SEMESTER LEARNING PLAN

DEPARTMENT: URBAN AND REGIONAL PLANNING

FACULTY: CIVIL, PLANNING, AND EARTH

COURSES NAME	**PLANNING INFORMATION SYSTEM/GIS**
COURSES CODE	**DK184304**
SEMESTER	**III**
CREDITS	**3 SKS (4.8 ECTS)**
LECTURER	**Siti Nurlaela, ST, M.COM, Ph.D**
	Cahyono Susetyo, ST, MSc
	Nursakti Adhi P, ST, MSc
	Surya Hadi Kusuma, ST, MT
	Fendy Firmansyah, ST, MT
	Ummi Fadlilah K, ST, MT, MSc

COURSE METHODOLOGY	BK 15	BK 47	BK 48
	Decision-making process	Spatial approach	Spatial Analysis Technique

PROGRAM LEARNING OUTCOME (PLO)		
SPESIFIC KNOWLEDGE	1.3	Able to apply the methods of spatial planning/aspatial in decision making
SPESIFIC SKILLS	2.2	Able to utilize ICT in the management of data to produce information that is easily understood by the publicand the decision makers
COURSE LEARNING OUTCOME (CLO)		1. Students are able to understand the concept of utilization of Planning Information System and understandits implementation method in Spatial Planning process. 2. Students are able to provide information and display the results of planning into the information system forthe purposes of publication. 3. Students are able to develop direction recommendation of spatial pattern by using techniques in decisionmaking by using GIS process.

MAP OF PLO-CLO	CLO	PLO-1	PLO-2	PLO-3	PLO-4	PLO-5	PLO-6	PLO-7	PLO-8	PLO-9	PLO-10	PLO-11
	CPMK-1. Students are able to understand the concept of utilization of Planning Information System and understand its implementation method in the Spatial Planning process.			1								
	CPMK-2. Students are able to provide information and display the results of planning into the information system for the purposes of publication.			1								
	CPMK-3. Students are able to develop direction recommendations of the spatial pattern by using techniques in decision making by using GIS process.			1		1						
	CPMK-4. Students are able to develop and deploy a web-based GIS application					1						

PLANNING INFORMATION SYSTEM/GIS LEARNING PLAN
ODD SEMESTER OF ACADEMIC YEAR 2021–2022

Week	Course Learning Outcome	Module Learning Outcome	Scope	Learning Methods	Course Duration	Modes of Delivery	Performance Criteria and Indicators	Score
1	Definitions and Concepts of Information Systems Planning	Students are able to understand the concepts /theoretical and basic principles in Planning Information Systems	SAP discussion, evaluation,tasks. Definition of Planning Information System	M1,M2	60	Lecture, Discussion	Understanding of theory	
			Basic principles in planninginformation systems	M1,M2	180			
		Students are able to understand the role of Planning Information System in improving planning process and decision making	Technological developments in regionaland city planning	M1,M2	180			
			Implementation of Planning Information System in Spatial Planning	M1,M2	60			10
2	Component Information Systems Planning	Students are able to understand the components in the Information Systems Planning, explain the differences with each	Planning Support System	M1,M2	120		Understanding of theory	
			Geographic InformationSystem	M1,M2	180			
			Decision Support System	M1,M2	180			

3		other, and give examples of the application of each component	Negotiation Support System	M1,M2	180	Lecture, Discussion		
			The Relation Between Components	M1,M2	180			
			Application Examples ofeach Component	M1,M2	120	Lecture, Discussion		10
4	Service Outreach Analysis (Buffer)	Students are able to explain Buffer Theory, Provide Examples, and Apply with the help of the Software	Buffer Basic Theory	M1,M2	240	Lecture, Discussion	Application ability	
			Example of Buffer Technique Application	M1,M2	240			
5			Buffer Technique Study Case	M2,M3	240	Practicum		
			Analysis Results Intepretation	M2,M3	240			10
6	Search Criteria Analysis (Query)	Students are able to explain the Query Analyze method, provide Examples, and Apply with the help of the Software	Query Basic Theory	M1,M2	120	Lecture, Discussion	Application ability	
			Data setup for Query	M1,M2	240			
			Example of Query Implementation	M1,M2	180			
7			Query Technique Study Case	M2,M3	240	Practicum		
			Interpretasi hasil analisa	M2,M3	180			10
8	Reclassification Analysis	Students are able to explain the method of Reclassification analysis, Provide Examples,	Reclassification Basic Theory	M1,M2	240	Letter, Discussion	Application ability	
			Example of Reclassification Technique Application	M1,M2	240			

9		and Apply with the help ofSoftware	Reclassification TechniqueStudy Case	M2,M3	240	Practicum		
			Analysis Results Intepretation	M2,M3	240			10
10	Slicing and Weighting Spatial Methods Spasial	Students understand the basics of slice and Spatial Weighting methods, and provide an example of their application in Planning	Basic Concepts of Slice Technique	M1,M2	480	Lecture, Discussion	Understanding of theory	
11			Basic Concept of SpatialWeighting	M1,M3	480			10
12	Intersect analysis	Students are able to explain Methods of Slices, performing manually and with software	The basic theory of Intersect Techniques	M1,M2	120	Lecture, Discussion	Application ability	
			Intersect Daya Setup	M1,M2	240			
			Examples of Intersect Implementation	M1,M2	180			
13			Studi kasus Teknik Intersect	M2,M3	240	Practicum		
			Intersect Study Case	M2,M3	180			10
14	Spatial Weighting Analysis	Students are able to performspatial weighting analysis techniques using software	The basic theory of SpatialWeights	M1,M2	120	Lecture, Discussion	Application ability	
			Examples of Spatial Weighted Applications	M1,M2	240			
15			Study Case	M2,M3	240	Practicum		
			Analysis Results Intepretation	M2,M3	360			20
16	Web-Based GIS	Students are able to developsimple GIS Web	WebGIS Basic Concepts	M1,M2	120	Lecture, Discussion	Application ability	

		applications	WebGis Data Setup	M2,M3	120	Practicum		
			Simple WebGIS Making	M2,M3	240			10

EVALUATIOS OF THE COURSE

Mechanism and propotional of the assesment for the ccourse “Planning Information System”arranged as follows :

Evaluation I (15%) : writing exam (C1, C2)

- Individual Task
- Understanding basic concepts of planning information system by answare practicalquestions that given.

Evaluation II (20%) : Critical Review (C1, C2)

- Individual Task
- Understanding basic concepts of planning information system
- Understanding spatial analysis technique
- Understanding technology review of planning information system

Evaluation III (25%) : Practical exam (C1, C2, C3)

- Individual Task
- Able to applicate spatial analysis techniques in the case study were given

Evaluation IV (20%) : Presentation of Major Task (C1, C2, C3)

- Task group
- Individual assessment / the liveliness of the individual
- Able implement spatial analysis techniques in case of study
- Able to explain the process of spatial analysis techniques in case study orally

Evaluation V (20%) : Report of Major Task (C1, C2, C3)

- Task group
- Assessment group
- Able implement spatial analysis techniques in case of study
- Able to explain the process of spatial analysis techniques in case study in the papers

EVALUATION PLAN AND ASSIGNMENT PLAN OF PLANNING INFORMATION SYSTEM

1. **EVALUATION I:**

   ASSIGNMENT II – Writing Exam (C1, C2)

Course Name	Planning Information System / GIS
Credits	3
Module (Main Study)	Module 1-2
The Goal of Learning Module	• Students are able to understand concepts/ theory and basic principle ofplanning information system • Students are able to understand the role of planning informationsystem in increasing planning process and decision making • Students are able to understand components of planning information system, explain differences beetween each other, and give example of application in the each component
The Goal of Assignment I	• Assess success rate of learning and teaching activities of planningInformation system (Lecture Material Week 1 -3)
Dept Level Assignment I (C1 up to C6)	C1, C2
Assignment I Details	The description of tasks and assessment criteria is attached bellow

EVALUATION I : ASSIGNMENT I – WRITING EXAM

A. GOAL

Evaluation of I-shaped writing exams with answer practical questions related basic concepts of information systems planning. The purposes of the Evaluation I are:

- Assess success rate of learning and teaching activities of planning information system (Lecture Material Week 1 -3)

B. MATERIAL ASSIGNMENT

Material assignments are

- Lecture material week 1 up to 3
- Basic principle of planning information system
- Technologyy development of urban and regional planning
- Apllied planning information system in spatial planning
- Planning Support System
- Geographic Information System
- Decision Support System
- Negotiation Support System
- Linkages between of component and the example of application

C. IMPLEMENTATION OF ASSIGNMENT

- Writing exam individually and open book
- Writing exam held in week 3

D. EVALUATING CRITERIA

Assesment weight in the evaluation I is 15 %, as follows :

			Essay question	81-100	71-80	66-70	51- 65	0-50
ADVANCE	INTERMEDIATE	BASIC DURP	Complete	All keywords are answered with theright explanation with clear paths accompanied by examples	All keywords are answered with theright explanation but the plot is not clear	The keywords are partially answeredwith the right explanation without flow	Keywords are less precise, explanations that are less precise andwithout flow	There are no keywords and explanations
			Cretivity	Creativity of the answers are highand very precise	Creativity of the answers are highbut not right	Low and inaccurate creativity	The answer is toogeneral	The answer is toogeneral and not right
			Comprehensive	Comprehensive explanation and can relate to otheraspects supportedby the facts	comprehensive explanation and can relate to otheraspects without supporting facts	Comprehensive explanation but does not explain the relationship with other aspects	Less comprehensiv eexplanation	Non-comprehensiv eexplanation

Type of Individual Exam Questions / Quiz

Intermediate	
Applying	Analyzing
Demonstrate	Separating
Calculate	Connecting
Connect	Choose
Prove	Compare

2. EVALUATION II :

Assignment II – Critical Review (C1, C2)

Course Name	Planning Information System
Credits	3
Module (Subject matter)	Moduel 1-6
The Goal of LearningModule	• Students are able to understand concepts/ theory and basic principle ofplanning information system • Students are able to understand the role of planning informationsystem in increasing planning process and decision making Students are able to understand components of planning informationsystem, explain differences beetween each other, and give its application in the each component • Students are able to explain buffer theory and give example of itsapplication • Students are able to explain Query Analysis Method and give example ofits application • Students are able to explain reclassification analysis method and giveexample of its application • Students are able to understand basic of spatial tools : weighting overlayand give the example of its apllication in planning field
The Goal of CriticalReview Assignment	• Understanding basic concept of planning information system • Understanding spatial analysis techniques • Understanding review of technology in planning information system
Dept Level of Assignment II (C1 up to C6)	C1, C2
Asignment 2 Details	The description of tasks and assessment criteria is attached bellow

EVALUATION II: ASSIGNMENT II – CRITICAL REVIEW

A. TUJUAN

Evaluation of II-shaped individual task where the students do review of article in planning information system field. The purposes of the Evaluation II are:

- Students are able to explain material in the article (source : website, journal, magazine) andreview with add up additional discourses
- Students are able to understand given theory
- Understanding about technology of planning information system

B. ASSIGNMENT MATERIAL

The assignments material are :

- The title of the article shoul be suitable with course topic
- Explanation of main material in the article
- Study of article material
- Recomedation and suggestion that give to increase the quality of article material

C. IMPLEMENTATION OF ASSIGNMENT

- Students look for and review article about planning information system, local or international.Information resources can be a website, magazine, journal.
- Tasks are done individually and handed over in **week 11**. Review not translate, but create asummary/summary, and describe it with language that is developed by reviewer.
- Students are advised to to consult with the lecturer before assisting to the preparation ofdraft/finalization task.
- Assignments in typed on A4 paper portrait, 1 – 1.5 spacing, number of pages is not restricted.
- Task in Softcopy format "pdf" and in conjunction with critical review article is collected in theform of the CD collectively (1 class 1 DVD). Organizing files in CD as follows: Name_NRP. pdf.

D. EVALUATING CRITERIA

The assesment weight of Evaluation II is 20 %, consisting of :

No	Scoring Aspect	Excellent	Good	Enough	Bad	Very Bad	Score
1	Fitness of the substance of the discussed issue with thetopic	Issue fit the topic, up to date, have proper issue formulation	Issue fit the topic, does notup to date, have proper issue formulation	Substance fit the topic, up to date, but the issue formulation are not precise	Substance does not fit the topic, the issue formulation are not precise	Substance does not fit the topic, there are no issue	
2	Accuracy on summarizing the important idea on the article	Precise, with comprehensiv eidea of the issue	Precise, but with less comprehensi veidea	Precise	Less precise	There is no summary of the issue concept	
3	Accuracy of critical review towards the substance of the journal	Critical, Precise on giving the critical review, Appropriate on picking the up to date reference	Precise on giving the critical review, Correct on picking the upto date reference	Precise on giving critical review, but the references used are not precise	Critics have less precise, Reference used are not precise	Reviewer give inappropriate critical review and choose the wrong reference	

4	Result discussions and lessonslearned	The discussion is structured and comprehensive, Lessons Learned answers the issueand give the example of bestpractices	The discussion is structured and comprehensive, Lessons Learned answers the issue	There are discussions but not structured nor comprehensive,The lessons learned are correct	There are discussions but not structured nor comprehensive,The lessons learned are not correct	The discussions are not structured, lessons learnedare not correct	
	Average score obtained						

3. EVALUATION III :

ASSIGNMENT III – Practical Exam

Nama MK	Planning Information System
Credits	3
Module (Subject matter)	Module 1-6
The Goal of Learning Module	• Students are able to explain buffer theory and give example of itsapplication • Students are able to explain Query Analysis Method and give example ofits application • Students are able to explain reclassification analysis method and giveexample of its application • Students are able to understand basic of spatial tools : weighting overlayand give the example of its apllication in planning • Students are able to understand of spatial weighting method and givethe example of its application • Students are able to understand basic of spatial tools : weightingoverlay in analog and manual
The Goal of Assignment 3	• Able to applicate several spatial analysis techniques in the given of casestudy
Dept Level of Assignment 3 (C1 up to C6)	C1, C2, C3
Assignment 3 Details	The description of tasks and assessment criteria is attached bellow

EVALUATION III: ASSIGNMENT III – PRACTICAL EXAM

A. GOAL

Evaluation III is form of practical task that finished case study question.

The Purpose ofEvaluation III is :

- Able to applicate several spatial analysis techniques in the case study are given.

B. ASSIGNMENT MATERIAL

Assignment material include :

- Material lecture week 4 up to 14

C. ASSIGNMENT IMPLEMENTATION

- Exam practical work is done individually and are closed
- Exam practical work is carried out at each end of the course material (CP-MK) analysismethod from week 4 to week 14.

D. REPORT CRITERIA ASSESSMENT

The assesment weight of Evaluation III is 25 %, consisting of:

Dimension	Excellent 86-100	Good 76-85	Enough 66-75	Bad 56-65	Very Bad 0-55	SCORE
Self-reliance in experiment	Very independent, there is no constraint in its execution, no doubt, be able to follow the given direction	Well in its execution, follow direction, follow all directives	Enough in its execution, the start was no indication of doubt in experiment	Less reliant, not daring to experiment as it's been directed by the Assistant	Do not follow directives, often ask the Assistant as well as to his friends, did not dare to do it yourself	
Ability exploration experiment	Explore the possibilities are very good in doing practical work, there are new things to try out yourself	In both explore the possibilities of doing practical work	Simply explore, starting there are some who do not follow referrals	Less is explored, many do not follow referrals in deepening experiment	Not doing more exploration with, ask and see his friend's activities	
Ability to conclude an findings during practical work	Very good in finding interesting facts, questions the possibilities begin asked.	both in concluding however cannot capture interesting fact	Deep enough to conclude the activities of the lab course	Less can conclude the activities of teaching, an indication of lacking understanding of the theory	Cannot provide a conclusion for practical	
Avarage Score						

4. EVALUATION IV :

ASSIGNMENT IV – PRESENTATION OF MAJOR TASK

Course Name	Planning Information System
Credits	3
Module (Subject matter)	Module 1-7
The Goal of Learning Module	• Students are able to visualization spatial data and analysis result insimple Web GIS • Students are able to explain analysis process that have been made
The Goal of Assignment IV	• Implementing spatial analysis techniques into case study • Able to explain spatial analysis techniques into case study orally or byvisual
Dept Level of Assignment IV (C1 up to C6)	C1, C2, C3
Assignment IV Details	The description of tasks and assessment criteria is attached bellow

EVALUATION IV: PRESENTATION OF MAJOR TASK

A. GOAL

Evaluation IV is group task, where students are required to do in accordance with spatial analysis techniques that have been retrieved into the example case studies. The purpose of theevaluation of the IV is :

- Students are able to visualization spatial data and analysis result in simple Web GIS
- Students are able to explain analysis process that have been

B. ASSIGNMENT MATERIAL

Assignment of Evaluation IV include :

- Understanding of goal
- Precision of target analysis
- Appeareance and completeness data/information
- Dept analysis and result analysis description

C. ASSIGNMENT IMPLEMENTATION

Task done in a group that included 5 students

- Students are advised to consult/assisting to a lecturer, instructor of practical work before drawing up draft duty.
- Evaluation task IV presented in week 16
- Each group should prepare a material exposure to and display data and analysis results into the webGIS has been made.

D. PRESENTATION OF MAJOR TASK CRITERIA ASSASSMENT

The assesment weight of Evaluation IV is 20 %, consisting of :

Dimension	Excellent 86-100	Good 76-85	Enough 66-75	Bad 56-65	Very Bad 0-55	Score
Technique of Presentation	The presentation was organized with showing fact that supportedby example that already analyzedbased on concept	The presentation was organized and showing fact that make sure to support theconclusions	The presentation has focuspoint and showing some evidence that support the conclusions	The presentation has focus point, but evidence were insufficient to used for makea conclusions.	There's no spesific organization. Facts are notused to support their statement	
Content	Content that can be inspire listener to develop their minds.	Has an accurate and complete presentation. The listener has anew knowledge about that topics	Has an accurate content but not complete. The listener lessactive to discuss that topics	The content was less accuratebecause there's no data and fact that supports it	The content are not accurate and very common. Listener didn'tget any lessons from thispresentation	
Discussion	The right argumentation with example or the fact	The right argumentation butlacking of the fact	The lack of argumentation buthave fact or example	The lack of argumentationand not have example	Argumentation is wrong	
WebGIS	The data and information presented is complete with a display organized WebGIS	The data and information presented is complete with theappearance of less organized webGIS	The data and information presented are less completebut it looks nice and has already organized WebGIS	Data presented is less complete and less organizedwebGIS overview	There is no data displayedinto WebGIS/don't make a WebGIS	
AVARAGE SCORE						

5. EVALUATION V :

ASSIGNMENT V – REPORT OF MAJOR TASK

Course Name	Planning Information System
Credits	3
Module (Subject matter)	Module 1-7
The Goal of Learning Module	• Students are able to explain the process of the task undertaken inwriting
The Goal of Assignment V	• Implements some spatial analysis techniques into case • Able to explain the process analysis techniques into a written casestudy • Able to publish the results of the study into various media (Website,magazine, newspaper, etc.)
Dept Level of Assignment V (C1 up to C6)	C1, C2, C3
Assignment V Details	The description of tasks and assessment criteria is attached bellow

EVALUASI V: REPORT OF MAJOR TASK

A. GOAL

Evaluation V is group task , where students are asked to explain the task process in writing and publishing the results of the study in a variety of media (Website, magazine, newspaper, etc.). The purpose of the evaluation of V is:

- Implements some spatial analysis techniques into case
- Able to explain the process analysis techniques into a written case study
- Able to publish the results of the study into various media (Website, magazine, newspaper, etc.)

B. ASSIGNMENT MATERIAL

Evaluation V material include :

- Understanding of goal
- Precision of target analysis
- Appeareance and completeness data/information
- Dept analysis and result analysis description
- Output in the form of publication (web site, magazine, newspaper)

C. ASSIGNMENT IMPLEMENTATION

- Assignments done in groups and collected in week 16.
- Students are advised to conduct consultation/teaching lecturer before assisting to the preparation of draft/finalization task.
- Assignments in typed on A4 paper portrait, 1 – 1.5 spacing, number of pages is not restricted.
- Task collected in Hardcopy is accompanied by a CD that contains the softfile format .pdf/.doc and SHP
- Task Report please attach proof of publication (can link URL if on media websites, and other Publications if the Evidence in the media magazine or newspaper).

D. REPORT OF MAJOR TASK ASSESSMENT CRITERIA

The assesment weight of Evaluation V is 20 %, consisting of :

Dimension	Excellent 86-100	Good 76-85	Enough 66-75	Bad 56-65	Very Bad 0-55	SCORE
Introduction	The Empirical facts and theoritical concept are completed and very relevant, the urgency of the problem is high	The Empirical facts and theoritical concept are completed and very relevant, but the urgency is not high	The empirical facts and theoritical concept are stated but not relevant and urgent	The empirical facts and theoritical concept is not completed, not relevant and not urgent	Empirical facts and theoritical concept is not stated and couldnt for the research question	
Literature Review	Literature review substance is completed and has stated more than the refrence, the literature synthesis is completed and suitable	Literature review substance is stated accordingly to TOR, the literature synthesis is suitable	Suitable for the topic but not completed, the literature synthesis is unsuitable	Unsuitable for the topic and not completed, the literature synthesis is irrelevant	Not completed and irrelevant, the literature synthesis is not completed	
Methodology	Data needed, how to obtain data and techniques to process data precisely and explained in detail	Data needed and how to get the right data but the technique of processing data is not right	How to get the right data, the data needed is less, the data processing technique is not right	Data needed, how to obtain data and data processing techniques is not right	Data needed, how to obtain data and data processing techniques are not appropriate	

Data and analysis	Complete data, analysis right with the appropriate interpretation	Complete data, precise analysis without interpretation	Complete data with inappropriate analysis	Complete data but not suitable and without analysis	Data is incomplete and not suitable and without analysis	
Conclusion	The quality of conclusions is appropriate according to the results of the analysis and answers the research objectives	The quality of conclusions is appropriate according to the results of the analysis but does not answer the research objectives	The quality of conclusions is appropriate according to the results of the analysis but does not answer the research objectives	Conclusion quality is not in accordance with the analysis and does not answer the research objectives	The quality of conclusions is very inappropriate	
SHP	The data is complete, the data structures are correct and in accordance with the presented in report	The data is complete, the data structures are less precise and in accordance with the presented in report	Data are less complete, data structures, and in accordance with the presented in report	There's data but not in sync with what is presented in the report	There is nothing data	
AVERAGE SCORE						