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

SEMESTER LEARNING PLAN

Courses		CODE	Course Family		Credit Weight			SEMESTER	Compilation Date
Sig Advanced Analyst		8720202157			T=2	P=1	ECTS=4.77	8	July 18, 2024

AUTHORIZATION		SP Developer		Course Cluster Coordinator		Study Program Coordinator
		....		....		Dr. Nugroho Hari Purnomo, S.P., M.Si.

Learning model	**Project Based Learning**
Program Learning Outcomes (PLO)	**PLO study program that is charged to the course**
	Program Objectives (PO)
	PLO-PO Matrix

	P.O

	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

Short Course Description	This course provides understanding and skills about geographic information systems and their application in spatial/regional analysis. Learning emphasizes spatial analysis concepts and techniques using open source GIS software.

References	Main :

1. Esri. 1996. Introduction to Map Design. Esri Inc New York.
2. Fortin, M, J,. Dale, M, .2005. Spatial Analysis a Guide for Ecologist. Cambridge University Press.
3. Fotheringham, S, Rogerson, P,. 2005. Spatial Analysis and GIS. London: Taylor & Francis.
4. Lloyd, C, D,. 2011. Local Models For Spatial Analysis, Second Edition. New York: CRC Press, Taylor & Francis Group.
5. QGIS Project. 2013. QGIS User Guide. QGIS Project.
6. Riester, J,. 2008. Introduction to Topographic Maps. Geospatial Training and Analysis Cooperative.
7. Sanders, L,. 2007. Models in Spatial Analysis. London: ISTE Ltd.
8. Stillwell, J, Clarke, G,. 2004. Applied GIS and Spatial Analysis. England: John Wiley & Sons.
9. The MapServer Team. 2015. MapServer Open Source Web Mapping 13 MapServer Documentation Release 6.4.1.

	Supporters:

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	Students are able to carry out spatial analysis using basic level geographic information systems in the form of geometric measurements (distance, area, direction and volume) and generalization of geospatial data (geometric and attributes)	1.Mastering procedures for measuring distance, area, direction and volume using geographic information system tools 2.Understand the steps of geometric generalization and spatial data attributes		DemonstrationGuided Practice 2 X 50			0%
2	Students are able to carry out spatial analysis using basic level geographic information systems in the form of query analysis and buffer analysis	1.Understand Query and Buffer analysis procedures 2.Able to apply Query and Buffer analysis to appropriate cases.		OnlineDemonstrationGuided Practice 2 X 50			0%
3	Students are able to understand advanced spatial analysis techniques	1.Understand data classification analysis procedures and statistical spatial analysis 2.Able to apply data classification analysis and statistical spatial analysis to appropriate cases		OnlineDemonstrationGuided Practice 2 X 50			0%
4	Students are able to carry out advanced spatial analysis	1.Understand network and 3D analysis procedures 2.Able to apply network and 3D analysis to appropriate cases		OnlineFace to faceGuided practiceStructured assignments 2 X 50			0%
5	Students are able to carry out complex spatial analysis	1.Understand the concept of Spatial Autocorrelation 2.Can perform Spatial Autocorrelation procedural steps 3.Able to apply the concept of Spatial Autocorrelation		OnlineFace to faceGuided practiceStructured assignments 2 X 50			0%
6	Students are able to carry out complex spatial analysis	1.Understand the concept of Spatial Metrics 2.Can perform Spatial Metrics procedural steps 3.Able to apply the concept of Spatial Metrics		OnlineFace to faceGuided practiceStructured assignments 2 X 50			0%

7	Students are able to carry out complex spatial analysis	1. Understand the concept of Multi-criteria Decision Making 2. Can carry out Multi-criteria Decision Making procedural steps 3. Able to apply the concept of Multi-criteria Decision Making		OnlineFace to faceGuided practiceStructured assignments 2 X 50			0%
8	UTS			2 X 50			0%
9	Understand the concept of Geographically Weighted Regression (GWR)	1. Understand the concept of Geographically Weighted Regression (GWR) 2. Can perform Geographically Weighted Regression procedural steps 3. Able to apply the concept of Geographically Weighted Regression (GWR)		Face to face Guided practice Structured assignments 2 X 50			0%
10	Students understand the concept of Analytical Hierarchy Process	1. Understand the concept of Analytical Hierarchy Process 2. Can carry out Analytical Hierarchy Process procedural steps 3. Able to apply the concept of Analytical Hierarchy Process		Face to face Guided practice Structured assignments 2 X 50			0%
11	Students are able to customize geographic information system software	1. Understand the GIS software customization process 2. Able to design and customize GIS software		Face to face Guided practice Structured Assignments 2 X 50			0%
12	Students are able to build a Geoportal	1. Understand programming language concepts for building geoportals 2. Able to design geoportal schemes		Face to face Guided practice Structured Assignments 2 X 50			0%
13	Students are able to build a Geoportal	1. Understand the concept of interface interaction 2. Able to compose simple scripts for geoportal interface interaction functions		Face to face Guided practice Structured assignments 2 X 50			0%

14	Students are able to build a Geoportal	1. Understand the concept of geoportal databases 2. Able to build a geoportal database		Face to face Guided practice Structured assignments 2 X 50			0%
15	Students are able to build a Geoportal	1. Understand the concept of geoportal databases 2. Able to build a geoportal database		Face to face Guided practice Structured assignments 2 X 50			0%
16							0%

Evaluation Percentage Recap: Project Based Learning

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** 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.
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.