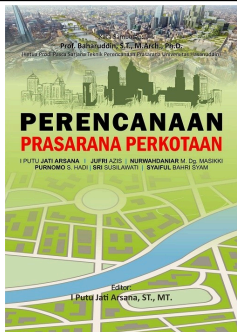


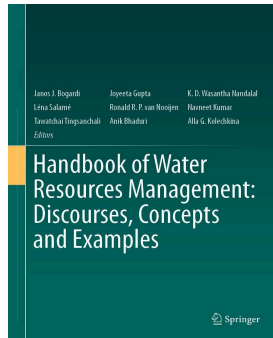


**BRAWIJAYA UNIVERSITY FACULTY OF ENGINEERING
UNDERGRADUATE URBAN AND REGIONAL PLANNING STUDY PROGRAM**

SEMESTER LEARNING PLAN

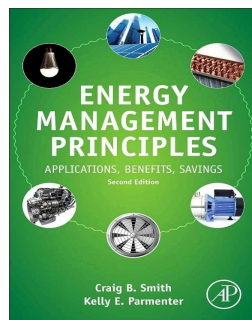
SUBJECT	CODE	SUBJECT SCOPE	WEIGHT (credits)	SEMESTER	Date of Preparation
Urban and Regional Infrastructure	TKW61137	Urban Settlements	3	1	August 10, 2023 Revised August 19, 2024
AUTHORIZATION Transportation Compartment	RPS DEVELOPER LECTURER		SUBJECT COORDINATOR		HEAD OF BURP
	1. Imma Widyawati Agustin (IWA) 2. Ismu Rini Dwi Ari (IRDA) 3. Septiana Hariyani (SH) 4. Christia Meidiana (CM) 5. Donny Suseno (DS)		IMMA WIDYAWATI AGUSTIN Signature		SEPTIANA HARIYANI Signature
LEARNING OUTCOMES	SLO/ILO (Intended Learning Outcome)				
	1	Able to explain theoretical concepts and apply research methods in the field of urban and regional planning.			
	2	Able to conduct surveys in the field of urban and regional planning, both individually and in groups, effectively and efficiently.			
	4	Able to use processes and methods in infrastructure planning and disaster mitigation, as well as environmental management, information systems, urban management, and public policy.			
	5	Able to analyze and evaluate problems in the field of urban and regional planning using a comprehensive, advocacy-driven, and innovative rational planning approach.			
	6	Able to operate software applications that support research, planning, and design in the field of urban and regional planning.			
	7	Able to apply theories and methods in the field of URP for the integration of planning and development of resilient villages and cities.			
	9	Able to present concepts and methods communicatively and provide guidance or facilitation in planning activities.			
	CPMK/CLO (Class Learning Outcome)				
	1	Able to explain the definition, history, role, types, facilities and infrastructure of regions and cities.			
	2	Able to use analytical methods/techniques to calculate the needs of regional and city facilities and infrastructure.			
	3	Able to analyze the economics and institutions of regional and city infrastructure.			
	SUB CPMK/CLO				
	Sub CPMK-1	Explain the definition, history, role, types: Water, Energy, Telecommunication, Waste & Garbage, and Drainage.	Supports CPMK/CLO 1		
	Sub CPMK-2	Calculating infrastructure needs: Water, Energy,	Supports CPMK/CLO 2		

	Telecommunications, Waste & Garbage, and Drainage.	
	Sub CPMK-3 Analyze the economics and institutionalization of infrastructure: Water, Energy, Telecommunications, Waste & Garbage, and Drainage.	Supports CPMK/CLO 3
BRIEF DESCRIPTION OF THE COURSE	The Regional and City Infrastructure course is a compulsory course that provides a basic understanding of the theory/concept and analysis techniques for projecting infrastructure needs in a region/city. The main focus on student understanding in 3 aspects including i) theory & concepts, ii) analysis techniques, and iii) economics and institutions of regional and city infrastructure.	
OVERVIEW	<p>MAIN</p> <ol style="list-style-type: none"> 1. I Putu Jati Arsana, Urban Infrastructure Planning, Deepublish. 2. Janos J. Bogardi et.al., Handbook of Water Resources Management: Discourses, Concepts and Examples, Springer, 2021 3. https://www.perlego.com/book/1241668/water-resources-management-pdf 4. http://airbersih-amdk.blogspot.co.id/2011/04/sistem-penyediaan-air-bersih.html 5. https://www.unicef.org/wash/3942_4456.html, 2016 6. 1915_CHAPTER_V_ABpdf.pdf: water demand analysis 7. Craig B. Smith, Kelly E. Parmenter, Energy, Management, Principles: Applications, Benefits, Savings, Pergamon Press, 2013 8. https://www.perlego.com/book/1639809/energy-management-conservation-and-audits-pdf 9. Richard Gershon, Richard A. Gershon, Telecommunications Management, Routledge, 2001 10. Freeman, Roger L, Fundamentals of Telecommunications, John Wiley & Sons, New Jersey, 2005 11. Bernd Bilitewski, Georg Härdtle, Klaus Marek, Waste Management, Springer, 1997 12. Ashok K. Rathoure, Zero Waste: Management Practices for Environmental Sustainability, CRC Pres, 2020 13. Wydick, B., 2008, Games in Economic Development, Cambridge University Press 14. Dr. Klaus Toepfer, Executive Director of the United Nations Environment Programme, 2000 	
		<p>G-book link:</p> <p>https://www.tokopedia.com/penerbitbukudeepublish/perencanaan-prasarana-perkotaan?utm_source=google&utm_medium=organic&utm_campaign=pdp-seo</p>



G-book link:

<https://link.springer.com/book/10.1007/978-3-030-60147-8>



G-book link:

<https://www.amazon.com/Energy-Management-Principles-Applications-Benefits/dp/0128025069>

SUPPORT

1. RPP Source of SPAM Implementation
2. Planning Criteria Ditjen Cipta Karya Dinas PU, 1996
3. Water Supply & Sanitation Collaborative Council (1999) & UNCHS (2000)
4. <http://www.wsp.org/wsp/content/2012-cartoon-calendar>
5. <http://www.worldwatercouncil.org/index.php?id=23>
6. Antalainen, Tarmo, Introduction to Telecommunications Network Engineering, Artect House, 2003
7. Freeman, Roger L, Fundamentals of Telecommunications, John Wiley & Sons, New Jersey, 2004
8. Fundamental Technical Plan 2008
9. Law of the Republic of Indonesia No. 36 Year 1999 dated September 8, 1999
10. Telekomunikasi Indonesia, 1997
11. Owens, S., Energy, Planning and Urban Form (1986)
12. UNDP Asia-Pacific Regional Center, Bangkok, Thailand "Energy, Infrastructure, Transport & Technology"
13. Eric L' Helguen, EE/Energy Efficient Urban Systems: Smart City & Smart Buildings
14. Bakorsurtanal (2013), BPPT (2014), BKKBN (2014), DEN (2014)
15. Solar radiation map, LAPAN
16. Law No. 27/2003, ON EARTH WARMING
17. Geology Agency, MEMR, 2010

LEARNING MEDIA	SOFTWARE
	Microsoft Office CROPWPAT 8.0 Online meeting applications (Zoom, webex, Google meet) VLM2 Gapura UB (SIADO and SIAM)
	HARDWARE.
	LCD, laptop, speakers. etc.
TEAM TEACHING	1. Imma Widyawati Agustin (IWA) 2. Ismu Rini Dwi Ari (IRDA) 3. Septiana Hariyani (SH) 4. Christia Meidiana (CM) 5. Donny Suseno (DS)
COURSE REQUIREMENTS	-
Description ILO BURP	<ol style="list-style-type: none"> 1 Able to understand and explain theoretical concepts in the field of regional and urban planning appropriately; 2 Able to carry out surveys in the field of regional and urban planning, both individually and in groups effectively and efficiently; 3 Able to explain methods and or concepts communicatively in regional and city planning activities systematically; 4 Able to use planning methods and techniques in the fields of infrastructure / disaster mitigation / environmental management / information systems / urban management / and public policy correctly and appropriately; 5 Able to apply theories and methods in the theme of sustainable rural and urban interactions appropriately; 6 Able to apply, analyze, and evaluate participatory, comprehensive rational, and strategic planning processes within the scope of urban settlement planning, villages, cities, regions, transportation or urban design appropriately; 7 Able to operate software applications or practicum tools that support research, planning and design in the field of urban and regional planning appropriately; 8 Able to compile scientific work from research results or planning products systematically and publish it; 9 Able to apply an attitude of responsibility and integrity for work in the field of planning / design independently or in a team and develop organizational and entrepreneurial skills, in accordance with laws, values, norms and ethics;

PORTFOLIO WEIGHT (MANAGEMENT INFORMATION SYSTEM INPUT)

The following entries are for the evaluation of CMPK/CLO and SLO/ILO achievements

CLO-ILO Weight Mapping

	ILO 1	ILO 2	ILO3	ILO 4	ILO 5	ILO 6	ILO 7	ILO 8	ILO 9	Total
Able to explain the definition, history, role, types, facilities and infrastructure of regions and cities.	0,3	0,1	0	0,1	0,1	0,1	0,2	0	0,1	1
Calculating infrastructure needs: Water, Energy, Telecommunications, Waste & Garbage, and Drainage.	0,3	0,1	0	0,1	0,1	0,1	0,2	0	0,1	1
Analyze the economics and institutionalization of infrastructure: Water, Energy, Telecommunications, Waste & Garbage, and Drainage.	0,3	0,1	0	0,1	0,1	0,1	0,2	0	0,1	1

Assessment weight mapping - CPMK/CLO (SIM)

	Able to explain the definition, history, role, types, facilities and infrastructure of regions and cities.	Calculating infrastructure needs: Water, Energy, Telecommunications, Waste & Garbage, and Drainage.	Analyze the economics and institutionalization of infrastructure: Water, Energy, Telecommunications, Waste & Garbage, and Drainage.	Total
Mid Exam 1	1	0	0	1
Mid Exam 2	1	0	0	1
Mid Exam 3	1	0	0	1
CBL1	0	1	0	1
CBL2	0	0	1	1
CBL3	0	1	0	1
CBL4	0	0	1	1
CBL5	0	1	0	1

CBL6	0	0	1	1
CBL7	0	1	0	1
CBL8	0	0	1	1
CBL9	0	0,5	0,5	1
Final Exam 1	1	0	0	1
Final Exam 2	1	0	0	1

Assessment weight mapping - CPMK/CLO

	Able to explain the definition, history, role, types, facilities and infrastructure of regions and cities.	Calculating infrastructure needs: Water, Energy, Telecommunications, Waste & Garbage, and Drainage.	Analyze the economics and institutionalization of infrastructure: Water, Energy, Telecommunications, Waste & Garbage, and Drainage.	Total
Mid Exam 1	1	0	0	1
Mid Exam 2	1	0	0	1
Mid Exam 3	1	0	0	1
CBL1	0	1	0	1
CBL2	0	0	1	1
CBL3	0	1	0	1
CBL4	0	0	1	1
CBL5	0	1	0	1
CBL6	0	0	1	1
CBL7	0	1	0	1
CBL8	0	0	1	1
CBL9	0	0,5	0,5	1
Final Exam 1	1	0	0	1
Final Exam 2	1	0	0	1

FINAL SCORE WEIGHT (INPUT SIADO LECTURER)

The following fields are for the calculation of student final grades inputted by lecturers to SIADO (OBE menu)

Recapitulation of Percentage of Relationship between CPMK / CLO and Assessment

CPMK/ CLO	DESCRIPTION	Asses sment Code & No.	Mid Exa m 1	Mid Exa m 2	Mid Exa m 3	CB1	CB2	CB3	CB4	CB5	CB6	CB7	CB8	CB9	Final Exam 1	Final Exam 2	Weight (%)
1	Able to explain the definition, history, role, types, facilities and infrastructure of regions and cities.	Mid Exam	5	5	5	0	0	0	0	0	0	0	0	0	5	5	25
2	Calculating infrastructure needs: Water, Energy, Telecommunications, Waste & Garbage, and Drainage.	CBL	0	0	0	10	0	10	0	10	0	10	0	10	0	0	50
3	Analyze the economics and institutionalization of infrastructure: Water, Energy, Telecommunications, Waste & Garbage, and Drainage.	CBL Final Exam	0	0	0	0	5	0	5	0	5	0	5	5	0	0	25
	Final Score =		5	5	5	10	5	10	5	10	5	10	5	15	5	5	100

***Assessment Case Based Learning**

ILO and CLO relationship and assessment

ILO and IK ILO charged in the Artificial Intelligence-Based Water Transportation course			CLO (CPMK)				Media assessment and its contribution to MK competency scores			Week			
ILO	ILO Statement	% CPL/ILO	CLO (CPMK)	CLO Statement (CPMK)	CLO/CPMK Weight (%)	Assessment Media	CBL (%)	Mid Exam (%)	Final Exam (%)				
1	Able to understand and explain theoretical concepts in the field of regional and urban planning appropriately.		1	Able to explain the definition, history, role, types, facilities and infrastructure of regions and cities.	0,71	Mid Exam 1				1			
					0,71	Mid Exam 2				2			
					0,71	Mid Exam 3				7			
					0,71	Final Exam 1				11			
					0,71	Final Exam 2				14			
			2	Calculating infrastructure needs: Water, Energy, Telecommunications, Waste & Garbage, and Drainage.				1,4	CBL1				3
								1,4	CBL3				5
								1,4	CBL5				9
								1,4	CBL7				12
								0,71	CBL9				15
			3	Analyze the economics and institutionalization of infrastructure: Water, Energy, Telecommunications, Waste & Garbage, and Drainage.				1,4	CBL2				4
								1,4	CBL4				6
								1,4	CBL6				10
								1,4	CBL8				13
								0,71	CBL9				15
Total					16,17								
2	Able to carry out surveys in the field of urban and regional planning, both individually and in groups effectively and efficiently.		1	Able to explain the definition, history, role, types, facilities and	0,71	Mid Exam 1				1			

ILO and IK ILO charged in the Artificial Intelligence-Based Water Transportation course			CLO (CPMK)				Media assessment and its contribution to MK competency scores			Week						
ILO	ILO Statement	% CPL/ILO	CLO (CPMK)	CLO Statement (CPMK)	CLO/CPMK Weight (%)	Assessment Media	CBL (%)	Mid Exam (%)	Final Exam (%)							
				infrastructure of regions and cities.	0,71	Mid Exam 2				2						
					0,71	Mid Exam 3				7						
					0,71	Final Exam 1				11						
					0,71	Final Exam 2				14						
			2	Calculating infrastructure needs: Water, Energy, Telecommunications, Waste & Garbage, and Drainage.				1,4	CBL1				3			
								1,4	CBL3				5			
								1,4	CBL5				9			
								1,4	CBL7				12			
								0,71	CBL9				15			
			3	Analyze the economics and institutionalization of infrastructure: Water, Energy, Telecommunications, Waste & Garbage, and Drainage.				1,4	CBL2				4			
								1,4	CBL4				6			
								1,4	CBL6				10			
								1,4	CBL8				13			
			Total					16,17					12,62	2,13	1,42	
			4	Able to use planning methods and techniques in the field of infrastructure / disaster mitigation / environmental management / systems information / city management / and public policy correctly and appropriately.		1	Able to explain the definition, history, role, types, facilities and infrastructure of regions and cities.	0,71	Mid Exam 1				1			
0,71	Mid Exam 2	2														

ILO and IK ILO charged in the Artificial Intelligence-Based Water Transportation course			CLO (CPMK)				Media assessment and its contribution to MK competency scores			Week			
ILO	ILO Statement	% CPL/ILO	CLO (CPMK)	CLO Statement (CPMK)	CLO/CPMK Weight (%)	Assessment Media	CBL (%)	Mid Exam (%)	Final Exam (%)				
					0,71	Mid Exam 3				7			
					0,71	Final Exam 1				11			
					0,71	Final Exam 2				14			
			2	Calculating infrastructure needs: Water, Energy, Telecommunications, Waste & Garbage, and Drainage.				1,4	CBL1				3
								1,4	CBL3				5
								1,4	CBL5				9
								1,4	CBL7				12
								0,71	CBL9				15
			3	Analyze the economics and institutionalization of infrastructure: Water, Energy, Telecommunications, Waste & Garbage, and Drainage.				1,4	CBL2				4
								1,4	CBL4				6
								1,4	CBL6				10
								1,4	CBL8				13
								0,71	CBL9				15
			Total					16,17		12,62	2,13	1,42	
			5	Able to apply theories and methods in the theme of sustainable rural and urban interactions appropriately.		1	Able to explain the definition, history, role, types, facilities and infrastructure of regions and cities.	0,71	Mid Exam 1				1
0,71	Mid Exam 2	2											
0,71	Mid Exam 3	7											
0,71	Final Exam 1	11											

ILO and IK ILO charged in the Artificial Intelligence-Based Water Transportation course			CLO (CPMK)				Media assessment and its contribution to MK competency scores			Week			
ILO	ILO Statement	% CPL/ILO	CLO (CPMK)	CLO Statement (CPMK)	CLO/CPMK Weight (%)	Assessment Media	CBL (%)	Mid Exam (%)	Final Exam (%)				
					0,71	Final Exam 2				14			
			2	Calculating infrastructure needs: Water, Energy, Telecommunications, Waste & Garbage, and Drainage.	1,4	CBL1				3			
					1,4	CBL3				5			
					1,4	CBL5				9			
					1,4	CBL7				12			
					0,71	CBL9				15			
			3	Analyze the economics and institutionalization of infrastructure: Water, Energy, Telecommunications, Waste & Garbage, and Drainage.	1,4	CBL2				4			
					1,4	CBL4				6			
					1,4	CBL6				10			
					1,4	CBL8				13			
					0,71	CBL9				15			
			Total				16,17		12,62	2,13	1,42		
			6	Able to apply, analyze, and evaluate participatory, comprehensive rational, and strategic planning processes within the scope of urban settlement planning, villages, cities, regions, transportation or urban design appropriately.		1	Able to explain the definition, history, role, types, facilities and infrastructure of regions and cities.	0,71	Mid Exam 1				1
								0,71	Mid Exam 2				2
0,71	Mid Exam 3									7			
0,71	Final Exam 1									11			

ILO and IK ILO charged in the Artificial Intelligence-Based Water Transportation course			CLO (CPMK)				Media assessment and its contribution to MK competency scores			Week						
ILO	ILO Statement	% CPL/ILO	CLO (CPMK)	CLO Statement (CPMK)	CLO/CPMK Weight (%)	Assessment Media	CBL (%)	Mid Exam (%)	Final Exam (%)							
					0,71	Final Exam 2				14						
			2	Calculating infrastructure needs: Water, Energy, Telecommunications, Waste & Garbage, and Drainage.	1,4	CBL1				3						
					1,4	CBL3				5						
					1,4	CBL5				9						
					1,4	CBL7				12						
					0,71	CBL9				15						
			3	Analyze the economics and institutionalization of infrastructure: Water, Energy, Telecommunications, Waste & Garbage, and Drainage.	1,4	CBL2				4						
					1,4	CBL4				6						
					1,4	CBL6				10						
					1,4	CBL8				13						
					0,71	CBL9				15						
			Total							16,17		12,62	2,13	1,42		
			7	Able to operate software applications or practicum tools that support research, planning and design in the field of urban and regional planning appropriately.		1				Able to explain the definition, history, role, types, facilities and infrastructure of regions and cities.	0,71	Mid Exam 1				1
											0,71	Mid Exam 2				2
											0,71	Mid Exam 3				7
0,71	Final Exam 1	11														
0,71	Final Exam 2	14														

ILO and IK ILO charged in the Artificial Intelligence-Based Water Transportation course			CLO (CPMK)				Media assessment and its contribution to MK competency scores			Week						
ILO	ILO Statement	% CPL/ILO	CLO (CPMK)	CLO Statement (CPMK)	CLO/CPMK Weight (%)	Assessment Media	CBL (%)	Mid Exam (%)	Final Exam (%)							
			2	Calculating infrastructure needs: Water, Energy, Telecommunications, Waste & Garbage, and Drainage.	1,4	CBL1	12,62	2,13	1,42	3						
					1,4	CBL3				5						
					1,4	CBL5				9						
					1,4	CBL7				12						
					0,71	CBL9				15						
			3	Analyze the economics and institutionalization of infrastructure: Water, Energy, Telecommunications, Waste & Garbage, and Drainage.	1,4	CBL2				4						
					1,4	CBL4				6						
					1,4	CBL6				10						
					1,4	CBL8				13						
					0,71	CBL9				15						
			Total							16,17						
			9	Able to apply an attitude of responsibility and integrity for work in the field of planning / design independently or in a team and develop organizational and entrepreneurial skills, in accordance with laws, values, norms, and ethics.		1				Able to explain the definition, history, role, types, facilities and infrastructure of regions and cities.	0,71	Mid Exam 1				1
											0,71	Mid Exam 2				2
											0,71	Mid Exam 3				7
											0,71	Final Exam 1				11
0,71	Final Exam 2	14														
2	Calculating infrastructure needs: Water, Energy, Telecommunications, Waste & Garbage, and Drainage.	1,4				CBL1	3									
		1,4				CBL3	5									
		1,4				CBL5	9									
		1,4				CBL7	12									
		0,71				CBL9	15									

ILO and IK ILO charged in the Artificial Intelligence-Based Water Transportation course			CLO (CPMK)				Media assessment and its contribution to MK competency scores			Week	
ILO	ILO Statement	% CPL/ILO	CLO (CPMK)	CLO Statement (CPMK)	CLO/CPMK Weight (%)	Assessment Media	CBL (%)	Mid Exam (%)	Final Exam (%)		
			3	Analyze the economics and institutionalization of infrastructure: Water, Energy, Telecommunications, Waste & Garbage, and Drainage.	1,4	CBL2				4	
					1,4	CBL4				6	
					1,4	CBL6				10	
					1,4	CBL8				13	
					0,71	CBL9				15	
			Total		16,17		12,62	2,13	1,42		
TOTAL = 100								88,34	14,91	9,94	

Recapitulation of Percentage Relationship between CLO and Assessment

	ILO 1	ILO 2	ILO 3	ILO 4	ILO 5	ILO 6	ILO 7	ILO 8	ILO 9
CLO 1	0,3	0,1	0	0,1	0,1	0,1	0,2	0	0,1
CLO 2	0,3	0,1	0	0,1	0,1	0,1	0,2	0	0,1
CLO 3	0,3	0,1	0	0,1	0,1	0,1	0,2	0	0,1
Weight									

Description: Filled in yellow

Recapitulation of Percentage of CPMK/CLO and SLO/ILO Relationships

CLO	DESCRIPTION	CBL	Mid Exam	Final Exam	
CLO 1	Able to explain the definition, history, role, types, facilities and infrastructure of regions and cities.	0	15	10	

CLO 2	Calculating infrastructure needs: Water, Energy, Telecommunications, Waste & Garbage, and Drainage.	50	0	0	
CLO 3	Analyzing the economics and institutionalization of infrastructure: Water, Energy, Telecommunications, Waste & Garbage, and Drainage .	25	0	0	
	Final Score =	75	15	10	

***20% of Case Based Learning assessment**

COURSE LEARNING OUTCOMES (CPMK) ARTIFICIAL INTELLIGENCE-BASED WATER TRANSPORTATION:

- Able to explain the definition, history, role, types, facilities and infrastructure of regions and cities...
- Able to calculate infrastructure needs: Clean water, Energy, Telecommunication, Waste & Garbage, and Drainage.
- Analyze the economics and institutionalization of infrastructure: Water, Energy, Telecommunications, Waste & Garbage, and Drainage.

END OF SEMESTER TEST (Week 16)

Sub-CLO 3. Analyze the economics and institutionalization of infrastructure: Clean water, Energy, Telecommunication, Waste & Garbage, and Drainage. (C-3)

Sub CPMK-2. Calculate infrastructure needs: Clean water, Energy, Telecommunication, Waste & Garbage, and Drainage(C-4)

MID SEMESTER TEST (Week 8)

Sub-CLO 1. Explain Explain the definition, history, role, types: Clean water, Energy, Telecommunication, Waste & Garbage, and Drainage (C-2).

RPS (Semester Learning Plan) Details Per Week

Week	Sub-CLO (Sub-CP-MK) (as expected end capability)	Indicator	Criteria & Form of Assessment	Learning Methods (Lecture / Assignment / other forms of learning)	Time (Duration)	Learning Material / Study Material [Literature]	Assessment Weight (%)
1 (IWA)	SUB CPMK-1: Explain the definition, history, role, types: TELECOMMUNICATIONS	1. Accuracy in explaining the definition, history, role, types: TELECOMMUNICATIONS	Criteria: 1. Clarity of discussion and description according to the explanation of lecture material and other related sources. Assessment: Test: Mid Exam essay questions Non Test: -	<ul style="list-style-type: none"> ● Lecture. Lecture ● Discussion ● Mid Exam 1 	Lecture: 2x 50 minutes Discussion: 50 minutes Assignments and self-study: 60 minutes + 50 Minutes		5
2 (IRDA)	SUB CPMK-1: Explain definition, history, role, types: clean water	1. Accuracy in explaining the definition, history, role, types: clean water	Criteria: 1. Clarity of discussion and description according to	<ul style="list-style-type: none"> ● Lecture. Lecture ● Discussion ● Mid Exam 2 	Lecture: 2x 50 minutes Discussion: 50 minutes Assignments and self-study:		5

Week	Sub-CLO (Sub-CP-MK) (as expected end capability)	Indicator	Criteria & Form of Assessment	Learning Methods (Lecture / Assignment / other forms of learning)	Time (Duration)	Learning Material / Study Material [Literature]	Assessment Weight (%)
			<p>the explanation of lecture material and other related sources.</p> <p>Assessment: Test: Final Exam essay questions Non Test: -</p>		60 minutes + 50 Minutes		
3 (IRDA)	SUB CPMK-2: Explain, analyze, and use analytical methods/techniques to calculate clean water demand.	<ol style="list-style-type: none"> 1. Accuracy in explaining water demand analysis methods/techniques. 2. Accuracy in analyzing clean water needs. 	<p>Criteria:</p> <ol style="list-style-type: none"> 1. Clarity of discussion and description according to the explanation of lecture material and other related sources. 2. Accuracy in the use of 	<ul style="list-style-type: none"> • Lecture. Lecture • Discussion • CBL 1: Field observation (Structured Task) 	<p>Lecture: 2x 50 minutes Discussion: 50 minutes CBL-1: 60 minutes + 50 Minutes</p>		10

Week	Sub-CLO (Sub-CP-MK) (as expected end capability)	Indicator	Criteria & Form of Assessment	Learning Methods (Lecture / Assignment / other forms of learning)	Time (Duration)	Learning Material / Study Material [Literature]	Assessment Weight (%)
			analytical methods and clear sources, in accordance with the description of the lecture explanation. Assessment: CBL 1: Field Observation (Structured Assignment)				
4 (IRDA)	SUB CPMK-3: Describe, evaluate the economics and institutionalization of Clean Water	1. Accuracy in explaining the economics and institutions of Clean Water. 2. Accuracy in analyzing, evaluating the economics and institutions of Ari Bersih.	Criteria: 1. Clarity of discussion and description according to the explanation of lecture material and	<ul style="list-style-type: none"> ● Lecture. Lecture ● Discussion ● CBL 2: Field Observation (Structured Assignment) 	Lecture: 2x 50 minutes Discussion: 50 minutes CBL-2: 60 minutes + 50 Minutes		5

Week	Sub-CLO (Sub-CP-MK) (as expected end capability)	Indicator	Criteria & Form of Assessment	Learning Methods (Lecture / Assignment / other forms of learning)	Time (Duration)	Learning Material / Study Material [Literature]	Assessment Weight (%)
			<p>other related sources.</p> <p>2. Accuracy in the use of analytical methods and clear sources, in accordance with the description of the lecture explanation.</p> <p>Assessment: CBL 4: Field Observation (Structured Assignment)</p>				
5 (IWA)	SUB CPMK-2: Explain, analyze, and use analytical methods/techniques to calculate TELECOMMUNICATION requirements.	3. Accuracy in explaining telecommunication needs analysis methods/techniques. 4. Accuracy in analyzing telecommunication needs.	Criteria: 1. Clarity of discussion and description according to the	<ul style="list-style-type: none"> ● Lecture. Lecture ● Discussion ● CBL 3: Field Observation (Structured Assignment) 	Lecture: 2x 50 minutes Discussion: 50 minutes CBL-3: 60 minutes + 50 Minutes		10

Week	Sub-CLO (Sub-CP-MK) (as expected end capability)	Indicator	Criteria & Form of Assessment	Learning Methods (Lecture / Assignment / other forms of learning)	Time (Duration)	Learning Material / Study Material [Literature]	Assessment Weight (%)
			<p>explanation of lecture material and other related sources.</p> <p>2. Accuracy in the use of analytical methods and clear sources, in accordance with the description of the lecture explanation.</p> <p>Assessment: CBL 3: Field Observation (Structured Assignment)</p>				
6 (IWA)	SUB CPMK-3: Explain, evaluate the economics and	5. Accuracy in explaining the economics and institutionalization of	Criteria: 3. Clarity of discussion and	<ul style="list-style-type: none"> ● Lecture. ● Lecture ● Discussion 	Lecture: 2x 50 minutes Discussion: 50 minutes		5

Week	Sub-CLO (Sub-CP-MK) (as expected end capability)	Indicator	Criteria & Form of Assessment	Learning Methods (Lecture / Assignment / other forms of learning)	Time (Duration)	Learning Material / Study Material [Literature]	Assessment Weight (%)
	institutionalization of TELECOMMUNICATION	TELECOMMUNICATION . 6. Accuracy in analyzing, evaluating the economics and institutions of TELECOMMUNICATION .	description according to the explanation of lecture material and other related sources. 4. Accuracy in the use of analytical methods and clear sources, in accordance with the description of the lecture explanation. Assessment: CBL 4: Field Observation (Structured Assignment)	● CBL 4: Field Observation (Structured Assignment)	CBL-4: 60 minutes + 50 Minutes		

Week	Sub-CLO (Sub-CP-MK) (as expected end capability)	Indicator	Criteria & Form of Assessment	Learning Methods (Lecture / Assignment / other forms of learning)	Time (Duration)	Learning Material / Study Material [Literature]	Assessment Weight (%)
7 (SH)	SUB CPMK-1: Explain the definition, history, role, types: ENERGY	1. Accuracy in explaining the definition, history, role, types: ENERGY	Criteria: 1. Clarity of discussion and description according to the explanation of lecture material and other related sources. Assessment: Test: Mid Exam essay questions Non Test: -	<ul style="list-style-type: none"> ● Lecture. Lecture ● Discussion ● Mid Exam 3 	Lecture: 2x 50 minutes Discussion: 50 minutes Assignments and self-study: 60 minutes + 50 Minutes		5
8	Mid Exam Material IWA, SH, CM						
9 (SH)	SUB CPMK-2: Explain, analyze, and use analytical methods/techniques to calculate ENERGY requirements.	1. Accuracy in explaining energy demand analysis methods/techniques. 2. Accuracy in analyzing energy needs.	Criteria: 1. Clarity of discussion and description according to the	<ul style="list-style-type: none"> ● Lecture. Lecture ● Discussion ● CBL 5: Field observation (Structured Assignment) 	Lecture: 2x 50 minutes Discussion: 50 minutes CBL-5: 60 minutes + 50 Minutes		10

Week	Sub-CLO (Sub-CP-MK) (as expected end capability)	Indicator	Criteria & Form of Assessment	Learning Methods (Lecture / Assignment / other forms of learning)	Time (Duration)	Learning Material / Study Material [Literature]	Assessment Weight (%)
			<p>explanation of lecture material and other related sources.</p> <p>2. Accuracy in the use of analytical methods and clear sources, in accordance with the description of the lecture explanation.</p> <p>Assessment: CBL 5: Field Observation (Structured Assignment)</p>				
10 (SH)	SUB CPMK-3: Describe, evaluate the economics and	1. Accuracy in explaining the economics and institutionalization of Energy.	Criteria: 1. Clarity of discussion and	<ul style="list-style-type: none"> ● Lecture. ● Lecture ● Discussion 	Lecture: 2x 50 minutes Discussion: 50 minutes		5

Week	Sub-CLO (Sub-CP-MK) (as expected end capability)	Indicator	Criteria & Form of Assessment	Learning Methods (Lecture / Assignment / other forms of learning)	Time (Duration)	Learning Material / Study Material [Literature]	Assessment Weight (%)
	institutionalization of ENERGY	2. Accuracy in analyzing, evaluating the economics and institutions of Energy.	description according to the explanation of lecture material and other related sources. 2. Accuracy in the use of analytical methods and clear sources, in accordance with the description of the lecture explanation. Assessment: CBL 6: Field observation (Structured Assignment)	<ul style="list-style-type: none"> ● CBL 6: Field Observation (Structured Assignment) 	CBL-6: 60 minutes + 50 Minutes		

Week	Sub-CLO (Sub-CP-MK) (as expected end capability)	Indicator	Criteria & Form of Assessment	Learning Methods (Lecture / Assignment / other forms of learning)	Time (Duration)	Learning Material / Study Material [Literature]	Assessment Weight (%)
11 (CM)	SUB CPMK-1: Explain the definition, history, role, types: Waste and Solid Waste	1. Accuracy in explaining the definition, history, role, types: Waste and garbage	Criteria: 1. Clarity of discussion and description according to the explanation of lecture material and other related sources. Assessment: Test: Final Exam essay question Non Test: -	<ul style="list-style-type: none"> ● Lecture. Lecture ● Discussion ● Final Exam 1 	Lecture: 2x 50 minutes Discussion: 50 minutes Assignments and self-study: 60 minutes + 50 Minutes		5
12 (CM)	SUB CPMK-2: Explain, analyze, and use analytical methods/techniques to calculate waste and solid waste needs.	1. Accuracy in explaining the methods/techniques of analyzing waste and waste needs. 2. Accuracy in analyzing waste and garbage needs.	Criteria: 1. Clarity of discussion and description according to the explanation	<ul style="list-style-type: none"> ● Lecture. Lecture ● Discussion ● CBL 7: Field observation (Structured Assignment) 	Lecture: 2x 50 minutes Discussion: 50 minutes CBL-7: 60 minutes + 50 Minutes		10

Week	Sub-CLO (Sub-CP-MK) (as expected end capability)	Indicator	Criteria & Form of Assessment	Learning Methods (Lecture / Assignment / other forms of learning)	Time (Duration)	Learning Material / Study Material [Literature]	Assessment Weight (%)
			<p>of lecture material and other related sources.</p> <p>2. Accuracy in the use of analytical methods and clear sources, in accordance with the description of the lecture explanation.</p> <p>Assessment: CBL 7: Field Observation (Structured Assignment)</p>				
13 (CM)	SUB CPMK-3: Describe, evaluate the economics and institutionalization of waste and garbage	1. Accuracy in explaining the economics and institutionalization of waste and litter.	Criteria: 1. Clarity of discussion and description	<ul style="list-style-type: none"> ● Lecture. Lecture ● Discussion ● CBL 8: Field Observation 	Lecture: 2x 50 minutes Discussion: 50 minutes CBL-8:		5

Week	Sub-CLO (Sub-CP-MK) (as expected end capability)	Indicator	Criteria & Form of Assessment	Learning Methods (Lecture / Assignment / other forms of learning)	Time (Duration)	Learning Material / Study Material [Literature]	Assessment Weight (%)
		2. Accuracy in analyzing, evaluating the economics and institutions of waste and garbage.	<p>according to the explanation of lecture material and other related sources.</p> <p>2. Accuracy in the use of analytical methods and clear sources, in accordance with the description of the lecture explanation.</p> <p>Assessment: CBL 8: Field observation (Structured Assignment)</p>	(Structured Assignment)	60 minutes + 50 Minutes		
14 (DS)	SUB CPMK-1:	1. Accuracy in explaining the definition, history,	Criteria:	<ul style="list-style-type: none"> Lecture. Lecture 	Lecture: 2x 50 minutes		5

Week	Sub-CLO (Sub-CP-MK) (as expected end capability)	Indicator	Criteria & Form of Assessment	Learning Methods (Lecture / Assignment / other forms of learning)	Time (Duration)	Learning Material / Study Material [Literature]	Assessment Weight (%)
	Explain the definition, history, role, types: Drainage and Irrigation	role, types: Drainage and Irrigation	2. Clarity of discussion and description according to the explanation of lecture material and other related sources. Assessment: Test: Final Exam essay questions Non Test: -	<ul style="list-style-type: none"> • Discussion • Final Exam 2 	Discussion: 50 minutes Assignments and self-study: 60 minutes + 50 Minutes		
15 (DS)	SUB CPMK-2 & SUB CPMK-3: Describe, analyze, and use analytical methods/techniques to calculate drainage and irrigation water requirements; Describe, evaluate the economics	1. Accuracy in explaining the methods/techniques of analyzing drainage and irrigation needs, explaining the economics and institutions of drainage and irrigation.	Criteria: 1. Clarity of discussion and description according to the explanation of lecture	<ul style="list-style-type: none"> • Lecture. Lecture • Discussion • CBL 9: Field observation (Structured Assignment) 	Lecture: 2x 50 minutes Discussion: 50 minutes CBL-9: 60 minutes + 50 Minutes		15

Week	Sub-CLO (Sub-CP-MK) (as expected end capability)	Indicator	Criteria & Form of Assessment	Learning Methods (Lecture / Assignment / other forms of learning)	Time (Duration)	Learning Material / Study Material [Literature]	Assessment Weight (%)
	and institutions of drainage and irrigation.	2. Accuracy in analyzing drainage and irrigation needs, analyzing, evaluating the economics and institutions of drainage and irrigation.	material and other related sources. 2. Accuracy in the use of analytical methods and clear sources, in accordance with the description of the lecture explanation. Assessment: CBL 9: Field Observation (Structured Assignment)				
16	Final Exam CM, IRDA, DS material						

TASK FORMAT (ASSESSMENT)

Course Content	:	Urban and Regional Infrastructure			
Semester	:	5	Credits	:	3
Task To	:	1	Week 1	:	3
Date Assignment Given	:	Week 3	Date Assignment Collected	:	Week 4
CPMK	:	2	CBL	:	1

1. Task Purpose

Students are able to analyze the method of clean water demand

2. Task Description

- a. Object of the assignment: analyze methods and prepare a paper on clean water.
- b. Assignment boundaries: collect literature, compile/design an outline of the content of the paper according to the topic. Prepare the paper based on the latest issues.
- c. Method / way of working: papers in accordance with the rules of scientific writing by correctly adapting from competent and scientific sources in the form of journals, books and scientific articles whose sources are clear.
- d. Expected output: a scientific paper written on A4 paper with a standard format, accompanied by attachments if needed.

3. Assessment Criteria

- Literature 20%
- Discussion of selected cases 30%
- 20% issue selection
- 30% final report

Task grading scale:

Grade	Score	Indicator
Very less	< 20	<ul style="list-style-type: none"> ● No literature ● unfounded study selection ● discussion is not appropriate ● poor continuity between chapters
Less	21 - 40	<ul style="list-style-type: none"> ● Literature is lacking and many are invalid ● selection of case study is not appropriate ● less discussion ● less continuity between chapters
Simply	41 - 60	<ul style="list-style-type: none"> ● The literature is sufficient and some are still invalid ● good case study selection ● less discussion ● sufficient continuity between chapters
Good	61 - 80	<ul style="list-style-type: none"> ● Sufficient literature ● selection of interesting case studies ● interesting discussion ● good continuity between chapters
Very good	> 80-100	<ul style="list-style-type: none"> ● Recent and valid literature ● sharp and original discussion ● the continuity between chapters is very good.

TASK FORMAT (ASSESSMENT)

Course Content	:	Urban and Regional Infrastructure			
Semester	:	5	Credits	:	3
Task To	:	2	Week 1	:	4
Date Assignment Given	:	Week 4	Date Assignment Collected	:	Week 5
CPMK	:	3	CBL	:	2

1. Task Purpose

Students are able to analyze the economic and institutional of Clean Water.

2. Task Description

- a. Object of the assignment: prepare a paper on the economics and institutionalization of Clean Water.
- b. Assignment boundaries: collect literature, compile/design an outline of the content of the paper according to the topic. Prepare the paper based on the latest issues.
- c. Method / way of working: papers in accordance with the rules of scientific writing by correctly adapting from competent and scientific sources in the form of journals, books and scientific articles whose sources are clear.
- d. Expected output: a scientific paper written on A4 paper with a standard format, accompanied by attachments if needed.

3. Assessment Criteria

- Literature 20%
- Discussion of selected cases 30%
- 20% issue selection
- 30% final report

Task grading scale:

Grade	Score	Indicator
Very less	< 20	<ul style="list-style-type: none"> ● No literature ● unfounded study selection ● discussion is not appropriate ● poor continuity between chapters
Less	21 - 40	<ul style="list-style-type: none"> ● Literature is lacking and many are invalid ● selection of case study is not appropriate ● less discussion ● less continuity between chapters
Simply	41 - 60	<ul style="list-style-type: none"> ● The literature is sufficient and some are still invalid ● good case study selection ● less discussion ● sufficient continuity between chapters
Good	61 - 80	<ul style="list-style-type: none"> ● Sufficient literature ● selection of interesting case studies ● interesting discussion ● good continuity between chapters
Very good	> 80-100	<ul style="list-style-type: none"> ● Recent and valid literature ● sharp and original discussion ● the continuity between chapters is very good.

TASK FORMAT (ASSESSMENT)

Course Content	:	Urban and Regional Infrastructure			
Semester	:	5	Credits	:	3
Task To	:	3	Week 1	:	5
Date Assignment Given	:	Week 5	Date Assignment Collected	:	Week 6
CPMK	:	2	CBL	:	3

1. Task Purpose

Students are able to analyze telecommunication requirement methods.

2. Task Description

- a. Object of the assignment: prepare a paper on telecommunication demand methods.
- b. Assignment boundaries: collect literature, compile/design content outline then energy demand method according to the topic. Prepare a paper based on the latest issues.
- c. Method / way of working: papers in accordance with the rules of scientific writing by correctly adapting from competent and scientific sources in the form of journals, books and scientific articles whose sources are clear.
- d. Expected output: a scientific paper written on A4 paper with a standard format, accompanied by attachments if needed.

3. Assessment Criteria

- Literature 20%
- Discussion of selected cases 30%
- 20% issue selection
- 30% final report

Task grading scale:

Grade	Score	Indicator
Very less	< 20	<ul style="list-style-type: none"> ● No literature ● unfounded study selection ● discussion is not appropriate ● poor continuity between chapters
Less	21 - 40	<ul style="list-style-type: none"> ● Literature is lacking and many are invalid ● selection of case study is not appropriate ● less discussion ● less continuity between chapters
Simply	41 - 60	<ul style="list-style-type: none"> ● The literature is sufficient and some are still invalid ● good case study selection ● less discussion ● sufficient continuity between chapters
Good	61 - 80	<ul style="list-style-type: none"> ● Sufficient literature ● selection of interesting case studies ● interesting discussion ● good continuity between chapters
Very good	> 80-100	<ul style="list-style-type: none"> ● Recent and valid literature ● sharp and original discussion ● the continuity between chapters is very good.

TASK FORMAT (ASSESSMENT)

Course Content	:	Urban and Regional Infrastructure			
Semester	:	5	Credits	:	3
Task To	:	5	Week 1	:	6
Date Assignment Given	:	Week 6	Date Assignment Collected	:	Week 7
CPMK	:	3	CBL	:	4

1. Task Purpose

Students are able to analyze the economics and institutions of telecommunications.

2. Task Description

- a. Objective: prepare a paper on the economics and institutionalization of telecommunications.
- b. Assignment boundaries: collect literature, compile/design an outline of the content of the paper according to the topic. Prepare the paper based on the latest issues.
- c. Method / way of working: papers in accordance with the rules of scientific writing by correctly adapting from competent and scientific sources in the form of journals, books and scientific articles whose sources are clear.
- d. Expected output: a scientific paper written on A4 paper with a standard format, accompanied by attachments if needed.

3. Assessment Criteria

- Literature 20%
- Discussion of selected cases 30%
- 20% issue selection
- 30% final report

Task grading scale:

Grade	Score	Indicator
Very less	< 20	<ul style="list-style-type: none"> ● No literature ● unfounded study selection ● discussion is not appropriate ● poor continuity between chapters
Less	21 - 40	<ul style="list-style-type: none"> ● Literature is lacking and many are invalid ● selection of case study is not appropriate ● less discussion ● less continuity between chapters
Simply	41 - 60	<ul style="list-style-type: none"> ● The literature is sufficient and some are still invalid ● good case study selection ● less discussion ● sufficient continuity between chapters
Good	61 - 80	<ul style="list-style-type: none"> ● Sufficient literature ● selection of interesting case studies ● interesting discussion ● good continuity between chapters
Very good	> 80-100	<ul style="list-style-type: none"> ● Recent and valid literature ● sharp and original discussion ● the continuity between chapters is very good.

TASK FORMAT (ASSESSMENT)

Course Content	:	Urban and Regional Infrastructure			
Semester	:	5	Credits	:	3
Task To	:	5	Week 1	:	7
Date Assignment Given	:	Week 7	Date Assignment Collected	:	Week 9
CPMK	:	2	CBL	:	5

1. Task Purpose

Students are able to analyze energy demand methods.

2. Task Description

- a. Object of the assignment: analyze energy needs and prepare a paper on energy methods.
- b. Assignment boundaries: collect literature, compile/design an outline of the content of the paper according to the topic. Prepare the paper based on the latest issues.
- c. Method / way of working: papers in accordance with the rules of scientific writing by correctly adapting from competent and scientific sources in the form of journals, books and scientific articles whose sources are clear.
- d. Expected output: a scientific paper written on A4 paper with a standard format, accompanied by attachments if needed.

3. Assessment Criteria

- Literature 20%
- Discussion of selected cases 30%
- 20% issue selection
- 30% final report

Task grading scale:

Grade	Score	Indicator
Very less	< 20	<ul style="list-style-type: none"> ● No literature ● unfounded study selection ● discussion is not appropriate ● poor continuity between chapters
Less	21 - 40	<ul style="list-style-type: none"> ● Literature is lacking and many are invalid ● selection of case study is not appropriate ● less discussion ● less continuity between chapters
Simply	41 - 60	<ul style="list-style-type: none"> ● The literature is sufficient and some are still invalid ● good case study selection ● less discussion ● sufficient continuity between chapters
Good	61 - 80	<ul style="list-style-type: none"> ● Sufficient literature ● selection of interesting case studies ● interesting discussion ● good continuity between chapters
Very good	> 80-100	<ul style="list-style-type: none"> ● Recent and valid literature ● sharp and original discussion ● the continuity between chapters is very good.

TASK FORMAT (ASSESSMENT)

Course Content	:	Urban and Regional Infrastructure			
Semester	:	5	Credits	:	3
Task To	:	6	Week 1	:	9
Date Assignment Given	:	Week 9	Date Assignment Collected	:	Week 10
CPMK	:	3	CBL	:	6

1. Task Purpose

Students are able to analyze energy economics and institutions.

2. Task Description

- a. Object of the assignment: prepare a paper on energy economics and institutions.
- b. Assignment boundaries: collect literature, compile/design an outline of the content of the paper according to the topic. Prepare the paper based on the latest issues.
- c. Method / way of working: papers in accordance with the rules of scientific writing by correctly adapting from competent and scientific sources in the form of journals, books and scientific articles whose sources are clear.
- d. Expected output: a scientific paper written on A4 paper with a standard format, accompanied by attachments if needed.

3. Assessment Criteria

- Literature 20%
- Discussion of selected cases 30%
- 20% issue selection
- 30% final report

Task grading scale:

Grade	Score	Indicator
Very less	< 20	<ul style="list-style-type: none"> ● No literature ● unfounded study selection ● discussion is not appropriate ● poor continuity between chapters
Less	21 - 40	<ul style="list-style-type: none"> ● Literature is lacking and many are invalid ● selection of case study is not appropriate ● less discussion ● less continuity between chapters
Simply	41 - 60	<ul style="list-style-type: none"> ● The literature is sufficient and some are still invalid ● good case study selection ● less discussion ● sufficient continuity between chapters
Good	61 - 80	<ul style="list-style-type: none"> ● Sufficient literature ● selection of interesting case studies ● interesting discussion ● good continuity between chapters
Very good	> 80-100	<ul style="list-style-type: none"> ● Recent and valid literature ● sharp and original discussion ● the continuity between chapters is very good.

TASK FORMAT (ASSESSMENT)

Course Content	:	Urban and Regional Infrastructure			
Semester	:	5	Credits	:	3
Task To	:	7	Week 1	:	10
Date Assignment Given	:	Week 10	Date Assignment Collected	:	Week 11
CPMK	:	2	CBL	:	7

1. Task Purpose

Students are able to analyze waste and garbage demand methods.

2. Task Description

- a. Object of the assignment: analyze waste and garbage needs and prepare a paper on waste and garbage needs.
- b. Assignment boundaries: collect literature, compile/design an outline of the content of the paper according to the topic. Prepare the paper based on the latest issues.
- c. Method / way of working: papers in accordance with the rules of scientific writing by correctly adapting from competent and scientific sources in the form of journals, books and scientific articles whose sources are clear.
- d. Expected output: a scientific paper written on A4 paper with a standard format, accompanied by attachments if needed.

3. Assessment Criteria

- Literature 20%
- Discussion of selected cases 30%
- 20% issue selection
- 30% final report

Task grading scale:

Grade	Score	Indicator
Very less	< 20	<ul style="list-style-type: none"> ● No literature ● unfounded study selection ● discussion is not appropriate ● poor continuity between chapters
Less	21 - 40	<ul style="list-style-type: none"> ● Literature is lacking and many are invalid ● selection of case study is not appropriate ● less discussion ● less continuity between chapters
Simply	41 - 60	<ul style="list-style-type: none"> ● The literature is sufficient and some are still invalid ● good case study selection ● less discussion ● sufficient continuity between chapters
Good	61 - 80	<ul style="list-style-type: none"> ● Sufficient literature ● selection of interesting case studies ● interesting discussion ● good continuity between chapters
Very good	> 80-100	<ul style="list-style-type: none"> ● Recent and valid literature ● sharp and original discussion ● the continuity between chapters is very good.

TASK FORMAT (ASSESSMENT)

Course Content	:	Urban and Regional Infrastructure			
Semester	:	5	Credits	:	3
Task To	:	8	Week 1	:	11
Date Assignment Given	:	Week 11	Date Assignment Collected	:	Week 12
CPMK	:	3	CBL	:	8

1. Task Purpose

Students are able to analyze the economics and institutions of waste and garbage.

2. Task Description

- a. Objective: analyze and prepare a paper on the economics and institutionalization of waste and garbage.
- b. Assignment boundaries: collect literature, compile/design an outline of the content of the paper according to the topic. Prepare the paper based on the latest issues.
- c. Method / way of working: papers in accordance with the rules of scientific writing by correctly adapting from competent and scientific sources in the form of journals, books and scientific articles whose sources are clear.
- d. Expected output: a scientific paper written on A4 paper with a standard format, accompanied by attachments if needed.

3. Assessment Criteria

- Literature 20%
- Discussion of selected cases 30%
- 20% issue selection
- 30% final report

Task grading scale:

Grade	Score	Indicator
Very less	< 20	<ul style="list-style-type: none"> ● No literature ● unfounded study selection ● discussion is not appropriate ● poor continuity between chapters
Less	21 - 40	<ul style="list-style-type: none"> ● Literature is lacking and many are invalid ● selection of case study is not appropriate ● less discussion ● less continuity between chapters
Simply	41 - 60	<ul style="list-style-type: none"> ● The literature is sufficient and some are still invalid ● good case study selection ● less discussion ● sufficient continuity between chapters
Good	61 - 80	<ul style="list-style-type: none"> ● Sufficient literature ● selection of interesting case studies ● interesting discussion ● good continuity between chapters
Very good	> 80-100	<ul style="list-style-type: none"> ● Recent and valid literature ● sharp and original discussion ● the continuity between chapters is very good.

TASK FORMAT (ASSESSMENT)

Course Content	:	Urban and Regional Infrastructure			
Semester	:	5	Credits	:	3
Task To	:	9	Week 1	:	12
Date Assignment Given	:	Week 12	Date Assignment Collected	:	Week 13
CPMK	:	2 & 3	CBL	:	9

1. Task Purpose

Students are able to analyze the methods of drainage and irrigation needs and analyze the economics and institutions of drainage and irrigation.

2. Task Description

- a. Object of the assignment: analyze and prepare a paper on drainage and irrigation demand methods and analyze the economics and institutions of drainage and irrigation.
- b. Assignment boundaries: collect literature, compile/design an outline of the content of the paper according to the topic. Prepare the paper based on the latest issues.
- c. Method / way of working: papers in accordance with the rules of scientific writing by correctly adapting from competent and scientific sources in the form of journals, books and scientific articles whose sources are clear.
- d. Expected output: a scientific paper written on A4 paper with a standard format, accompanied by attachments if needed.

3. Assessment Criteria

- Literature 20%
- Discussion of selected cases 30%
- 20% issue selection
- 30% final report

Task grading scale:

Grade	Score	Indicator
Very less	< 20	<ul style="list-style-type: none"> ● No literature ● unfounded study selection ● discussion is not appropriate ● poor continuity between chapters
Less	21 - 40	<ul style="list-style-type: none"> ● Literature is lacking and many are invalid ● selection of case study is not appropriate ● less discussion ● less continuity between chapters
Simply	41 - 60	<ul style="list-style-type: none"> ● The literature is sufficient and some are still invalid ● good case study selection ● less discussion ● sufficient continuity between chapters
Good	61 - 80	<ul style="list-style-type: none"> ● Sufficient literature ● selection of interesting case studies ● interesting discussion ● good continuity between chapters
Very good	> 80-100	<ul style="list-style-type: none"> ● Recent and valid literature

		<ul style="list-style-type: none">• sharp and original discussion• the continuity between chapters is very good.
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MIDTER & FINAL SEMESTER ASSESSMENT RUBRICKS (ESSAY and MULTIPLE CHOICE)

Test Type : Completion of questions according to the material

Assessment type : Holistic/descriptive rubric

Assessment Criteria :

Dimensions	Criteria	Maximum Value	Bad 0-55	Simply 56-69	Good 70-80	Very good 81-100
Able to explain theoretical concepts and apply research methods in the field of urban and regional infrastructure	<ul style="list-style-type: none"> • Explain theoretical concepts in the field of urban and regional planning • Apply research and methods in the field of urban and regional infrastructure 	10	Unable to translate the problem into all comprehensive parameters	Able to translate the problem into 30% comprehensive parameters	Able to translate the problem into 60% comprehensive parameters	Able to translate the problem into 90% comprehensive parameters
Able to use processes and methods of urban and regional infrastructure	<ul style="list-style-type: none"> • Use the processes and methods of urban and regional infrastructure 	30	Does not use applicable standards/references in solving problems	Use 30% of applicable standards/references in solving problems	Use 60% of applicable standards/references in solving problems	Use 90% of applicable standards/references in solving problems
Able to operate software applications that support research,	<ul style="list-style-type: none"> • Using data management, analysis and evaluation 	30	Completion steps are entirely NOT sequential, NOT complete and NOT	The solution steps are only 30% sequential, complete	The solution steps are only 60% sequential, complete	The solution steps are only 90% sequential, complete

Dimensions	Criteria	Maximum Value	Bad 0-55	Simply 56-69	Good 70-80	Very good 81-100
regional and city infrastructure	applications in the field of research and urban and regional infrastructure		precise in results and units	and precise in results and units.	and precise in results and units.	and precise in results and units
Able to apply theories and methods in the field of URP for the integration of regional and city infrastructure	<ul style="list-style-type: none"> • Explain the theories, methods, and concepts of regional and urban infrastructure interaction 	20	The final result is entirely incorrect and there is NO interpretation.	The final result is only 30% correct and there is an interpretation.	The final result is only 60% correct and there is an interpretation.	The final result is only 90% correct and there is an interpretation.
Apply a responsible attitude to work in their field of expertise independently or in a team and develop organizational and entrepreneurial skills, in accordance with laws, values, norms, and ethics.	<ul style="list-style-type: none"> • Apply a responsible attitude in the tasks that are their responsibility • Use knowledge in the field of transportation planning to manage and lead in a team or organization. • Apply attitudes in accordance with the laws, values, norms, 	10	Completing tasks not on time	Completes tasks on time and 30% complete as requested	Completes tasks on time and 70% complete as requested	Complete the task on time and 100% complete as requested

Dimensions	Criteria	Maximum Value	Bad 0-55	Simply 56-69	Good 70-80	Very good 81-100
	and ethics of the planning profession					

