



UNIVERSITAS PENDIDIKAN INDONESIA

SEMESTER LEARNING PLAN (RPS)

COURSE INFORMATION

Course Name	Course Code	Credits	Workload	Course Group	Semester	Prerequisite Course	Date of Issue
SISTEM INFORMASI GEOGRAFIS	GG461	4	180	Development Expertise Program Study (PKPS)	4		2025-09-01 13:05:05

Prepared by	Reviewed by	Approved by
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COURSE DESCRIPTION AND LEARNING OUTCOMES

Course Description	this examining regarding development, components, essential elements essential, structure data, remote sensing remote sensing and SIG, production of map digital (theory and practice), non-graphic/attribute data entry, database processing (theory and practice), and several GIS applications in geographical studies.		
Program Learning Outcome Assigned in the Course	1	Able to explain the concepts and methods of acquiring geosphere data and information using geospatial technology in school learning and geographic research	
	2	Able to process, analyze, and present geosphere data and information using geospatial technology for learning and geographic research	
	3	Able to apply logical, critical, systematic, and innovative thinking in the context of the development or implementation of science and technology, while considering and applying humanistic values appropriate to their field of expertise.	
Course Learning Outcome (CPMK)	1	Understanding the theories of geographic information systems geographic	
	2	Explaining the advantages and limitations of data SIG	
	3	Describe the stages of data acquisition from remote sensing in GIS	
	4	Applying proses production of map digital	
	5	Applying GIS theory using computers to examine geographic phenomena geography	
Sub-CPMK	1	CPMK - 1	Students are able to understand the definition of Geographic Information Systems and the development of Geographic Information Geographic
	2	CPMK - 2	Students are able to explain the advantages and capabilities of geographic information geographic
	3	CPMK - 3	Students are able to understand the components of geographic information systems, data types, and data quality of geographic information geographic
	4	CPMK - 4	Students are able to describe the integration of remote sensing data and geographic information geographic
	5	CPMK - 4	Students are able to describe the stages of data acquisition from remote sensing in geographic information geographic
	6	CPMK - 5	Students are able to discuss and review the utilization of Geographic Information Systems in various field of.
	7	CPMK - 4	Students are able to practice the creation of geodatabases, on-screen digitisation, topology rules, and query.
	8	CPMK - 4	Students are able to practice the use of geoprocessing tools for proximity and overlay
	9	CPMK - 5	Students are able to practice Network Analysis and 3D Analysis
	10	CPMK - 5	Students are able to practice land suitability mapping.
Course Materials	1	Definition of Geographic Information Systems and the Development of Geographic Information Geographic	
	2	Advantages and capabilities of geographic information geographic	

	3	Components of geographic information systems, data types, and data quality of geographic information geographic
	4	Integration of remote sensing data and geographic information geographic
	5	Stages of data acquisition from remote sensing in geographic information systems
	6	Utilization of Geographic Information Systems in various field of
	7	Practicum Production of Geodatabase
	8	Practicum Digitisation on Screen and Topology Rules
	9	Practicum query
	10	Practicum Geoprocessing Tool: proximity and overlay
	11	Practicum Network Analysis
	12	Practicum 3D Analysis
	13	Practicum Conformity Land
Learning outcomes demonstrated at the end of the course *)	1.Paper on the utilization of Geographic Information Systems in various fields of life 2. Digital maps based on the problems being studied 3. GIS modeling to solve the problems being studied	
Learning Strategy	✓	Case Method
		Team based Project
		Others
Learning Stages	☐ Delivering an introduction in the form of basic theories of Geographic Information Systems (GIS) ☐ Providing a number of cases or problems that can be solved using GIS ☐ Conducting a literature review on problems that can be addressed using GIS ☐ Conducting discussions on various problems that can be handled by GIS ☐ Midterm Examination ☐ Practicum of digital mapping using GIS software ☐ Developing projects to produce solutions to the problems studied by students ☐ Final Examination	
References	1	Burrough.1986. Principles of Geographical Information System for Land Resources Assessment. New York: Oxford University Press.
	2	Demers,Michael N.1997.Fundamental of Geographic Information System. University of New Mexico,John Wiley and Sons,Inc.
	3	Environmental System Research Institut (ESRI), 1995. Understanding GIS, The Arc Info Method. USA

LEARNING PLAN

Week -	Sub-CPMK	Learning Indicator	Course Material	Assessment		Learning Method		Duration (hours)	Reference	Access Time
				Assessment Method (test/non-test)	Assessment Weighting (%)	Synchronous	Asynchronous			
1	Students are able to understand definition System Information Geographic and development System Information Geographic	Students are able to understand definition System Information Geographic and development System Information Geographic	Definition System Information Geographic and development System Information Geographic	Participatory	5	Delivery of course material, discussion	Students learn independently based on the provided references and other relevant learning resources	4	1	01-09-2025 11:36
2	Students are able to explain the advantages and capabilities of geographic information systems	Students are able to explain the advantages and capabilities of geographic information systems	Advantages and capabilities of geographic information systems	Participatory	5	Delivery of course material, discussion	Students learn independently based on the provided references and other relevant learning resources	4	2	08-09-2025 11:38
3	Students are able to understand components system information geographic, types data and quality data system information geographic	Students are able to understand components system information geographic, types data and quality data system information geographic	Components of geographic information geographic, types data and quality data system information geographic	Participatory	5	Delivery of course material, discussion	Students learn independently based on the provided references and other relevant learning resources	4	3	15-09-2025 11:41
4	students are able to describe the integration of remote sensing data and geographic information systems	students are able to describe the integration of remote sensing data and geographic information systems	Integration of remote sensing data and system information geographic	Participatory	5	Delivery of course material, discussion	Students learn independently based on the provided references and other relevant learning resources	4	4	22-09-2025 11:43

Week -	Sub-CPMK	Learning Indicator	Course Material	Assessment		Learning Method		Duration (hours)	Reference	Access Time
				Assessment Method (test/non-test)	Assessment Weighting (%)	Synchronous	Asynchronous			
5	Students are able to understand the definition of Geographic Information Systems and the development of Geographic Information Systems	Students are able to understand the definition of Geographic Information Systems and the development of Geographic Information Systems	Stages data from remote sensing remote sensing in system information geographic	Observation	5	Delivery of course material, discussion	Students learn independently based on the provided references and other relevant learning resources	4	1	29-09-2025 11:44
6	Students are able to discuss and examine the utilization of Geographic Information Systems in various fields	Students are able to discuss and examine the utilization of Geographic Information Systems in various fields	Utilization of Geographic Information Systems in various fields	Participatory	5	Delivery of course material, discussion	Students learn independently based on the provided references and other relevant learning resources	4	2	06-10-2025 12:58
7	Students are able to discuss and examine the utilization of Geographic Information Systems in various fields	Students are able to discuss and examine the utilization of Geographic Information Systems in various fields	Utilization of Geographic Information Systems in various fields	Participatory	5	Delivery of course material, discussion	Students learn independently based on the provided references and other relevant learning resources	4	3	13-10-2025 13:00
8	UTS				15					20-10-2025 13:00
9	Students are able to practice the creation of geodatabases, on-screen digitizing, topology rules, and queries	Students are able to practice geodatabase creation	Practicum Production of Geodatabase	Portfolio	5	Delivery of course material, practicum system information geographic	Practicum system information systems and the preparation of practicum reports	4	1	27-10-2025 13:00

Week -	Sub-CPMK	Learning Indicator	Course Material	Assessment		Learning Method		Duration (hours)	Reference	Access Time
				Assessment Method (test/non-test)	Assessment Weighting (%)	Synchronous	Asynchronous			
10	Students are able to practice the creation of geodatabases, on-screen digitizing, topology rules, and queries	Students are able to practice on-screen digitizing and topology rules	Practice of On-Screen Digitizing and Topology Rules	Portfolio	5	Delivery of course material, practicum system information geographic	Practicum system information systems and the preparation of practicum reports	4	2	03-11-2025 13:00
11	Students are able to practice the creation of geodatabases, on-screen digitizing, topology rules, and queries	Students are able to practice the creation of geodatabases, on-screen digitizing, topology rules, and queries	Practicum query	Portfolio	5	Delivery of course material, practicum system information geographic	Practicum system information systems and the preparation of practicum reports	4	3	13-10-2025 13:00
12	Students are able to practice the use of geoprocessing tools: proximity and overlay Students are able to practice geoprocessing tools: proximity and overlay	Practice of Geoprocessing Tools: proximity and overlay	Practicum Geoprocessing Tool: proximity and overlay	Portfolio	5	Delivery of course material, practicum system information geographic	Practicum system information systems and the preparation of practicum reports	4	4	17-11-2025 13:00
13	Students are able to practice Network Analysis and 3D Analysis	Students are able to practice Network Analysis and 3D Analysis	Practicum Network Analysis	Portfolio	5	Delivery of course material, practicum system information geographic	Practicum system information systems and the preparation of practicum reports	4	1	24-11-2025 13:00
14	Students are able to practice Network Analysis and 3D Analysis	Students are able to practice Network Analysis and 3D Analysis	Practicum 3D Analysis	Portfolio	5	Delivery of course material, practicum system information geographic	Practicum system information systems and the preparation of practicum reports	4	2	01-12-2025 13:00

Week -	Sub-CPMK	Learning Indicator	Course Material	Assessment		Learning Method		Duration (hours)	Reference	Access Time
				Assessment Methode (test/non-test)	Assessment Weighting (%)	Synchronous	Asynchronous			
15	Students are able to practice the creation of land suitability maps.	Students are able to practice the creation of land suitability maps	Practicum Conformity Land	Performance	5	Delivery of course material, practicum system information geographic	Practicum system information systems and the preparation of practicum reports	4	4	15-12-2025 13:00
16	UAS				15					22-12-2025 13:00

STUDENT LEARNING TIME (WORKLOAD)

LEARNING	ACTIVITIES		SYNCHRONOUS (Face-to-Face / Virtual Meeting)	ASYNCHRONOUS (Structured / Independent)	STUDENT LEARNING PREPARATION	TOTAL STUDENT LEARNING AND INSTRUCTION TIME
	Lectures/Responses/Tutorials		14 x 180 minutes = 2520 minutes	14 x 60 minutes = 840 minutes	16 x 30 minutes = 480 minutes	3840 minutes (64.0 hours)
	Project-based learning		8 x 180 minutes = 1440 minutes	8 x 60 minutes = 480 minutes	8 x 30 minutes = 240 minutes	2160 minutes (36.0 hours)
	Discussion (case-based learning)		8 x 60 minutes = 480 minutes	8 x 60 minutes = 480 minutes	-x-	960 minutes (16.0 hours)
	TOTAL					6960 minutes (116.0 hours)
ASSESSMENT		Continuous Assessment				
		Participation During Learning	14 x 90 minutes = 1260 minutes	14 x 30 minutes = 420 minutes	-x-	1680 minutes (28.0 hours)
		Project Completion	8 x 90 minutes = 720 minutes	8 x 30 minutes = 240 minutes	-x-	960 minutes (16.0 hours)
		Assignments	4 x 60 minutes = 240 minutes	4 x 60 minutes = 240 minutes	-x-	480 minutes (8.0 hours)
		Quizzes	8 x 30 minutes = 240 minutes	8 x 30 minutes = 240 minutes	-x-	480 minutes (8.0 hours)
		Formative				120 minutes (2.0 hours)
		Summative				120 minutes (2.0 hours)
	TOTAL					3840 minutes (64.0 hours)
TOTAL WORKLOAD						10800 minutes (180 hours)
TOTAL IDEAL HOURS						180 hours
CREDITS						4
CONFORMITY WITH THE NUMBER OF CREDITS						APPROPRIATE

CPMK ASSESSMENT CRITERIA

No	CPMK	CPL			TAXONOMY	Weight	CPMK ACHIEVEMENT CRITERIA
		CPL-1	CPL-2	CPL-3			
1	Understanding the theories of geographic information systems geographic					5	80% of the total students obtain a minimum score of 75 (on a scale of 100)
2	Explaining the advantages and limitations of data SIG					5	80% of the total students obtain a minimum score of 75 (on a scale of 100)
3	Describing stages take data from remote sensing remote sensing in SIG					5	80% of the total students obtain a minimum score of 75 (on a scale of 100)
4	Applying proses production of map digital					30	80% of the total students obtain a minimum score of 75 (on a scale of 100)
5	Applying theory SIG with Computer to examine geographic phenomena					25	80% of the total students obtain a minimum score of 75 (on a scale of 100)

COLLABORATIVE ASSIGNMENT DESIGN

ASSIGNMENT TITLE	Practicum System Information Geographic Base
LEARNING METHOD	Case Method
TIME	
ASSESSMENT WEIGHT	50
SUB-CPMK	Students are able to practise the production of land suitability maps lahan.

ASSIGNMENT DESCRIPTION	
Students complete the practicum in accordance with the provided module (data rectification, vector data model for points, lines, and polygons, spatial data analysis, Interpretation spatial)	
TASK COMPLETION STEPS	
• Students are introduced to the assignments and practicum to be conducted practicum • Students carry out the practicum in accordance with the provided module • Students compile the practicum module with screen capture evidence from each step of the practicum process Students • analyze the results of the practicum that has been conducted • Students submit the practicum results according to the established schedule	
DETAILS OF EXPECTED OUTPUTS	
Practicum module containing step-by-step procedures and analysis results that offered	
INDICATORS, CRITERIA, AND ASSESSMENT WEIGHT	
Analysis results, neatness, originality	
IMPLEMENTATION SCHEDULE	
Note: The number of days in one semester is $16 \times 7 = 112$ days. The implementation of the schedule may be determined based on calculation hari	
Activities	Implementation Time
Practicum Geodatabase	27 Oktober 2025
Praktikum Digitisation On Screen and Topology Rules	03 November 2025
Practicum Query	10 November 2025
Practicum Geoprocessing Tool Proximity and Overlay	17 November 2025

Practicum Network Analysis	24 November 2025
Practicum 3D Analysis	1 Desember 2025
Practicum Analysis Conformity Land	8 Desember 2025
OTHERS	
REFERENCES	
1. Burrough.1986. Principles of Geographical Information System for Land Resources Assessment. New York: Oxford University Press. 2. Demers,Michael N.1997.Fundamental of Geographic Information System. University of New Mexico,John Wiley and Sons,Inc. 3. Environmental System Research Institut (ESRI), 1995. Understanding GIS, The Arc Info Method. USA 4. Laurthis, Robert and Derek Thompson, 1992. Fundamentals of Spatial Information Systems. London: Academic Press Limited	