation	Accuracy of PJ applied design for disasters, settlements, economy, transportation	**Criteria:** Complete > 69 **Form of Assessment** : Assessment of Project Results / Product Assessment, Practices / Performance	practice discussion 2 x 50	practice discussion 1 x 50	**Material:** applied pj **Literature:**	6%
10	Designing PJ applications for disasters, settlements, economics, transportation	Accuracy of PJ applied design for disasters, settlements, economy, transportation	**Criteria:** Complete > 69 **Form of Assessment** : Assessment of Project Results / Product Assessment, Practices / Performance	practice discussion 2 x 50	practice discussion 1 x 50	**Material:** applied pj **Literature:**	6%
11	Designing PJ applications for disasters, settlements, economics, transportation	Accuracy of PJ applied design for disasters, settlements, economy, transportation	**Criteria:** Complete > 69 **Form of Assessment** : Assessment of Project Results / Product Assessment, Practices / Performance	practice discussion 2 x 50	practice discussion 1 x 50	**Material:** applied pj **Literature:**	6%

12	Designing PJ applications for disasters, settlements, economics, transportation	Accuracy of PJ applied design for disasters, settlements, economy, transportation	**Criteria:** Complete > 69 **Form of Assessment** : Assessment of Project Results / Product Assessment, Practices / Performance	practice discussion 2 x 50	practice discussion 1 x 50	**Material:** applied pj **Literature:**	6%
13	Designing PJ applications for disasters, settlements, economics, transportation	Accuracy of PJ applied design for disasters, settlements, economy, transportation	**Criteria:** Complete > 69 **Form of Assessment** : Assessment of Project Results / Product Assessment, Practices / Performance	practice discussion 2 x 50	practice discussion 1 x 50	**Material:** applied pj **Literature:**	6%
14	Designing PJ applications for disasters, settlements, economics, transportation	Accuracy of PJ applied design for disasters, settlements, economy, transportation	**Criteria:** Complete > 69 **Form of Assessment** : Project Results Assessment / Product Assessment	practice discussion 2 x 50	practice discussion 1 x 50	**Material:** applied pj **Literature:**	10%
15	Designing PJ applications for disasters, settlements, economics, transportation	Accuracy of PJ applied design for disasters, settlements, economy, transportation	**Criteria:** Complete > 69 **Form of Assessment** : Project Results Assessment / Product Assessment	practice discussion 2 x 50	practice discussion 1 x 50	**Material:** applied pj **Literature:**	5%
16	UAS	rubric accuracy	**Criteria:** Completed > 65 **Form of Assessment** : Test	test		**Material:** PJ for human activities **References:** *3. Hornng, N., Robinson, JA, Sterling, Ej, Turner, W., Spector, S., 2010. Remote Sensing for Ecology and Conservation. Oxford University Press, New York.*	5%

Evaluation Percentage Recap: Project Based Learning

No	Evaluation	Percentage
1.	Project Results Assessment / Product Assessment	51.83%
2.	Practice / Performance	30.83%
3.	Test	17.33%
		99.99%

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.