



**BRAWIJAYA UNIVERSITY FACULTY OF ENGINEERING
MASTER STUDY PROGRAM (S2) REGIONAL AND CITY PLANNING**

SEMESTER LEARNING PLAN

SUBJECT	CODE	SUBJECT SCOPE	WEIGHT (credits)	SEMESTER	Compilation Date
Regional and City Infrastructure Management	TKW81114	Transportation	2	1	August 10, 2023 Revised July 26, 2024
AUTHORIZATION Transport Compartment	RPS(SEMESTER LEARNING PLAN) DEVELOPMENT LECTURER		COORD. SUBJECT		Head of Magister Study Program
	1. Imma Widyawati Agustin (IWA) 2. Septiana Hariyani (SH)		IMMA WIDYAWATI AGUSTIN Signature		Chritia Meidiana Signature
LEARNING OUTCOMES	CPL/ILO (Intended Learning Outcome)				
	2	Able to analyse theories related to regional and urban planning and development, with a focus on the specialized field of regional and urban planning;			
	3	Able to evaluate and apply strategic planning processes and control mechanisms innovatively in the district and city areas;			
	5	Able to formulate solutions to problems in regional and urban planning and development by utilizing other disciplines either inter-disciplinarily or multi-disciplinarily, while considering spatial physical, economic, socio-cultural, environmental, and institutional factors;			
	8	Able to develop personal character with integrity and build networks both academically and professionally inside and outside of institutions.			
	CPMK/CLO (Class Learning Outcome)				
	1	explain the scope of infrastructure management in Indonesia, developing countries, and developed countries; considering transportation infrastructure; water infrastructure, and energy infrastructure.			
	2	Analyze, evaluate, and offer solutions to slum settlements in Indonesia and other developing countries.			
	3	Analyze, evaluate, & offer drainage system solutions to support regions and cities development.			
	4	considering policies, institutions and the quality of public services provided by various related parties, especially the government in regional and city infrastructure.			
	SUB CPMK/CLO				
	Sub CLO-1	explains the definition, history, advantages, resilience, and characteristics of vulnerability and reliability of water transportation resilience.			Supports CPMK/CLO to 1
	Sub CLO-2	explains hard infrastructure and soft infrastructure in Indonesia in particular, other developing			Supports CPMK/CLO to 1

	countries and developed countries in general.	
Sub CLO-3	giving consideration to the road network: highways, toll roads, bridges, tunnels and supporting infrastructure in supporting the development and development of regions and cities.	Supports CPMK/CLO to 1
Sub CLO-4	giving consideration to bicycle lanes, and mass public transportation in supporting the development and development of regions and cities.	Supports CPMK/CLO to 1
Sub CLO-5	giving consideration to canals as intra-island water transportation. Sea ports as inter-island water transportation in supporting the development and development of regions and cities.	Supports CPMK/CLO to 1
Sub CLO-6	giving consideration to airports in supporting the development and development of regions and cities.	Supports CPMK/CLO to 1
Sub CLO-7	analyze and evaluate and offer slum settlement solutions: Definitions, Problems, Solutions in Indonesia and other developing countries.	Supports 2nd CPMK/CLO
Sub CLO-8	analyze and evaluate & offer drainage system solutions: Definition, Problems, Solutions as supporting the development and development of regions and cities.	Supports 3rd CPMK/CLO
Sub CLO-9	analyzing and giving consideration to water supply networks for drinking water, water storage, and so on, including pumps, pipes, water purification, measuring instruments, and buildings that store these facilities in supporting the development and development of regions and cities.	Supports CPMK/CLO to 1
Sub CLO-10	analyze and provide considerations regarding waste channels and wastewater treatment plants in supporting the development and development of regions and cities.	Supports CPMK/CLO to 1
Sub CLO-11	analyzing and giving consideration to waste and Flood control system to support the development and development of regions and cities.	Supports CPMK/CLO to 1

	Sub CLO-12 analyze and provide considerations about the electric power network, including power plants and power cable networks in supporting the development and construction of regions and cities. Sub CLO-13 analyze and provide considerations regarding the natural gas distribution network, including piping, storage, and transportation of gas carriers (tank trucks, tankers), and the petroleum network, including piping and storage in supporting the development and development of regions and cities. Sub CLO-14 giving consideration to policies, institutions, and the quality of public services provided by various related parties, especially the government in regional and city infrastructure.	Supports CPMK/CLO to 1 Supports CPMK/CLO to 1 Supports 4th CPMK/CLO
BRIEF DESCRIPTION SUBJECT/COURSE	This course is a continuation of related courses at the undergraduate level (Regional and City Infrastructure and Sustainable Infrastructure). This course is related to Regional and City Infrastructure Management as well as sustainable Environmentally Based Infrastructure Planning.	
BIBLIOGRAPHY	MAIN 1. Imma Widyawati Agustin dan Septiana Hariyani. 2023. Pengelolaan Infrastruktur Wilayah dan Kota. UB Press. 2. JosArts WimLendertse TaedeTillema. 2021. Road Infrastructure: Planning, Impact and Management. International Encyclopedia of Transportation. Pages 360-372. 3. Nicholas P. Cheremisinoff. 2003 Elsevier Inc, Handbook of Solid Waste Management and Waste Minimization Technologies. 4. Carlos, F. Dagando. 2010. Public Transportation Systems: Basic Principles of System Design, Operations Planning and Real-Time Control, ITS Berkeley. 5. Major, Richard. M. 2007. Street and Site Plan Design Standards, Chicago Department of Transportation. 6. Nelson, Valerie.I. 2008. Sustainable Infrastructure Management. The Government of the Hong Kong Special Administrative Region. 2004. Port Works Design Manual Part – 2. Civil Engineering Office Homantin, Kowloon, Hong Kong 7. Jasa Marga. 2015. Mewujudkan Infrastruktur untuk Mempercepat Pertumbuhan Ekonomi Nasional. 2015 annual report. 8. PT Waskita Karya. 2015. Terdepan Membangun Infrastruktur untuk NegeriLaporan Tahunan. 9. PT Penjaminan Mutu Indonesia. 2016. Acuan Lokasi Resiko Kerjasama Pemerintah dengan Badan Usaha. 10. Media. 2015. Kekayaan Negara PEMBANGUNAN INFRASTRUKTUR SEGERA. Edisi No. 20 Tahun VI / 2015.	

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UB Press link:

<https://bookstore.ub.ac.id/shop/teknik/pengelolaan-infrastruktur-kota-dan-region/>

SUPPORTERS

1. Rindang Alfiah, Ismu Rini Dwi Ari dan Septiana Hariyani. PENGELOLAAN INFRASTRUKTUR AIR BERSIH BERKELANJUTAN BERBASIS MASYARAKAT. REKAYASA SIPIL Volume 11. No.3 – 2017 ISSN 1978 – 5658
2. Andrea Trianni. Enrico Cagno Matteo Bertolotti Patrik Thollander Elias Andersson. Energy management: A practice-based assessment model Applied Energy, Volume 235, 1 February 2019, Pages 1614-1636.
3. Subhasish Das S. -H. Lee Pawan Kumar Ki-Hyun Kim Satya Sundar Bhattacharya. Solid waste management: Scope and the challenges of sustainability, Journal of Cleaner Production Volume 228 10 August 2019 Pages 658-678.
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INSTRUCTIONAL MEDIA

SOFTWARE
Microsoft Office

	Vissim Online meeting applications (Zoom, webex, Google meet) VLM2 UB Gate (SIADO and SIAM)																
	HARDWARE LCD, laptop, speakers. etc																
TEAM TEACHING	1. Imma Widyawati Agustin (IWA) 2. Septiana Hariyani (SH)																
COURSE REQUIREMENTS	-																
Information ILO SP (STUDY PROGRAMME) S2 PWK	<table border="1"> <tr> <td>1</td><td>Able to evaluate regional and urban planning and development in the concept of sustainability.</td></tr> <tr> <td>2</td><td>Able to evaluate theories in the process of regional and city planning and development in the specialization area of regional and city planning.</td></tr> <tr> <td>3</td><td>Able to evaluate and apply strategic planning processes and control mechanisms innovatively in district and city areas.</td></tr> <tr> <td>4</td><td>Able to use and choose technology application methods in the specialization area of regional and city planning and development</td></tr> <tr> <td>5</td><td>Able to formulate solutions to problems in the field of regional and city planning and development by utilizing other fields of science in an interdisciplinary or multidisciplinary manner, as well as by paying attention to physical, spatial, economic, socio-cultural, environmental and institutional factors.</td></tr> <tr> <td>6</td><td>Able to compile the results of a synthesis of research, thoughts and ideas carried out for the development of science and technology in the field of regional and city planning and development and publish them both nationally and internationally.</td></tr> <tr> <td>7</td><td>Able to assess issues related to planning and combine appropriate principles and methods through planning for integrated rural-urban development and sustainable development.</td></tr> <tr> <td>8</td><td>Able to develop personal character with integrity and work networks both in the academic and professional fields within and outside the institution.</td></tr> </table>	1	Able to evaluate regional and urban planning and development in the concept of sustainability.	2	Able to evaluate theories in the process of regional and city planning and development in the specialization area of regional and city planning.	3	Able to evaluate and apply strategic planning processes and control mechanisms innovatively in district and city areas.	4	Able to use and choose technology application methods in the specialization area of regional and city planning and development	5	Able to formulate solutions to problems in the field of regional and city planning and development by utilizing other fields of science in an interdisciplinary or multidisciplinary manner, as well as by paying attention to physical, spatial, economic, socio-cultural, environmental and institutional factors.	6	Able to compile the results of a synthesis of research, thoughts and ideas carried out for the development of science and technology in the field of regional and city planning and development and publish them both nationally and internationally.	7	Able to assess issues related to planning and combine appropriate principles and methods through planning for integrated rural-urban development and sustainable development.	8	Able to develop personal character with integrity and work networks both in the academic and professional fields within and outside the institution.
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PORTFOLIO WEIGHT (MANAGEMENT INFORMATION SYSTEM INPUT)

The following fields are for evaluating CMPK/CLO and CPL/ILO achievements

CLO-ILO Weight Mapping

	ILO 1	ILO 2	ILO3	ILO 4	ILO 5	ILO 6	ILO 7	ILO 8	Total
explain the scope of infrastructure management in Indonesia, developing countries and developed countries; considering transportation infrastructure ; water infrastructure , and energy infrastructure .	0	0.8	0	0	0	0	0	0.2	1
Analyze, evaluate and offer solutions to slum settlements in Indonesia and other developing countries.	0	0	0.4	0	0.4	0	0	0.2	1
Analyze, evaluate & offer drainage system solutions to support regions and cities' development.	0	0	0.4	0	0.4	0	0	0.2	1
giving consideration to policies, institutions and the quality of public services provided by various related parties, especially the government in regional and city infrastructure.	0.8	0	0	0	0	0	0	0.2	1

Assessment weight mapping – CPMK/CLO (SIM)

	Explain the scope of infrastructure management in Indonesia, developing countries and developed countries; giving consideration to transportation infrastructure ; water infrastructure , and energy infrastructure .	Analyze, evaluate and offer solutions to slum settlements in Indonesia and other developing countries.	Analyze, evaluate & offer drainage system solutions to support regions and cities' development.	Provide consideration of policies, institutions and the quality of public services provided by various related parties, especially the government in regional and city infrastructure.	Total
Mid-Exam1	1	0	0	0	1
Mid-Exam2	1	0	0	0	1
LO1	1	0	0	0	1
LO2	1	0	0	0	1
LO3	1	0	0	0	1
LO4	1	0	0	0	1
LO5	0	1	0	0	1
LO6	0	0	1	0	1
LO7	1	0	0	0	1
LO8	1	0	0	0	1
LO9	1	0	0	0	1
LO10	1	0	0	0	1
LO11	1	0	0	0	1
Final-Exam	0	0	0	1	1

FINAL VALUE WEIGHT (LECTURER SIADO INPUT)

The following fields are used to calculate students' final grades which are input by the lecturer into SIADO (OBE menu)

Recapitulation of the Percentage of CPMK/CLO Relations and Assessment

[illegible]

	support the development and development of regions and cities.				0		0	0	0	10	0	0	0	0	0	0	
4	Provide consideration of policies, institutions and the quality of public services provided by various related parties, especially the government in regional and city infrastructure.	Final Exam	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6
	Final Value =		5	5	10	7	7	7	10	10	7	7	7	7	5	6	100

** Case Based Learning Assessment*

ILO and CLO relations and assessments

ILO and IK ILO which are charged in Water Transportation courses				CLOs (CPMK)				Media assessment and its contribution to the Subject competency score			Week
ILO	ILO Statement	IK-ILO	IK-ILO Statement	CLOs (CPMK)	CLO Statement (CPMK)	CLO/CPMK Weight (%)	Assessment Media	CBL (%)	Mid-Exam (%)	Final-Exam (%)	
2	Able to evaluate theories in the process of regional and city planning and development in the specialization area of regional and city planning;		Able to evaluate theories in the process of regional and city planning and development in the specialization area of regional and city planning;	1	explain the scope of infrastructure management in Indonesia, developing countries and developed countries; giving consideration to transportation infrastructure ; water infrastructure , and energy infrastructure .	1.25	Mid-Exam1				1
						1.25	Mid-Exam2				2
						2.5	CBL-1				3
						1.75	CBL-2				4
						1.75	CBL3				5
						1.75	CBL-4				6
						1.75	CBL-7				10
						1.75	CBL-8				11
						1.75	CBL-9				12
						1.75	CBL-10				13
						1.25	CBL-11				14
						1.5	Final-Exam				15
				2	Analyze, evaluate and offer solutions to slum settlements in Indonesia and other developing countries	3.33	CBL-5				7
				3	Analyze, evaluate & offer drainage system solutions to support the development and development of regions and cities	3.33	CBL-6				9

ILO and IK ILO which are charged in Water Transportation courses				CLOs (CPMK)				Media assessment and its contribution to the Subject competency score			Week
ILO	ILO Statement	IK-ILO	IK-ILO Statement	CLOs (CPMK)	CLO Statement (CPMK)	CLO/CPMK Weight (%)	Assessment Media	CBL (%)	Mid-Exam (%)	Final-Exam (%)	
				Total		26.66		22.66	2.5	1.5	
3	Able to evaluate and apply strategic planning processes and control mechanisms innovatively in district and city areas		Able to evaluate and apply strategic planning processes and control mechanisms innovatively in district and city areas	1	explain the scope of infrastructure management in Indonesia, developing countries and developed countries; giving consideration to transportation infrastructure ; water infrastructure , and energy infrastructure .	1.25	Mid-Exam1				1
						1.25	Mid-Exam2				2
						2.5	CBL-1				3
						1.75	CBL-2				4
						1.75	CBL3				5
						1.75	CBL-4				6
						1.75	CBL-7				10
						1.75	CBL-8				11
						1.75	CBL-9				12
						1.75	CBL-10				13
						1.25	CBL-11				14
						1.5	Final-Exam				15
Total		20		16	2.5	1.5					
5	Able to formulate solutions to problems in the field of regional and city planning and development by utilizing other fields of science in an interdisciplinary or multidisciplinary manner, as well as taking into account physical, spatial, economic, socio-cultural, environmental and institutional factors;		Able to formulate solutions to problems in the field of regional and city planning and development by utilizing other fields of science in an interdisciplinary or multidisciplinary manner, as well as taking into account physical, spatial, economic, socio-cultural, environmental and institutional factors;	1	explain the scope of infrastructure management in Indonesia, developing countries and developed countries; giving consideration to transportation infrastructure ; water infrastructure , and energy infrastructure .	1.25	Mid-Exam1				1
						1.25	Mid-Exam2				2
						2.5	CBL-1				3
						1.75	CBL-2				4
						1.75	CBL3				5
						1.75	CBL-4				6
						1.75	CBL-7				10
						1.75	CBL-8				11
						1.75	CBL-9				12
						1.75	CBL-10				13

ILO and IK ILO which are charged in Water Transportation courses				CLOs (CPMK)				Media assessment and its contribution to the Subject competency score			Wee
ILO	ILO Statement	IK-IL O	IK-ILO Statement	CLOs (CPMK)	CLO Statement (CPMK)	CLO/CPMK Weight (%)	Assesse nt Media	CBL (%)	Mid-E xam (%)	Final- Exam (%)	
						1.25	CBL-11				14
						1.5	Final-Exa m				15
				2	Analyze, evaluate and offer solutions to slum settlements in Indonesia and other developing countries	3.33	CBL-5				7
				3	Analyze, evaluate & offer drainage system solutions to support the development and development of regions and cities	3.33	CBL-6				9
				4	Provide consideration of policies, institutions and the quality of public services provided by various related parties, especially the government in regional and city infrastructure	2.5	Final-Exa m				15
				Total		27.66		22.66	2.5	1.5	
8	Able to develop a working network with supervisors, colleagues, colleagues, both inside and outside the institution.		Able to develop a working network with supervisors, colleagues, colleagues, both inside and outside the institution.	1	explain the scope of infrastructure management in Indonesia, developing countries and	1.25	Mid-Exa m1				1
						1.25	Mid-Exa m2				2
						2.5	CBL-1				3

Recapitulation of CLO Relationship Percentage and Assessment

ILO and IK ILO which are charged in Water Transportation courses										CLOs (CPMK)				Media assessment and its contribution to the Subject competency score			Week
ILO	ILO Statement			IK-ILO	IK-ILO Statement					CLOs (CPMK)	CLO Statement (CPMK)	CLO/CPMK Weight (%)	Assessment Media	CBL (%)	Mid-Exam (%)	Final-Exam (%)	
Recapitulation of CLO Relationship Percentage and Assessment											developed countries; giving consideration to transportation infrastructure ; water infrastructure , and energy infrastructure .	1.75	CBL-2				4
												1.75	CBL3				5
												1.75	CBL-4				6
												1.75	CBL-7				10
												1.75	CBL-8				11
												1.75	CBL-9				12
												1.75	CBL-10				13
												1.25	CBL-11				14
												1.5	Final-Exam				15
											Analyze, evaluate and offer solutions to slum settlements in Indonesia and other developing countries	3.33	CBL-5				7
										3	Analyze, evaluate & offer drainage system solutions to support the development and development of regions and cities	3.33	CBL-6				9
										4	giving consideration to policies, institutions and the quality of public services provided by various related parties, especially the government in	1.5	Final-Exam				15

Description: Fill in yellow

Recapitulation of the Percentage of CPMK/CLO and CPL/ILO Relationships

CLOs	DESCRIPTION	CBL	Mid-Exam	Final-Exam	
CLO 1	explain the scope of infrastructure management in Indonesia, developing countries, and developed countries; considering transportation infrastructure; water infrastructure, and energy infrastructure .	64	10	0	74%
CLO 2	Analyze, evaluate and offer solutions to slum settlements in Indonesia and other developing countries	10	0	0	10%
CLO 3	Analyze, evaluate & offer drainage system solutions to support the development and development of regions and cities	10	0	0	10%
CLO 4	considering policies, institutions and the quality of public services provided by various related parties, especially the government in regional and city infrastructure	0	0	6	6%
	Final Value =	84	10	6	100%

Description: Fill in yellow

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

COURSE LEARNING OUTCOME (CLO) REGIONAL AND CITY INFRASTRUCTURE MANAGEMENT:

Explain the scope of infrastructure management in Indonesia, developing countries and developed countries; consider transport infrastructure; water infrastructure, and energy infrastructure.

Analyse, evaluate and offer solutions for slums in Indonesia and other developing countries.

Analyse and evaluate & offer solutions for drainage systems as a support for the development and construction of regions and cities.

memberi pertimbangan tentang **kebijakan, kelembagaan, dan kualitas pelayanan umum** yang disediakan oleh berbagai pihak terkait, khususnya pemerintah dalam infrastruktur wilayah dan kota.

FINAL EXAM (Week 16)

Sub CLO-14. provide considerations on policies, institutions, and the quality of public services provided by various related parties, especially the government in regional and municipal infrastructure

Sub CLO-13. analyze and give consideration to natural gas distribution network, including pipeline, storage, and gas carrier transportation (tank truck, tankers) and petroleum network, including pipeline, and storage in supporting the development and construction of regions and cities (C-4)

Sub CLO-12. analyze and give consideration to electric power networks, including power plants and power cable networks in supporting the development and construction of regions and cities. (C-4)

Sub CLO-11. analyze and give consideration on Litter and Flood control systems in supporting the development and construction of regions and cities. (C-4)

Sub CLO-10. analyze and give consideration on sewerage and wastewater treatment plants in supporting the development and construction of regions and cities. (C-4)

Sub CLO-9. Analyze and give consideration to water supply networks for drinking water, water storage, etc., including pumps, pipes, water purification, measuring instruments, and buildings that store such facilities in support of the development and construction of regions and cities. (C-2)

Sub CLO-8. Analyze and evaluate & offer drainage system solutions : Definition, Problems, Solutions as a support for the development and construction of regions and cities (C-4)

MID-EXAM (Week 8)

Sub CLO-1. Explain the scope of infrastructure management in Indonesia (C-2)

Sub CLO-2. explain hard infrastructure and soft infrastructure in Indonesia in particular, other developing countries and developed countries in general (C-2)

Sub CLO-7. Analyze and evaluate and offer solutions to slums: Definition, Problems, Solutions in Indonesia and other developing countries (C-4)

Sub CLO-6. give consideration on Airports in supporting the development and construction of regions and cities (C-4)

Sub CLO-3. give consideration to the road network: highways, tolls, bridges, tunnels, and supporting infrastructure in supporting the development and construction of regions and cities (C-2)

Sub CLO-4. give consideration to cycle lanes, mass public transport in supporting the development and construction of regions and cities. (C-3)

Sub CLO-5. give consideration to Canals as intra-island water transport Seaports as inter-island water transport in supporting the development and construction of regions and cities. (C-4)

Details of Semester Learning Plan (RPS) Per Week

2nd week	Sub-CLO (as expected final capability)	Indicator	Criteria & Form of Assessment	Learning methods (Lectures / Assignments / other forms of learning)	Time (Duration)	Learning Materials / Study Materials [Library]	Assessment Weight (%)
1 (IWA)	SUB CLO-1: explains the scope of infrastructure management in Indonesia	1. Accuracy in explaining the scope of infrastructure management	Criteria : 1. Clarity of discussion and descriptions according to explanations of lecture material and other related sources. Evaluation : Test: Mid-Exam essay questions Non-Test : -	• Studying/ Lecture • Discussion • Mid-Exam1	Lectures : 2x 50 minutes Discussion : 50 minutes Assignments and independent study : 60 minutes + 50 Minutes		5
2 (IWA)	SUB CLO-1 explains hard infrastructure and soft infrastructure in Indonesia, particularly other developing countries and developed countries in general.	1. Accuracy in explaining hard infrastructure and soft infrastructure in Indonesia, developing countries & other	Criteria : 1. Clarity of discussion and descriptions according to explanations of lecture material and	• Studying/ Lecture • Discussion • Mid-Exam2	Lectures : 2x 50 minutes Discussion : 50 minutes Assignments and independent study :		5

2nd week	Sub-CLO (as expected final capability)	Indicator	Criteria & Form of Assessment	Learning methods (Lectures / Assignments / other forms of learning)	Time (Duration)	Learning Materials / Study Materials [Library]	Assessment Weight (%)
		developed countries	other related sources. Evaluation : Test : Mid-Exam essay questions Non-Test : -		60 minutes + 50 Minutes		
3 (IWA)	SUB CLO-1: Provide consideration and analysis of road networks: highways, toll roads, bridges, tunnels and their supporting infrastructure in supporting the development and development of regions and cities.	1. Accuracy in explaining the road network: highways, toll roads, bridges, tunnels and supporting infrastructure. 2. Accuracy in analyzing road network performance	Criteria : 1. Clarity of discussion and descriptions according to explanations of lecture material and other related sources. 2. Accuracy in the use of analytical methods and clear sources, by the description of	- Studying/ Lecture - Discussion CBL-1: Field observation (Structured task)	Lectures : 2x 50 minutes Discussion : 50 minutes CBL-1 : 60 minutes + 50 Minutes		10

2nd week	Sub-CLO (as expected final capability)	Indicator	Criteria & Form of Assessment	Learning methods (Lectures / Assignments / other forms of learning)	Time (Duration)	Learning Materials / Study Materials [Library]	Assessment Weight (%)
			the lecture explanation Evaluation : CBL-1: Field observation (Structured task)				
4 (IWA)	SUB CLO-1: Considering bicycle lanes, and mass public transportation in supporting regions and cities' development.	1. Accuracy in explaining bicycle lanes, mass public transportation 2. Accuracy in analyzing the performance of bicycle lanes and mass public transportation	Criteria : 1. Clarity of discussion and descriptions according to explanations of lecture material and other related sources. 2. Accuracy in the use of analytical methods and clear sources, by the description of	- Studying/ Lecture - Discussion CBL-2: Field observation (Structured task)	Lectures : 2x 50 minutes Discussion : 50 minutes CBL-2 : 60 minutes + 50 Minutes		7

2nd week	Sub-CLO (as expected final capability)	Indicator	Criteria & Form of Assessment	Learning methods (Lectures / Assignments / other forms of learning)	Time (Duration)	Learning Materials / Study Materials [Library]	Assessment Weight (%)
			the lecture explanation Evaluation : CBL-2: Field observation (Structured task)				
5 (IWA)	SUB CLO-1: Canals should be considered as intra-island water transportation. Sea ports as inter-island water transportation to support the development and development of regions and cities.	1. Accuracy in explaining canals as intra-island water transportation. Sea ports as inter-island water transportation 2. Accuracy in analyzing canals as intra-island water transportation. Sea ports as inter-island water transportation	Criteria : 1. Clarity of discussion and descriptions according to explanations of lecture material and other related sources. 2. Accuracy in the use of analytical methods and clear sources, by the description of	- Studying/ Lecture - Discussion CBL-3: Field observation (Structured task)	Lectures : 2x 50 minutes Discussion : 50 minutes CBL-3 : 60 minutes + 50 Minutes		7

2nd week	Sub-CLO (as expected final capability)	Indicator	Criteria & Form of Assessment	Learning methods (Lectures / Assignments / other forms of learning)	Time (Duration)	Learning Materials / Study Materials [Library]	Assessment Weight (%)
			the lecture explanation Evaluation : CBL-3: Field observation (Structured task)				
6 (IWA)	SUB CLO-1: Giving consideration to airports in supporting the development and development of regions and cities.	1. Accuracy in explaining airports 2. Accuracy in analyzing airport performance	Criteria : 1. Clarity of discussion and descriptions according to explanations of lecture material and other related sources. 2. Accuracy in the use of analytical methods and clear sources, in accordance with the description of	- Studying/ Lecture - Discussion CBL-4: Field observation (Structured task)	Lectures : 2x 50 minutes Discussion : 50 minutes CBL-4 : 60 minutes + 50 Minutes		7

2nd week	Sub-CLO (as expected final capability)	Indicator	Criteria & Form of Assessment	Learning methods (Lectures / Assignments / other forms of learning)	Time (Duration)	Learning Materials / Study Materials [Library]	Assessment Weight (%)
			the lecture explanation Evaluation : CBL-4: Field observation (Structured task)				
7 (IWA)	SUB CLO-2: Analyze and evaluate and offer slum solutions: Definitions, Problems, Solutions in Indonesia and other developing countries	1. Accuracy in explaining slum settlements 2. Accuracy in analyzing slum settlements	Criteria : 1. Clarity of discussion and descriptions according to explanations of lecture material and other related sources. 2. Accuracy in the use of analytical methods and clear sources, in accordance	- Studying/ Lecture - Discussion CBL-5: Field observation (Structured task)	Lectures : 2x 50 minutes Discussion : 50 minutes CBL-5 : 60 minutes + 50 Minutes		10

2nd week	Sub-CLO (as expected final capability)	Indicator	Criteria & Form of Assessment	Learning methods (Lectures / Assignments / other forms of learning)	Time (Duration)	Learning Materials / Study Materials [Library]	Assessment Weight (%)
			with the description of the lecture explanation Evaluation : CBL-5: Field observation (Structured task)				
8	MID-EXAM (IWA Material)						
9 (IWA)	SUB CLO-3: Analyze and evaluate & offer drainage system solutions: Definition, Problems, Solutions as supporting the development and development of regions and cities	1. Accuracy in explaining drainage 2. Accuracy in analyzing drainage	Criteria : 1. Clarity of discussion and descriptions according to explanations of lecture material and other related sources. 2. Accuracy in the use of analytical methods and clear sources,	- Studying/ Lecture - Discussion CBL-6: Field observation (Structured task)	Lectures : 2x 50 minutes Discussion : 50 minutes CBL-6 : 60 minutes + 50 Minutes		10

2nd week	Sub-CLO (as expected final capability)	Indicator	Criteria & Form of Assessment	Learning methods (Lectures / Assignments / other forms of learning)	Time (Duration)	Learning Materials / Study Materials [Library]	Assessment Weight (%)
			in accordance with the description of the lecture explanation Evaluation : CBL-6: Field observation (Structured task)				
10 (SH)	SUB CLO-1: analyzing and considering the water supply network for drinking water, water storage, and so on, including pumps, pipes, water purification, measuring instruments, and buildings that store these facilities in supporting the development and	1. Accuracy in explaining the drinking water supply network 2. Accuracy in analyzing drinking water supply networks	Criteria : 1. Clarity of discussion and descriptions according to explanations of lecture material and other related sources. 2. Accuracy in the use of analytical methods and	- Studying/ Lecture - Discussion CBL-7: Field observation (Structured task)	Lectures : 2x 50 minutes Discussion : 50 minutes CBL-7 : 60 minutes + 50 Minutes		7

2nd week	Sub-CLO (as expected final capability)	Indicator	Criteria & Form of Assessment	Learning methods (Lectures / Assignments / other forms of learning)	Time (Duration)	Learning Materials / Study Materials [Library]	Assessment Weight (%)
	development of regions and cities.		clear sources, by the description of the lecture explanation Evaluation : CBL-7: Field observation (Structured task)				
11 (SH)	SUB CLO-1: analyze and provide considerations regarding waste channels and wastewater treatment plants in supporting the development and development of regions and cities.	1. Accuracy in explaining waste channels and wastewater treatment plants 2. Accuracy in analyzing waste channels and wastewater treatment plants	Criteria : 1. Clarity of discussion and descriptions according to explanations of lecture material and other related sources. 2. Accuracy in the use of analytical methods and clear sources,	- Studying/ Lecture - Discussion CBL-8: Field observation (Structured task)	Lectures : 2x 50 minutes Discussion : 50 minutes CBL-8 : 60 minutes + 50 Minutes		7

2nd week	Sub-CLO (as expected final capability)	Indicator	Criteria & Form of Assessment	Learning methods (Lectures / Assignments / other forms of learning)	Time (Duration)	Learning Materials / Study Materials [Library]	Assessment Weight (%)
			by the description of the lecture explanation Evaluation : CBL-8: Field observation (Structured task)				
12 (SH)	SUB CLO-1: analyzing and considering waste and Flood control system to support the development and development of regions and cities.	1. Accuracy in explaining waste and flood control systems 2. Accuracy in analyzing waste and flood control systems	Criteria : 1. Clarity of discussion and descriptions according to explanations of lecture material and other related sources. 2. Accuracy in the use of analytical methods and clear sources, by the	- Studying/ Lecture - Discussion CBL-9: Field observation (Structured assignment)	Lectures : 2x 50 minutes Discussion : 50 minutes CBL-9 : 60 minutes + 50 Minutes		7

2nd week	Sub-CLO (as expected final capability)	Indicator	Criteria & Form of Assessment	Learning methods (Lectures / Assignments / other forms of learning)	Time (Duration)	Learning Materials / Study Materials [Library]	Assessment Weight (%)
			description of the lecture explanation Evaluation : CBL-9: Field observation (Structured assignment)				
13 (SH)	SUB CLO-1: analyze and provide considerations about the electric power network, including power plants and power cable networks in supporting the development and construction of regions and cities.	1. Accuracy in explaining the electric power network, including power plants and power cable networks 2. Accuracy in analyzing the electric power network including power plants and power cable networks	Criteria : 1. Clarity of discussion and descriptions according to explanations of lecture material and other related sources. 2. Accuracy in the use of analytical methods and clear sources, by the	- Studying/ Lecture - Discussion CBL-10: Field observation (Structured assignment)	Lectures : 2x 50 minutes Discussion : 50 minutes CBL-10 : 60 minutes + 50 Minutes		7

2nd week	Sub-CLO (as expected final capability)	Indicator	Criteria & Form of Assessment	Learning methods (Lectures / Assignments / other forms of learning)	Time (Duration)	Learning Materials / Study Materials [Library]	Assessment Weight (%)
			description of the lecture explanation Evaluation : CBL-10: Field observation (Structured assignment)				
14 (SH)	SUB CLO-1: analyze and provide considerations regarding the natural gas distribution network, including piping, storage, and transportation of gas carriers (tank trucks, tankers), and the petroleum network, including piping and storage in supporting the development and construction of regions and cities.	1. Accuracy in explaining the natural gas distribution network, including piping, storage, and transportation of gas carriers and petroleum networks 2. Accuracy in analyzing the natural gas distribution network, including piping,	Criteria : 1. Clarity of discussion and descriptions according to explanations of lecture material and other related sources. 2. Accuracy in the use of analytical methods and clear sources, in	- Studying/ Lecture - Discussion CBL-11: Field observation (Structured assignment)	Lectures : 2x 50 minutes Discussion : 50 minutes CBL-11 : 60 minutes + 50 Minutes		5

2nd week	Sub-CLO (as expected final capability)	Indicator	Criteria & Form of Assessment	Learning methods (Lectures / Assignments / other forms of learning)	Time (Duration)	Learning Materials / Study Materials [Library]	Assessment Weight (%)
		storage and transportation of gas carriers and petroleum networks.	accordance with the description of the lecture explanation Evaluation : CBL-11: Field observation (Structured assignment)				
15 (SH)	SUB CLO-4: Provide consideration of policies, institutions and the quality of public services provided by various related parties, especially the government in regional and city infrastructure	1. Accuracy in explaining policies, institutions and the quality of public services	Criteria : 1. Clarity of discussion and descriptions according to explanations of lecture material and other related sources. Evaluation : Test : FINAL-EXAM essay questions	- Studying/ Lecture - Discussion - FINAL-EXAM	Lectures : 2x 50 minutes Discussion : 50 minutes Assignments and independent study : 60 minutes + 50 Minutes		6

2nd week	Sub-CLO (as expected final capability)	Indicator	Criteria & Form of Assessment	Learning methods (Lectures / Assignments / other forms of learning)	Time (Duration)	Learning Materials / Study Materials [Library]	Assessment Weight (%)
			Non-Test : -				
16	FINAL-EXAM (SH Material)						

ASSIGNMENT FORMAT (ASSESSMENT)

Subject	:	Regional and City Infrastructure Management			
Semester	:	1	Credits	:	2
Task 3	:	1	Week 3	:	3
Date the Assignment was Given	:	Week 3	Date the Assignment is Due	:	Week 4
CLO	:	1	CBL	:	1

1. Task Objectives

Students can analyze the performance of the road network

2. Job description

- a. Task object: analyze the performance of the road network and prepare a paper on the road network.
- b. Task limitations: collect literature, and compose/design an outline of the contents of the paper according to the topic. Compile papers based on the latest issues.
- c. Method/how to work: the paper complies with the rules of scientific writing by adapting correctly from competent and scientific sources in the form of journals, books, or scientific articles with clear sources.
- d. Expected output: in the form of a scientific paper written on A4 paper in a standard format, accompanied by attachments if necessary.

3. Assessment criteria

- Literature 20%
- Discussion of selected cases 30%
- Issue selection 20%
- Final report 30%

Task grading scale:

Grades	Score	Indicator
Very less	< 20	● There is no literature ● The selection of studies is unfounded ● discussion is inappropriate ● continuity between chapters is poor
Not enough	21 – 40	● The literature is lacking and much of it is invalid ● the selection of case studies is not appropriate ● less discussion ● continuity between chapters is lacking
Enough	41 – 60	● The literature is sufficient and there are still invalid ones ● good selection of case studies ● less discussion ● Sufficient continuity between chapters
Good	61 – 80	● Sufficient literature ● selection of interesting case studies ● interesting discussion ● Good continuity between chapters
Very good	> 80-100	● Latest and valid literature ● sharp and original discussion ● Continuity between chapters is very good.

ASSIGNMENT FORMAT (ASSESSMENT)

Subject	:	Regional and City Infrastructure Management			
Semester	:	1	Credits	:	2
Task 3	:	2	Week 3	:	4
Date the Assignment was Given	:	Week 4	Date the Assignment is Due	:	Week 5
CLO	:	1	CBL	:	2

1. Task Objectives

Students can analyze the performance of bicycle lanes and mass public transportation.

2. Job description

- a. Task object: analyze the performance of bicycle lanes and mass public transportation and prepare a paper regarding bicycle lanes and mass public transportation.
- b. Task limitations: collect literature, and compose/design an outline of the contents of the paper according to the topic. Compile papers based on the latest issues.
- c. Method/how to work: the paper complies with the rules of scientific writing by adapting correctly from competent and scientific sources in the form of journals, books or scientific articles with clear sources.
- d. Expected output: in the form of a scientific paper written on A4 paper in a standard format, accompanied by attachments if necessary.

3. Assessment criteria

- Literature 20%
- Discussion of selected cases 30%
- Issue selection 20%
- Final report 30%

Task grading scale:

Grades	Score	Indicator
Very less	< 20	● There is no literature ● selection of studies is unfounded ● discussion is inappropriate ● continuity between chapters is poor
Not enough	21 – 40	● The literature is lacking and much of it is invalid ● the selection of case studies is not appropriate ● less discussion ● continuity between chapters is lacking
Enough	41 – 60	● The literature is sufficient and there are still invalid ones ● good selection of case studies ● less discussion ● Sufficient continuity between chapters
Good	61 – 80	● Sufficient literature ● selection of interesting case studies ● interesting discussion ● Good continuity between chapters
Very good	> 80-100	● Latest and valid literature ● sharp and original discussion ● Continuity between chapters is very good.

ASSIGNMENT FORMAT (ASSESSMENT)

Subject	:	Regional and City Infrastructure Management			
Semester	:	1	Credits	:	2
Task 3	:	3	Week 3	:	5
Date the Assignment was Given	:	Week 5	Date the Assignment is Due	:	Week 6
CLO	:	1	CBL	:	3

1. Task Objectives

Students can analyze canals as water transportation within the island.

2. Job description

- a. Task object: analyze and prepare a paper regarding canals as water transportation within the island.
- b. Task limitations: collect literature, and compile/design an outline of the content so that the energy requirements method is appropriate to the topic. Compile papers based on the latest issues.
- c. Method/how to do it: the paper complies with the rules of scientific writing by adapting correctly from competent and scientific sources in the form of journals, books, or scientific articles with clear sources.
- d. Expected output: in the form of a scientific paper written on A4 paper in a standard format, accompanied by attachments if necessary.

3. Assessment criteria

- Literature 20%
- Discussion of selected cases 30%
- Issue selection 20%
- Final report 30%

Task grading scale:

Grades	Score	Indicator
Very less	< 20	● There is no literature ● selection of studies is unfounded ● discussion is inappropriate ● continuity between chapters is poor
Not enough	21 – 40	● The literature is lacking and much of it is invalid ● the selection of case studies is not appropriate ● less discussion ● continuity between chapters is lacking
Enough	41 – 60	● The literature is sufficient and there are still invalid ones ● good selection of case studies ● less discussion ● Sufficient continuity between chapters
Good	61 – 80	● Sufficient literature ● selection of interesting case studies ● interesting discussion ● Good continuity between chapters
Very good	> 80-100	● Latest and valid literature ● sharp and original discussion

		• Continuity between chapters is very good.
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ASSIGNMENT FORMAT (ASSESSMENT)

Subject	:	Regional and City Infrastructure Management			
Semester	:	1	Credits	:	2
Task 3	:	5	Week 3	:	6
Date the Assignment was Given	:	Week 6	Date the Assignment is Due	:	Week 7
CLO	:	1	CBL	:	4

1. Task Objectives

Students can analyze airport performance.

2. Job description

- a. Task object: prepare a paper regarding analyzing airport performance.
- b. Task limitations: collect literature, and compose/design an outline of the contents of the paper according to the topic. Compile papers based on the latest issues.
- c. Method/how to work: the paper complies with the rules of scientific writing by adapting correctly from competent and scientific sources in the form of journals, books or scientific articles with clear sources.
- d. Expected output: in the form of a scientific paper written on A4 paper in a standard format, accompanied by attachments if necessary.

3. Assessment criteria

- Literature 20%
- Discussion of selected cases 30%
- Issue selection 20%
- Final report 30%

Task grading scale:

Grades	Score	Indicator
Very less	< 20	● There is no literature ● The selection of studies is unfounded ● discussion is inappropriate ● continuity between chapters is poor
Not enough	21 – 40	● The literature is lacking and much of it is invalid ● the selection of case studies is not appropriate ● less discussion ● continuity between chapters is lacking
Enough	41 – 60	● The literature is sufficient and there are still invalid ones ● good selection of case studies ● less discussion ● Sufficient continuity between chapters
Good	61 – 80	● Sufficient literature ● selection of interesting case studies ● interesting discussion ● Good continuity between chapters
Very good	> 80-100	● Latest and valid literature ● sharp and original discussion ● Continuity between chapters is very good.

ASSIGNMENT FORMAT (ASSESSMENT)

Subject	:	Regional and City Infrastructure Management			
Semester	:	1	Credits	:	2
Task 3	:	5	Week 3	:	7
Date the Assignment was Given	:	Week 7	Date the Assignment is Due	:	Week 8
CLO	:	2	CBL	:	5

1. Task Objectives

Students can analyze **slum settlements**

2. Job description

- a. Task object: analyze about **slums**.
- b. Task limitations: collect literature, and compose/design an outline of the contents of the paper according to the topic. Compile papers based on the latest issues.
- c. Method/how to work: the paper complies with the rules of scientific writing by adapting correctly from competent and scientific sources in the form of journals, books, or scientific articles with clear sources.
- d. Expected output: in the form of a scientific paper written on A4 paper in a standard format, accompanied by attachments if necessary.

3. Assessment criteria

- Literature 20%
- Discussion of selected cases 30%
- Issue selection 20%
- Final report 30%

Task grading scale:

Grades	Score	Indicator
Very less	< 20	● There is no literature ● selection of studies is unfounded ● discussion is inappropriate ● continuity between chapters is poor
Not enough	21 – 40	● The literature is lacking and much of it is invalid ● the selection of case studies is not appropriate ● less discussion ● continuity between chapters is lacking
Enough	41 – 60	● The literature is sufficient and there are still invalid ones ● good selection of case studies ● less discussion ● Sufficient continuity between chapters
Good	61 – 80	● Sufficient literature ● selection of interesting case studies ● interesting discussion ● Good continuity between chapters
Very good	> 80-100	● Latest and valid literature ● sharp and original discussion ● Continuity between chapters is very good.

ASSIGNMENT FORMAT (ASSESSMENT)

Subject	:	Regional and City Infrastructure Management			
Semester	:	1	Credits	:	2
Task 3	:	6	Week 3	:	9
Date the Assignment was Given	:	Week 9	Date the Assignment is Due	:	Week 10
CLO	:	4	CBL	:	6

1. Task Objectives

Students can analyze **drainage**.

2. Job description

- a. Task object: analyze and prepare a paper on drainage.
- b. Task limitations: collect literature, and compose/design an outline of the contents of the paper according to the topic. Compile papers based on the latest issues.
- c. Method/how to work: the paper complies with the rules of scientific writing by adapting correctly from competent and scientific sources in the form of journals, books or scientific articles with clear sources.
- d. Expected output: in the form of a scientific paper written on A4 paper in a standard format, accompanied by attachments if necessary.

3. Assessment criteria

- Literature 20%
- Discussion of selected cases 30%
- Issue selection 20%
- Final report 30%

Task grading scale:

Grades	Score	Indicator
Very less	< 20	● There is no literature ● The selection of studies is unfounded ● discussion is inappropriate ● continuity between chapters is poor
Not enough	21 – 40	● The literature is lacking and much of it is invalid ● the selection of case studies is not appropriate ● less discussion ● continuity between chapters is lacking
Enough	41 – 60	● The literature is sufficient and there are still invalid ones ● good selection of case studies ● less discussion ● Sufficient continuity between chapters
Good	61 – 80	● Sufficient literature ● selection of interesting case studies ● interesting discussion ● Good continuity between chapters
Very good	> 80-100	● Latest and valid literature ● sharp and original discussion ● Continuity between chapters is very good.

ASSIGNMENT FORMAT (ASSESSMENT)

Subject	:	Regional and City Infrastructure Management			
Semester	:	1	Credits	:	2
Task 3	:	7	Week 3	:	10
Date the Assignment was Given	:	Week 10	Date the Assignment is Due	:	Week 11
CLO	:	2	CBL	:	7

1. Task Objectives

Students can analyze **the drinking water supply network** .

2. Job description

- a. Task object: analyze drinking water needs and prepare a paper on drinking water supply networks.
- b. Task limitations: collect literature, and compose/design an outline of the contents of the paper according to the topic. Compile papers based on the latest issues.
- c. Method/how to work: the paper complies with the rules of scientific writing by adapting correctly from competent and scientific sources in the form of journals, books, or scientific articles with clear sources.
- d. Expected output: in the form of a scientific paper written on A4 paper in a standard format, accompanied by attachments if necessary.

3. Assessment criteria

- Literature 20%
- Discussion of selected cases 30%
- Issue selection 20%
- Final report 30%

Task grading scale:

Grades	Score	Indicator
Very less	< 20	● There is no literature ● selection of studies is unfounded ● discussion is inappropriate ● continuity between chapters is poor
Not enough	21 – 40	● The literature is lacking and much of it is invalid ● the selection of case studies is not appropriate ● less discussion ● continuity between chapters is lacking
Enough	41 – 60	● The literature is sufficient and there are still invalid ones ● good selection of case studies ● less discussion ● Sufficient continuity between chapters
Good	61 – 80	● Sufficient literature ● selection of interesting case studies ● interesting discussion ● Good continuity between chapters
Very good	> 80-100	● Latest and valid literature ● sharp and original discussion

		• Continuity between chapters is very good.
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ASSIGNMENT FORMAT (ASSESSMENT)

Subject	:	Regional and City Infrastructure Management			
Semester	:	1	Credits	:	2
Task 3	:	8	Week 3	:	11
Date the Assignment was Given	:	Week 11	Date the Assignment is Due	:	Week 12
CLO	:	1	CBL	:	8

1. Task Objectives

Students can analyze **waste channels and wastewater treatment plants**.

2. Job description

- a. Task object: analyze and prepare a paper regarding **waste channels and wastewater treatment plants**.
- b. Task limitations: collect literature, and compose/design an outline of the contents of the paper according to the topic. Compile papers based on the latest issues.
- c. Method/how to work: the paper complies with the rules of scientific writing by adapting correctly from competent and scientific sources in the form of journals, books, or scientific articles with clear sources.
- d. Expected output: in the form of a scientific paper written on A4 paper in a standard format, accompanied by attachments if necessary.

3. Assessment criteria

- Literature 20%
- Discussion of selected cases 30%
- Issue selection 20%
- Final report 30%

Task grading scale:

Grades	Score	Indicator
Very less	< 20	● There is no literature ● selection of studies is unfounded ● discussion is inappropriate ● continuity between chapters is poor
Not enough	21 – 40	● The literature is lacking and much of it is invalid ● the selection of case studies is not appropriate ● less discussion ● continuity between chapters is lacking
Enough	41 – 60	● The literature is sufficient and there are still invalid ones ● good selection of case studies ● less discussion ● Sufficient continuity between chapters
Good	61 – 80	● Sufficient literature ● selection of interesting case studies ● interesting discussion ● Good continuity between chapters
Very good	> 80-100	● Latest and valid literature ● sharp and original discussion ● Continuity between chapters is very good.

ASSIGNMENT FORMAT (ASSESSMENT)

Subject	:	Regional and City Infrastructure Management			
Semester	:	1	Credits	:	2
Task 3	:	9	Week 3	:	12
Date the Assignment was Given	:	Week 12	Date the Assignment is Due	:	Week 13
CLO	:	1	CBL	:	9

1. Task Objectives

Students can analyze **waste and flood control systems**.

2. Job description

- a. Task object: analyze and prepare a paper regarding analyzing **waste and flood control systems**.
- b. Task limitations: collect literature, and compose/design an outline of the contents of the paper according to the topic. Compile papers based on the latest issues.
- c. Method/how to work: the paper complies with the rules of scientific writing by adapting correctly from competent and scientific sources in the form of journals, books or scientific articles with clear sources.
- d. Expected output: in the form of a scientific paper written on A4 paper in a standard format, accompanied by attachments if necessary.

3. Assessment criteria

- Literature 20%
- Discussion of selected cases 30%
- Issue selection 20%
- Final report 30%

Task grading scale:

Grades	Score	Indicator
Very less	< 20	● There is no literature ● selection of studies is unfounded ● discussion is inappropriate ● continuity between chapters is poor
Not enough	21 – 40	● The literature is lacking and much of it is invalid ● the selection of case studies is not appropriate ● less discussion ● continuity between chapters is lacking
Enough	41 – 60	● The literature is sufficient and there are still invalid ones ● good selection of case studies ● less discussion ● Sufficient continuity between chapters
Good	61 – 80	● Sufficient literature ● selection of interesting case studies ● interesting discussion ● Good continuity between chapters
Very good	> 80-100	● Latest and valid literature ● sharp and original discussion ● Continuity between chapters is very good.

ASSIGNMENT FORMAT (ASSESSMENT)

Subject	:	Regional and City Infrastructure Management			
Semester	:	1	Credits	:	2
Task 3	:	10	Week 3	:	13
Date the Assignment was Given	:	Week 13	Date the Assignment is Due	:	Week 14
CLO	:	1	CBL	:	10

1. Task Objectives

Students can analyze **the electric power network, including power plants and power cable networks**.

2. Job description

- a. Assignment object: analyze and prepare a paper regarding **electric power networks including power plants and power cable networks**.
- b. Task limitations: collect literature, and compose/design an outline of the contents of the paper according to the topic. Compile papers based on the latest issues.
- c. Method/how to work: the paper complies with the rules of scientific writing by adapting correctly from competent and scientific sources in the form of journals, books or scientific articles with clear sources.
- d. Expected output: in the form of a scientific paper written on A4 paper in a standard format, accompanied by attachments if necessary.

3. Assessment criteria

- Literature 20%
- Discussion of selected cases 30%
- Issue selection 20%
- Final report 30%

Task grading scale:

Grades	Score	Indicator
Very less	< 20	● There is no literature ● selection of studies is unfounded ● discussion is inappropriate ● continuity between chapters is poor
Not enough	21 – 40	● The literature is lacking and much of it is invalid ● the selection of case studies is not appropriate ● less discussion ● continuity between chapters is lacking
Enough	41 – 60	● The literature is sufficient and there are still invalid ones ● good selection of case studies ● less discussion ● Sufficient continuity between chapters
Good	61 – 80	● Sufficient literature ● selection of interesting case studies ● interesting discussion ● Good continuity between chapters
Very good	> 80-100	● Latest and valid literature ● sharp and original discussion

		• Continuity between chapters is very good.
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ASSIGNMENT FORMAT (ASSESSMENT)

Subject	:	Regional and City Infrastructure Management			
Semester	:	1	Credits	:	2
Task 3	:	11	Week 3	:	14
Date the Assignment was Given	:	Week 14	Date the Assignment is Due	:	Week 15
CLO	:	4	CBL	:	11

1. Task Objectives

Students can analyze **the natural gas distribution network, including piping, storage and transportation of gas and petroleum networks.**

2. Job description

- a. Task object: analyze and prepare a paper regarding **the natural gas distribution network, including piping, storage, and transportation of gas and petroleum networks.**
- b. Task limitations: collect literature, and compose/design an outline of the contents of the paper according to the topic. Compile papers based on the latest issues.
- c. Method/how to work: the paper complies with the rules of scientific writing by adapting correctly from competent and scientific sources in the form of journals, books or scientific articles with clear sources.
- d. Expected output: in the form of a scientific paper written on A4 paper in a standard format, accompanied by attachments if necessary.

3. Assessment criteria

- Literature 20%
- Discussion of selected cases 30%
- Issue selection 20%
- Final report 30%

Task grading scale:

Grades	Score	Indicator
Very less	< 20	● There is no literature ● selection of studies is unfounded ● discussion is inappropriate ● continuity between chapters is poor
Not enough	21 – 40	● The literature is lacking and much of it is invalid ● the selection of case studies is not appropriate ● less discussion ● continuity between chapters is lacking
Enough	41 – 60	● The literature is sufficient and there are still invalid ones ● good selection of case studies ● less discussion ● Sufficient continuity between chapters
Good	61 – 80	● Sufficient literature ● selection of interesting case studies ● interesting discussion ● Good continuity between chapters
Very good	> 80-100	● Latest and valid literature ● sharp and original discussion ● Continuity between chapters is very good.

MIDDLE SEMESTER EXAM & FINAL SEMESTER EXAMINATION ASSESSMENT RUBRIC (ESSAY and Multiple-choice)

Exam Type : Completion of questions according to the material

Assessment type : Holistic/descriptive rubric

Assessment criteria :

Dimensions	Criteria	Maximum Value	Bad 0-55	Enough 56-69	Good 70-80	Very good 81-100
Able to explain theoretical concepts and apply research methods in the field of regional and city infrastructure	- Explains theoretical concepts in the field of regional and urban planning - Applying research and methods in the field of regional and city infrastructure	10	Not able to translate the question into all comprehensive parameters	Able to translate questions into 30% comprehensive parameters	Able to translate questions into 60% comprehensive parameters	Able to translate questions into 90% comprehensive parameters
Able to use regional and city infrastructure processes and methods	Using regional and city infrastructure processes and methods	30	Not using applicable standards/reference s in solving problems	Use 30% of applicable standards/reference s in solving problems	Use 60% of applicable standards/reference s in solving problems	Use 90% of applicable standards/reference s in solving problems
Able to operate software applications that support research,	Using data processing, analysis and evaluation	30	The completion steps are NOT sequential, NOT complete and have	The completion steps are only 30% sequential, complete	The completion steps are only 60% sequential, complete	The completion steps are only 90% sequential, complete

Dimensions	Criteria	Maximum Value	Bad 0-55	Enough 56-69	Good 70-80	Very good 81-100
regional and city infrastructure	applications in the field of research and regional and city infrastructure		NOT exact 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 PWK field for regional and city infrastructure integration	Explains the theories, methods and concepts of regional and city infrastructure interaction	20	The final results are completely NOT correct and have NO interpretation	The final result is only 30% correct and there is no interpretation	The final result is only 60% correct and there is no interpretation	The final result is only 90% correct and there is an interpretation
Applying a responsible attitude to work in their field of expertise independently or in a team and developing organizational and entrepreneurial abilities, in accordance with laws, values, norms and ethics	- Applying a responsible attitude in the tasks that are his responsibility - Using knowledge in the infrastructure sector in managing and leading a team or organization - Apply an attitude in accordance	10	Completing tasks not on time	Complete assignments on time and 30% complete as requested	Complete assignments on time and 70% complete as requested	Complete assignments on time and 100% complete as requested

Dimensions	Criteria	Maximum Value	Bad 0-55	Enough 56-69	Good 70-80	Very good 81-100
	with the laws, values, norms and ethics of the planning profession					

