

	UNIVERSITAS PENDIDIKAN INDONESIA
	SEMESTER LEARNING PLAN (RPS)

COURSE IDENTITY

Course Name	Course Code	Credits	Workload	Course Group	Semester	Prerequisite Course
REMOTE SENSING AND GEOGRAPHIC INFORMATION SYSTEMS FOR URBAN STUDIES	SA532	2	90	Core Competency Course (MKK)	1	-

Prepared by Course Lecturer	Reviewed by Study Programme QA Team	Approved by Head of Study Programme
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COURSE DESCRIPTION AND GRADUATE LEARNING OUTCOMES (CPL)

Course Description	Remote Sensing for Urban Studies is an elective course for students of the Geographic Information Science (GIS) programme. It focuses on remote sensing as applied to the definition, components, planning, and analysis of urban areas, extracting information from satellite imagery for various applications. The course carries two credits and consists of face-to-face sessions, independent laboratory activities, and map production based on case studies. Face-to-face sessions cover concepts of cities and urban planning, and medium- to high-resolution imagery for urban studies (NDVI, MSARVI, SAVI, NDBI, and others).
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Graduate Learning Outcomes (CPL) Assigned to This Course

No.	Graduate Learning Outcomes (CPL) Assigned to This Course
S-1	To demonstrate scholarly, educational, and religious attitudes and behaviours that contribute to the improvement of the quality of social, national, and civic life, based on academic norms and ethics.
P	To possess a thorough understanding of learning theory and the content of geographic information science, encompassing geographic information science competencies.
KU-1	To be capable of integrating learning and innovation competencies, mastery of technology and information, career development, and life skills in order to become a lifelong learner.
KK1	To be capable of planning, implementing, and evaluating/assessing the application of RS and GIS for sustainable development, utilising various science and technology-based learning resources.
KK2	To be capable of applying, examining, designing, utilising science and technology, and solving problems in the field of geographic information science.

Course Learning Outcomes (CPMK)

N o.	Course Learning Outcomes (CPMK)
S1 ,1	To demonstrate scholarly, educational, and religious attitudes and behaviours that contribute to the improvement of the quality of social, national, and civic life, based on academic norms and ethics, in the implementation of web-based learning design.
S1 ,2	To be capable of demonstrating perseverance and thoroughness in carrying out practical activities.
P2 ,1	To be capable of mastering the theory of RS and GIS for urban studies and understanding their relationship and application within geographic information science for self-competency development and technological mastery.
K U 1, 1	To be capable of applying urban concepts and theories, and conducting studies of various urban problems using remote sensing, geographic information systems, and a geographic information science perspective.
K K1 ,1	To be capable of planning urban-based projects and utilising geographic information science to address societal problems.

Sub-CPMK

N o.	CPMK Ref.	Sub-CPMK Formulation
1	CPMK - 1	Urban Studies

Course Materials

N o.	Course Materials
1	Scope and approaches of urban geography
2	Urban development and classification
3	Urban spatial patterns and structures
4	Urban problems
5	Urban planning
6	Urban studies from a global perspective
7	Urban Heat Island (UHI) and Land Surface Temperature (LST)
8	Urban Sprawl
9	Application of RS for urban studies
10	Application of GIS for urban studies

Demonstrable Learning Outcomes at the End of the Course	Satellite image analysis; results of analysis reports.
Learning Strategy	Case Method ✓ Team-based Project Other
General Description of Learning Steps	Face-to-face sessions, independent laboratory activities, and map production based on case studies. Face-to-face sessions cover concepts of cities and urban planning, and medium- to high-resolution imagery for urban studies (NDVI, MSARVI, SAVI, NDBI, and others).
References	1. Bintarto. 1980. Urban Geography. Yogyakarta: UpSpring. 2. Bintarto. 1980. Village-City Interaction. Yogyakarta: UpSpring.

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| | <ol style="list-style-type: none">3. Gerald, Suttles. 1974. The Social Order of Slum. London.4. Carter, Harold. 1995. The Study of Urban Geography. London: Arnold.5. Daldjoeni, N. 1998. Urban and Rural Geography. Bandung: Alumni.6. Johnson. 1972. Urban Geography. New York: Pergamon. |
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LEARNING PLAN

Week	Sub-CPMK	Sub-CPMK Achievement Indicators	Course Materials	Assessment Form (test/non-test)	Assessment Weight (%)	Synchronous (face-to-face and virtual)	Asynchronous (individual and group assignments)	Duration	Reference No.	Access Time
1	Urban Studies	1. Students are able to explain the definition of urban geography. 2. Students are able to explain the scope and approaches of urban geography.	Scope and approaches of urban geography.	Multiple Choice		Lecture, Q&A, and discussion	Students search for reference materials related to urban geography.	2×50	1	10-09-2024 08:43
2	Urban Studies	1. Students are able to explain urban classification. 2. Students are able to explain the social ecology of cities. 3. Students are able to explain urban problems and alternative solutions.	Urban development and classification.	Multiple Choice		Face-to-face and virtual; lecture, Q&A, and discussion	Students independently search for sources related to urban problems and urban social ecology.	2×50	4	17-09-2024 08:46
3	Urban Studies	To understand and explain urban classification, urban social ecology, and urban problems.	Urban spatial patterns and structures.	Multiple Choice		Face-to-face and virtual	Students independently search for sources related to urban problems and urban social ecology.	2×50	4	17-09-2024 08:47
4	Urban Studies	1. Students are able to explain urban classification. 2. Students are able to explain urban social ecology. 3. Students are able to explain urban problems and alternative solutions.	Urban problems.	Multiple Choice		Lecture, Q&A, and discussion	Students independently search for sources related to urban problems and urban social ecology.	2×50	4	17-09-2024 08:52
5	Urban Studies	1. Students are able to explain the definition and principles of	Urban planning.	Observation		Face-to-face and virtual	Students work in groups to find materials	2×50	5	24-09-2024 09:01

		urban planning. 2. Students are able to explain the stages of urban planning. 3. Students are able to explain environmentally conscious urban planning.					related to urban planning.			
6	Urban Studies	1. Students are able to explain the definition and interaction of cities and global-level changes. 2. Students are able to explain global factors influencing urban change.	Urban studies from a global perspective.	Observation		Lecture, Q&A, and discussion		2×50	6	01-10-2024 09:02
7	Urban Studies	1. Students are able to explain the definition of Urban Heat Island. 2. Students are able to explain how to determine Urban Heat Island.	Urban Heat Island (UHI) and Land Surface Temperature (LST).	Participatory		1. Lecturer explains material using lecture, Q&A, and discussion. 2. Students are asked about UHI and its phenomena. 3. Students explain UHI and RS/GIS applications. 4. Lecturer and students summarise the topic.	1. Students observe various materials on UHI. 2. Students study the UHI module.	2×50	5	08-10-2024 09:03
8	MID-SEMESTER EXAMINATION (UTS)									30
9	Urban Studies	1. Students are able to explain Urban Sprawl. 2. Students are able to explain the application of RS and GIS for Urban Sprawl studies.	Urban Sprawl.	Observation	0	1. Lecturer explains Urban Sprawl, Urban Reclassification, and Annexation. 2. Students	Students search for problem-related materials using relevant sources.	2×50	5	07-11-2024 10:20

						are invited to share opinions on related problems. 3. Students discuss under lecturer supervision. 4. Lecturer reinforces discussion outcomes. 5. Lecturer and students draw conclusions.				
10	Urban Studies	Students are able to explain Remote Sensing.	Application of RS for urban studies.	Multiple Choice	0	Case Study and Project-Based Learning	Students search for international journal articles on RS and GIS applications in urban studies.	2×50	3	14-11-2024 10:20
11	Urban Studies	Students are able to explain GIS.	Application of GIS for urban studies.	Observation	20	1. Lecturer explains material. 2. Students work in small groups (5–6 members). 3. Students search for articles on RS-GIS applications in urban studies. 4. Students present findings to other groups. 5. Other group members provide responses.	Students prepare a final project on RS and GIS applications in urban studies, in the form of maps and analysis reports.	2×50	5	21-11-2024 10:20

12	Urban Studies	Students are able to apply RS-GIS for urban studies.	Application of GIS for urban studies.	Attitude Scale	20	1. Lecturer explains material. 2. Students work in small groups (5–6 members). 3. Students search for articles on RS-GIS applications. 4. Students present findings. 5. Other groups respond.	Students prepare a final project on RS and GIS applications in urban studies.	2×50	4	28-11-2024 10:20
13	Urban Studies	Students are able to apply RS-GIS for urban studies.	Scope and approaches of urban geography.	Participatory	20	1. Lecturer explains material. 2. Students work in small groups. 3. Students search for articles. 4. Students present findings. 5. Other groups respond.	Students prepare a final project on RS and GIS applications in urban studies.	2×50	4	05-12-2024 10:20
14	Urban Studies	Students are able to apply RS-GIS for urban studies.	Application of GIS for urban studies.	Observation	0	1. Lecturer explains material. 2. Students work in small groups. 3. Students search for articles. 4. Students present findings. 5. Other groups respond.	Students prepare a final project on RS and GIS applications in urban studies.	2×50	5	12-12-2024 10:20

15	Urban Studies	Students are able to apply RS-GIS for urban studies.	Application of GIS for urban studies.	Multiple Choice	0	3. Students search for articles on RS-GIS applications. 4. Students present findings to other groups.	Students prepare a final project on RS and GIS applications in urban studies.	2×50	3	19-12-2024 10:20
16	Urban Studies	Final Semester Examination.	Application of GIS for urban studies.	Essay	10	Face-to-face; Final Semester Examination	Final Semester Examination.	2×50	6	20-12-2024 10:20

STUDENT STUDY TIME (WORKLOAD)

Category	Activity	Synchronou s	Asynchrono us	Total (min/hrs)
Learning	Lectures/Tutorials	14×100 min = 1,400 min	14×50 min = 700 min	2,380 min (39.7 hrs)
	Project-based Learning	6×50 min = 300 min	6×50 min = 300 min	720 min (12.0 hrs)
	Discussion (case-based)	-	-	0 min (0.0 hrs)
SUBTOTAL				3,100 min (51.7 hrs)
Assessment	Participation during learning	14×50 min = 700 min	-	700 min (11.7 hrs)
	Project work	4×170 min = 680 min	4×50 min = 200 min	880 min (14.7 hrs)
	Assignments	4×50 min = 200 min	4×50 min = 200 min	400 min (6.7 hrs)
	Quizzes	4×30 min = 120 min	-	120 min (2.0 hrs)
	Formative			100 min (1.7 hrs)
	Summative			100 min (1.7 hrs)
SUBTOTAL				2,300 min (38.3 hrs)
TOTAL WORKLOAD				5,400 min (90 hrs)
Credits				2
Conformity with Credit Hours	CONFORMS			

CPMK ASSESSMENT CRITERIA

N o .	CPMK	CP L Tax on om y	Weig ht	Achievement Criteria
1	S1,1 – To demonstrate scholarly, educational, and religious attitudes and behaviours contributing to the improvement of social, national, and civic life quality, based on academic norms and ethics.	5	100	80% of all students obtain a minimum score of 75 (on a scale of 100).
2	S1,2 – To be capable of demonstrating perseverance and thoroughness in practical activities.	4	0	80% of all students obtain a minimum score of 75 (on a scale of 100).
3	P2,1 – To be capable of mastering RS and GIS theory for urban studies and	3	0	80% of all students obtain a minimum score of 75 (on a scale of

	understanding its relationship and application in geographic information science.			100).
4	KU 1,1 – To be capable of applying urban concepts and theories, and conducting studies using RS and GIS.	3	0	80% of all students obtain a minimum score of 75 (on a scale of 100).
5	KK1,1 – To be capable of planning urban-based projects and utilising geographic information science.	6	0	80% of all students obtain a minimum score of 75 (on a scale of 100).

COLLABORATIVE ASSIGNMENT PLAN

Course Name	Course Code	Credits	Workload	Course Group	Semester	Prerequisite Course
REMOTE SENSING AND GEOGRAPHIC INFORMATION SYSTEMS FOR URBAN STUDIES	SA532	2	90	Core Competency Course (MKK)	1	-

Assignment Title	Urban Problem Studies Using Remote Sensing
Learning Method	Team-based Project
Duration (minutes)	
Assessment Weight	25
Sub-CPMK	Urban Studies
Assignment Description	Students work in groups to conduct studies on problems faced by a city, such as traffic congestion, air pollution, or spatial planning. These studies are carried out using remote sensing data and result in a systematic scientific report.
Assignment Steps	1. Group Formation: Students are divided into groups of 4–5 members. 2. Selection of City and Problem: Each group selects one city and a problem to study, such as spatial planning, air pollution, or traffic congestion. 3. Remote Sensing Data Collection: Gathering spatial data related to the urban problem using satellite imagery, LiDAR, or other relevant data. 4. Data Analysis: Analysing the data using appropriate techniques (e.g., NDVI analysis for air pollution or traffic pattern analysis for congestion). 5. Report Preparation: Preparing a systematic study report with the following structure: Introduction; Methodology; Data Analysis; Discussion; Conclusions and Recommendations. 6. Presentation: Each group presents its findings to the lecturer and classmates.
Final Output	- Written Report: A scientific report of the urban problem study in the appropriate format. - Presentation: Slides used to explain the results of the study.
Indicators, Criteria, and Assessment Weight	- Quality of Written Report: 40% (Criteria: accuracy of data analysis, clarity of discussion, and systematic structure of the report.) - Quality of Data Analysis: 30% (Criteria: appropriateness of analysis method and interpretation of results.) - Quality of Presentation: 20% (Criteria: ability to convey ideas clearly and engagingly.) - Teamwork: 10% (Criteria: coordination among team members and

	each member's contribution.)
Implementation Schedule	To be determined.
Other Notes	Each group must submit the report in softcopy format. Presentations are conducted in person or online, depending on the course situation.

REFERENCES