



**BRAWIJAYA UNIVERSITY FACULTY OF ENGINEERING  
UNDERGRADUATE STUDY PROGRAM (S1) OF URBAN AND REGIONAL PLANNING**

**SEMESTER LEARNING PLAN**

SUBJECT	CODE	SUBJECT SCOPE	WEIGHT (credits)	SEMESTER	Date of Preparation
Sustainable Transportation	TKW61030	Transportation	3	6	August 10, 2023 Revised January 19, 2024
<b>AUTHORIZATION</b> Transportation Compartment	RPS (SEMESTER LEARNING PLAN) DEVELOPER LECTURER		SUBJECT COORDINATOR		Head of Undergraduate Study Program (S1)
	1. Imma Widyawati Agustin (IWA) 2. Budi Sugiarto Waloejo (BSW) 3. Septiana Hariyani (SH) 4. Nailah Firdausiyah (NF)		IMMA WIDYAWATI AGUSTIN  Signature		SEPTIANA HARIYANI  Signature
<b>LEARNING OUTCOMES</b>	<b>SLO/ILO (Intended Learning Outcome)</b>				
	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.			
	3	Able to innovatively apply participatory, comprehensive, and strategic planning processes across various contexts, including urban settlements, rural areas, cities, regions, transportation, and urban design.			
	4	Able to analyze and evaluate problems in the field of urban and regional planning with a comprehensive, advocacy-driven, and innovative rational planning approach.			
	11	Able to demonstrate a responsible attitude toward work in their field of expertise, whether independently or in teams, and to develop organizational and entrepreneurial skills in accordance with laws, values, norms, and ethics.			
	<b>CPMK/CLO (Class Learning Outcome)</b>				
	1	Able to explain the concept, definition, principles, and role of sustainable transportation, and describe the sustainability approach in urban transportation			
	2	Able to analyze the relationship between walking and sustainability, the role of smart growth in sustainable transport, and sustainability approaches in urban transport, including indicators, forms, and positive impacts on urban development.			
	3	Able to analyze strategies to overcome automobile dependency, provide case examples of solutions to automobile dependency, and explain the link between sustainable transportation and smart logistics.			
	<b>SUB CPMK/CLO</b>				
	Sub CLO-1	Explain the concept, definition, principles, and role of sustainable transportation .	Supports CPMK/CLO 1		
	Sub CLO-2	Outline a sustainability approach in urban transportation	Supports CPMK/CLO 1		
	Sub CLO-3	Analyzing walking vs sustainability	Supports CPMK/CLO 2		
	Sub CLO-4	Analyzing smart growth in sustainable transportation	Supports CPMK/CLO 2		

Sub CLO-5	Analyze sustainability approaches in urban transport: indicators, forms, and positive impacts on urban development.	Supports CPMK/CLO 2
Sub CLO-6	Analyze ways to overcome dependence on motor vehicles and offer examples of cases of overcoming motor vehicle dependence.	Supports CPMK/CLO 3
Sub CLO-7	Analyze the relationship between sustainable transportation and smart logistics.	Supports CPMK/CLO 3

**BRIEF DESCRIPTION OF THE COURSE**  
Sustainable Transportation course is an elective course. The main focus is on issues of transportation sustainability and sustainable transportation planning as an effort to overcome / provide solutions to transportation problems in Indonesia and other developing countries.

**OVERVIEW**  
MAIN

1. Septiana hariyani, Imma Widyawati Agustin, Budi Sugiarto Waloejo. 2023. Transportasi Berkelanjutan. UB Press. Malang. Indonesia.
2. Jeffrey Tumlin. 2012. Sustainable Transportation Planning: Tools for Creating Vibrant, Healthy, and Resilient Communities. WILEY. John Wiley and Sons Inc. Canada.
3. Preston L. Schiller, Eric Christian Bruun, Jeffrey R. Kenworthy. 2010. An Introduction to Sustainable Transportation: Policy, Planning, and Implementation. Earthscan. London.
4. 1-2-3 LANGKAH: Langkah Kecil yang Kita Lakukan Menuju Transportasi yang Berkelanjutan. Bambang Susantono, Danang Parikesit, Heru Sutomo, Muhammad Nanang, Sigit W. Prasetya. Masyarakat Transportasi Indonesia (MTI), 2004.



G-book link:

[https://books.google.co.id/books/about/Transportasi\\_Berkelanjutan.html?id=VrDBEAAAQBAJ&redir\\_esc=y](https://books.google.co.id/books/about/Transportasi_Berkelanjutan.html?id=VrDBEAAAQBAJ&redir_esc=y)

SUPPORT

1. William R Black. 2010. Sustainable Transportation: Problems and Solutions. The Guilford Press. New York.
2. Rodney Tolley. 2010. Sustainable Transport: Planning for Walking and Cycling in Urban Environments. CRC Press. New York.
3. Javier Faulinn. 2019. Sustainable Transportation and Smart Logistics: Decision Making Models and Decision. Joe Hayton Publisher.
4. Maria Attard, Yoram Shiftan. Transportation and Sustainability: Sustainable Urban Transport. Emerald Group. British. London.
5. Corinne Mulley. 2017. Walking: Connecting Sustainability with Health. Emerald Publishing. UK

	<ol style="list-style-type: none"> <li>6. Thomas Abdallah. 2017. Sustainable Mass Transit: Challenges and Opportunities in Urban Public Transportation. Jonathan Simpson. Chennai India.</li> <li>7. Knoflacher, Hermann, Ocalir-Akunal, Ebru V. 2017. Engineering Tools and Solutions for Sustainable Transportation Planning. IGI Global. USA</li> <li>8. Dinesh Mohan, Geetam Tiwari. Sustainable Approaches to Urban Transport. 2020. CRC Press. UK</li> <li>9. Akimasa Fujiwara, Junyi Zhang. 2013. Sustainable Transport Studies in Asia. Springer. Tokyo</li> <li>10. Roxanne Warren. 2014. Rail and the City: Shrinking Our Carbon Footprint While Reimagining Urban Space. The MIT Press. London.</li> <li>11. Peter Newman, Jeffrey Kenworthy. 2015. The End of Automobile Dependence: How Cities are Moving Beyond Car-Based Planning. Island Press. London</li> </ol>																						
<b>LEARNING MEDIA</b>	<b>SOFTWARE.</b>																						
	Microsoft Office Vissim Online meeting applications (Zoom, webex, Google meet) VLM2 Gapura UB (SIADO and SIAM)																						
	<b>HARDWARE.</b>																						
	LCD, laptop, speakers. etc.																						
<b>TEAM TEACHING</b>	<ol style="list-style-type: none"> <li>1 <b>Imma Widyawati Agustin (IWA)</b></li> <li>2. Budi Sugiarto Waloejo (BSW)</li> <li>3. Septiana Hariyani (SH)</li> <li>4. Nailah Firdausiyah (NF)</li> </ol>																						
<b>COURSE REQUIREMENTS</b>	-																						
<b>Description ILO URP UNDERGRADUATE STUDY PROGRAM</b>	<table border="1"> <tr> <td>1</td> <td>Able to explain theoretical concepts and apply research methods in the field of urban and regional planning;</td> </tr> <tr> <td>2</td> <td>Able to carry out surveys in the field of regional and urban planning, both individually and in groups effectively and efficiently.</td> </tr> <tr> <td>3</td> <td>Able to apply participatory, comprehensive rational and strategic planning processes innovatively in the scope of urban settlement planning, villages, cities, regions, transportation or urban design.</td> </tr> <tr> <td>4</td> <td>Able to use the processes and methods of infrastructure planning and disaster mitigation; as well as environmental management, information systems, urban management, and public policy.</td> </tr> <tr> <td>5</td> <td>Able to analyze and evaluate problems in the field of PWK with a comprehensive, advocative, and innovative rational planning approach.</td> </tr> <tr> <td>6</td> <td>Able to operate software applications that support research, planning and design in the field of PWK.</td> </tr> <tr> <td>7</td> <td>Able to apply theories and methods in the field of PWK for the integration of planning and development of resilient villages and cities.</td> </tr> <tr> <td>8</td> <td>Able to formulate concepts and prepare spatial physical planning by considering socio-cultural, economic, institutional, and environmental aspects.</td> </tr> <tr> <td>9</td> <td>Able to present concepts and methods communicatively and provide assistance or facilitation in planning activities.</td> </tr> <tr> <td>10</td> <td>Able to compile scientific work and its publication in the form of research or planning results.</td> </tr> <tr> <td>11</td> <td>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.</td> </tr> </table>	1	Able to explain theoretical concepts and apply research methods in the field of urban and regional planning;	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 apply participatory, comprehensive rational and strategic planning processes innovatively in the scope of urban settlement planning, villages, cities, regions, transportation or urban design.	4	Able to use the processes and methods of 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 PWK with a comprehensive, advocative, and innovative rational planning approach.	6	Able to operate software applications that support research, planning and design in the field of PWK.	7	Able to apply theories and methods in the field of PWK for the integration of planning and development of resilient villages and cities.	8	Able to formulate concepts and prepare spatial physical planning by considering socio-cultural, economic, institutional, and environmental aspects.	9	Able to present concepts and methods communicatively and provide assistance or facilitation in planning activities.	10	Able to compile scientific work and its publication in the form of research or planning results.	11	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.
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urban development.												
Able to analyze how to overcome dependence on motor vehicles; offer case examples of overcoming dependence on motor vehicles; the relationship between sustainable transportation and smart logistics.	0	0,2	0,3	0,3	0	0	0	0	0	0	0,2	1

**Assessment weight mapping - CPMK/CLO (SIM)**

	Able to explain the concept, definition, principles, and role of sustainable transportation; describe the sustainability approach in urban transportation.	Analyzing walking vs. sustainability, smart growth in sustainable transport and sustainability approaches in urban transport: indicators, forms	Able to analyze how to overcome dependence on motor vehicles; offer case examples of overcoming dependence on motor vehicles; the	<b>Total</b>
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		and positive impacts on urban development.	relationship between sustainable transportation and smart logistics.	
<b>Mid-Exam1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>
<b>Mid-Exam2</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>
<b>Mid-Exam3</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>
<b>CB1</b>	<b>0</b>	<b>0,5</b>	<b>0,5</b>	<b>1</b>
<b>CB2</b>	<b>0</b>	<b>0,5</b>	<b>0,5</b>	<b>1</b>
<b>CB3</b>	<b>0</b>	<b>0,5</b>	<b>0,5</b>	<b>1</b>
<b>CB4</b>	<b>0</b>	<b>0,5</b>	<b>0,5</b>	<b>1</b>
<b>CB5</b>	<b>0</b>	<b>0,5</b>	<b>0,5</b>	<b>1</b>
<b>CB6</b>	<b>0</b>	<b>0,5</b>	<b>0,5</b>	<b>1</b>
<b>CB7</b>	<b>0</b>	<b>0,5</b>	<b>0,5</b>	<b>1</b>
<b>CB8</b>	<b>0</b>	<b>0,5</b>	<b>0,5</b>	<b>1</b>
<b>CB9</b>	<b>0</b>	<b>0,5</b>	<b>0,5</b>	<b>1</b>
<b>Final Exam1</b>	<b>0</b>	<b>0,5</b>	<b>0,5</b>	<b>1</b>
<b>Final Exam2</b>	<b>0</b>	<b>0,5</b>	<b>0,5</b>	<b>1</b>

### Assessment weight mapping - CPMK/CLO (SIADO)

	Able to explain the concept, definition, principles, and role of sustainable transportation; describe the sustainability approach in urban transportation.	Analyzing walking vs. sustainability, smart growth in sustainable transport and sustainability approaches in urban transport: indicators, forms and positive impacts on urban development.	Able to analyze how to overcome dependence on motor vehicles; offer case examples of overcoming dependence on motor vehicles; the relationship between sustainable transportation and smart logistics.	<b>Total</b>

<b>Mid-Exam1</b>	0,05	0	0	0,05
<b>Mid-Exam2</b>	0,05	0	0	0,05
<b>Mid-Exam3</b>	0,05	0	0	0,05
<b>CB1</b>	0	0,0233	0,0233	0,07
<b>CB2</b>	0	0,0333	0,0333	0,10
<b>CB3</b>	0	0,0333	0,0333	0,10
<b>CB4</b>	0	0,0166	0,0166	0,05
<b>CB5</b>	0	0,0233	0,0233	0,07
<b>CB6</b>	0	0,0233	0,0233	0,07
<b>CB7</b>	0	0,0333	0,0333	0,10
<b>CB8</b>	0	0,0333	0,0333	0,10
<b>CB9</b>	0	0,0233	0,0233	0,07
<b>Final Exam1</b>	0	0,0233	0,0233	0,07
<b>Final Exam2</b>	0	0,0166	0,0166	0,05
				<b>1</b>



	motor vehicles; the relationship between sustainable transportation and smart logistics.																
	<b>Final Score =</b>		<b>5</b>	<b>5</b>	<b>5</b>	<b>10</b>	<b>8</b>	<b>10</b>	<b>10</b>	<b>7</b>	<b>7</b>	<b>7</b>	<b>7</b>	<b>7</b>	<b>7</b>	<b>5</b>	<b>100</b>

**\*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 Subject 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 explain theoretical concepts and apply research methods in the field of urban and regional planning.		1	Able to explain the concept, definition, principles, and role of sustainable transportation; describe the sustainability approach in urban transportation.	2,5	Mid-Exam1				1
					2,5	Mid-Exam2				2
			Total		5		0	5	0	
2	Able to carry out surveys in the field of regional and urban planning, both individually and in groups effectively and efficiently.		2	Analyzing walking vs. sustainability, smart growth in sustainable transport and sustainability approaches in urban transport: indicators, forms and positive impacts on urban development.	2,5	CBL1				3
					2	CBL2				4
					2,5	CBL3				5
			3	Able to analyze how to overcome dependence on motor vehicles; offer case examples of overcoming dependence on motor vehicles; the	1,25	Mid-Exam3				6
					2,5	CB4				7
					1,75	CB5				9
					1,75	CB6				10
1,75	CB7				11					

ILO and IK ILO charged in the Artificial Intelligence-Based Water Transportation course			CLO (CPMK)				Media assessment and its contribution to Subject competency scores			Week			
ILO	ILO Statement	% CPL/ILO	CLO (CPMK)	CLO Statement (CPMK)	CLO/CPMK Weight (%)	Assessment Media	CBL (%)	Mid-Exam (%)	Final Exam (%)				
				relationship between sustainable transportation and smart logistics.	1,75	CB8				12			
					1,75	CB9				13			
					1,75	Final Exam1				14			
					1,25	Final Exam2				15			
					<b>Total</b>	<b>22,5</b>		<b>18,25</b>	<b>1,25</b>	<b>3</b>			
3	Able to apply innovative participatory, comprehensive rational and strategic planning processes in the scope of urban settlement planning, villages, cities, regions, transportation or design.		2	Analyzing walking vs. sustainability, smart growth in sustainable transport and sustainability approaches in urban transport: indicators, forms and positive impacts on urban development.	2,5	CBL1				3			
					2	CBL2				4			
					2,5	CBL3				5			
			3	Able to analyze how to overcome dependence on motor vehicles; offer case examples of overcoming dependence on motor vehicles; the relationship between sustainable transportation and smart logistics.				1,25	Mid-Exam3				6
								2,5	CBL4				7
								1,75	CBL5				9
								1,75	CBL6				10
								1,75	CBL7				11
								1,75	CBL8				12
								1,75	CBL9				13

ILO and IK ILO charged in the Artificial Intelligence-Based Water Transportation course			CLO (CPMK)				Media assessment and its contribution to Subject competency scores			Week
ILO	ILO Statement	% CPL/ILO	CLO (CPMK)	CLO Statement (CPMK)	CLO/CPMK Weight (%)	Assessment Media	CBL (%)	Mid-Exam (%)	Final Exam (%)	
					1,75	Final Exam1				14
					1,25	Final Exam2				15
			Total							
4	Able to use processes and methods of infrastructure planning and disaster mitigation; as well as environmental management, information systems, urban management, and public policy.		2	Analyzing walking vs. sustainability, smart growth in sustainable transport and sustainability approaches in urban transport: indicators, forms and positive impacts on urban development.	2,5	CBL1				3
					2	CBL2				4
					2,5	CBL3				5
					1,25	Mid-Exam3				6
					2,5	CBL4				7
					1,75	CBL5				9
	1,75	CBL6				10				
	1,75	CBL7				11				
	1,75	CBL8				12				
	1,75	CBL9				13				
	1,75	Final Exam1				14				
	1,25	Final Exam2				15				

ILO and IK ILO charged in the Artificial Intelligence-Based Water Transportation course			CLO (CPMK)				Media assessment and its contribution to Subject competency scores			Week		
ILO	ILO Statement	% CPL/ILO	CLO (CPMK)	CLO Statement (CPMK)	CLO/CPMK Weight (%)	Assessment Media	CBL (%)	Mid-Exam (%)	Final Exam (%)			
			Total									
11	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.		1	Able to explain the concept, definition, principles, and role of sustainable transportation; describe the sustainability approach in urban transportation.	2,5	Mid-Exam1				1		
					2,5	Mid-Exam2				2		
			2	Analyzing walking vs. sustainability, smart growth in sustainable transport and sustainability approaches in urban transport: indicators, forms and positive impacts on urban development.	2,5	CBL1					3	
					2	CBL2					4	
					2,5	CBL3					5	
			3	Able to analyze how to overcome dependence on motor vehicles; offer case examples of overcoming dependence on motor vehicles; the relationship between sustainable	1,25	Mid-Exam3						6
					2,5	CBL4						7
					1,75	CBL5						9
					1,75	CBL6						10
					1,75	CBL7						11
							1,75	CBL8				12

ILO and IK ILO charged in the Artificial Intelligence-Based Water Transportation course			CLO (CPMK)				Media assessment and its contribution to Subject competency scores			Week
ILO	ILO Statement	% CPL/ILO	CLO (CPMK)	CLO Statement (CPMK)	CLO/CPMK Weight (%)	Assessment Media	CBL (%)	Mid-Exam (%)	Final Exam (%)	
				transportation and smart logistics.	1,75	CBL9				13
					1,75	Final Exam1				14
					1,25	Final Exam2				15
<b>TOTAL = 100</b>			Total							

**Recapitulation of Percentage Relationship between CLO and Assessment**

	ILO 1	ILO 2	ILO 3	ILO 4	ILO 11
<b>CLO 1</b>	10	0	0	0	10
<b>CLO 2</b>	0	6,75	6,75	6,75	6,75
<b>CLO 3</b>	0	4,75	4,75	4,75	4,75
<b>Weight</b>	<b>10</b>	<b>20</b>	<b>20</b>	<b>20</b>	<b>10</b>

Description: Filled in yellow

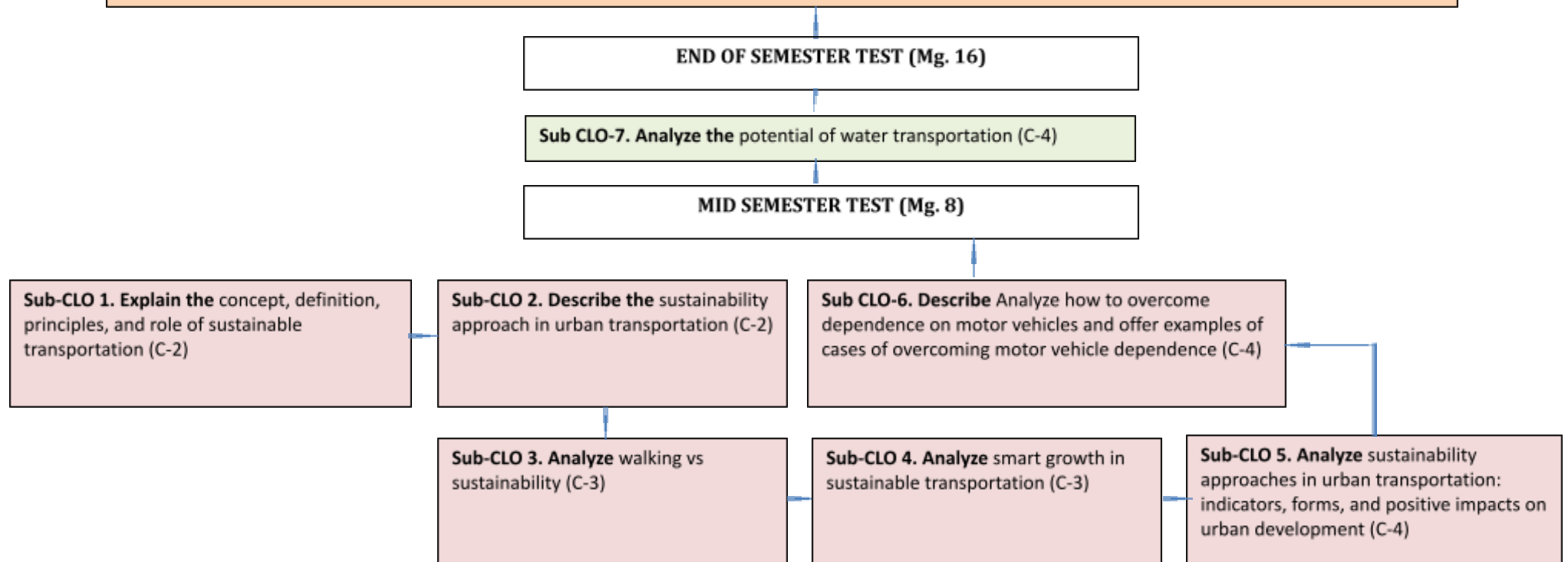
**Recapitulation of Percentage of CPMK/CLO and SLO/ILO Relationship**

<b>CLO</b>	<b>DESCRIPTION</b>	<b>CBL</b>	<b>Mid-Exam</b>	<b>Final Exam</b>	
<b>CLO 1</b>	Able to explain the concept, definition, principles, and role of sustainable transportation; describe the sustainability approach in urban transportation.	<b>0</b>	<b>15</b>	<b>5</b>	
<b>CLO 2</b>	Analyze walking vs. sustainability, smart growth in sustainable transport, and sustainability approaches in urban transport: indicators, forms, and positive impacts on urban development. Analyze how to overcome automobile dependency; offer case examples of overcoming automobile dependency; link between sustainable transport and smart logistics.	<b>27</b>	<b>0</b>	<b>0</b>	
<b>CLO 3</b>	Analyze how to overcome automobile dependency; offer case examples of overcoming automobile dependency; link between sustainable transportation and smart logistics.	<b>19</b>	<b>0</b>	<b>0</b>	
<b>Final Score =</b>		<b>80</b>	<b>15</b>	<b>5</b>	

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

**SUSTAINABLE TRANSPORTATION COURSE LEARNING OUTCOMES (CLO):**

- Able to explain the concept, definition, principles, and role of sustainable transportation; describe the sustainability approach in urban transportation.
- Analyze walking vs. sustainability, smart growth in sustainable transport, and sustainability approaches in urban transport: indicators, forms, and positive impacts on urban development. Analyze how to overcome automobile dependency; offer case examples of overcoming automobile dependency; link between sustainable transport and smart logistics.
- Analyze how to overcome automobile dependency; offer case examples of overcoming automobile dependency; link between sustainable transportation and smart logistics.



RPS (Semester Learning Plan) Details Per Week

Week	Sub-CLO (Support CLO to)	Indicator	Form of assessment	Learning Methods (Lecture / Assignment / other forms of learning)	Time (Duration)	Learning Material / Study Material [Literature]	Assessment Weight (%)
1 (IWA)	SUB CLO-1: Explain the concept, definition, types, functions, principles, and role of sustainable transportation in urban planning.	1. Accuracy in explaining the concepts, definitions, types, functions, principles, and roles of sustainable transportation in urban planning.	<p><b>Criteria:</b></p> <p>1. Clarity of discussion and description according to the explanation of lecture material and other related sources.</p> <p><b>Assessment:</b>  <b>Test:</b> MID-EXAM1                      essay question  <b>Non Test:</b> -</p>	<ul style="list-style-type: none"> <li>• Lecture.</li> </ul> Lecture <ul style="list-style-type: none"> <li>• Discussion</li> <li>• <b>MID-EXAM1</b></li> </ul>	<p><b>Lecture:</b> 2x 50 minutes  <b>Discussion:</b> 50 minutes  <b>MID-EXAM1:</b> 60 minutes + 50 Minutes</p>		5
2 (BSW)	SUB CLO-2: Outline a sustainability approach in urban transportation:	1. Accuracy in explaining sustainability approaches in urban transportation:	<p><b>Criteria:</b></p> <p>1. Clarity of discussion and description according to the</p>	<ul style="list-style-type: none"> <li>• Lecture.</li> </ul> Lecture <ul style="list-style-type: none"> <li>• Discussion</li> <li>• <b>MID-EXAM2</b></li> </ul>	<p><b>Lecture:</b> 2x 50 minutes  <b>Discussion:</b> 50 minutes  <b>MID-EXAM2:</b> 60 minutes + 50 Minutes</p>		5

Week	Sub-CLO (Support CLO to)	Indicator	Form of assessment	Learning Methods (Lecture / Assignment / other forms of learning)	Time (Duration)	Learning Material / Study Material [Literature]	Assessment Weight (%)
	planning and sustainability.	planning and sustainability	<p>explanation of lecture material and other related sources.</p> <p><b>Assessment:</b> <b>Test:</b> MID-EXAM2 essay question <b>Non Test:</b> -</p>				
3 (IWA)	SUB CLO-3: Analyzing walking vs sustainability.	1. Accuracy in analyzing walking vs sustainability.	<p><b>Criteria:</b></p> <p>1. Accuracy in the use of analytical methods and clear sources, by the description of the lecture explanation.</p> <p><b>Assessment:</b> <b>CBL 1:</b> Field Observation</p>	<ul style="list-style-type: none"> <li>● Lecture.</li> <li>Lecture</li> <li>● Discussion</li> <li>● <b>CBL 1:</b> Field Observation (Structured Assignment)</li> </ul>	<p><b>Lecture:</b> 2x 50 minutes <b>Discussion:</b> 50 minutes <b>Assignments and self-study:</b> 60 minutes + 50 Minutes</p>		<b>10</b>

Week	Sub-CLO (Support CLO to)	Indicator	Form of assessment	Learning Methods (Lecture / Assignment / other forms of learning)	Time (Duration)	Learning Material / Study Material [Literature]	Assessment Weight (%)
			(Structured Assignment)				
4 (BSW)	SUB CLO-4: Analyzing smart growth in sustainable transportation.	1. Accuracy in analyzing smart growth in sustainable transportation.	<p><b>Criteria:</b></p> <p>1. Accuracy in the use of analytical methods and clear sources, in accordance with the description of the lecture explanation.</p> <p><b>Assessment:</b>  <b>CBL 2:</b> Field Observation (Structured Assignment)</p>	<ul style="list-style-type: none"> <li>• Lecture.</li> </ul> <p>Lecture</p> <ul style="list-style-type: none"> <li>• Discussion</li> <li>• <b>CBL 2:</b> Field Observation (Structured Assignment)</li> </ul>	<p><b>Lecture:</b> 2x 50 minutes</p> <p><b>Discussion:</b> 50 minutes</p> <p><b>Assignments and self-study:</b> 60 minutes + 50 Minutes</p>		<b>8</b>
5 (BSW)	SUB CLO-5: Analyze sustainability approaches in urban transport: <b>indicators,</b>	1. Accuracy in analyzing Analyze the sustainability approach in urban	<p><b>Criteria:</b></p> <p>1. Accuracy in the use of analytical methods and clear</p>	<ul style="list-style-type: none"> <li>• Lecture.</li> </ul> <p>Lecture</p> <ul style="list-style-type: none"> <li>• Discussion</li> <li>• <b>CBL 3:</b> Field Observation</li> </ul>	<p><b>Lecture:</b> 2x 50 minutes</p> <p><b>Discussion:</b> 50 minutes</p> <p><b>CBL-3:</b></p>		<b>10</b>

Week	Sub-CLO (Support CLO to)	Indicator	Form of assessment	Learning Methods (Lecture / Assignment / other forms of learning)	Time (Duration)	Learning Material / Study Material [Literature]	Assessment Weight (%)
	forms, and positive impacts on urban development.	transportation: indicators, forms, and positive impacts on urban development.	sources, in accordance with the description of the lecture explanation. <b>Assessment:</b> <b>CBL 3:</b> Field Observation (Structured Assignment)	(Structured Assignment)	60 minutes + 50 Minutes		
6 (IWA)	SUB CLO-6: Analyze how to overcome dependence on motorized vehicles.	1. Accuracy in analyzing how to overcome dependence on motorized vehicles.	<b>Criteria:</b> 1. Accuracy in the use of analytical methods and clear sources, in accordance with the description of the	<ul style="list-style-type: none"> <li>• Lecture.</li> <li>• Discussion</li> <li>• <b>MID-EXAM3</b></li> </ul>	<b>Lecture:</b> 2x 50 minutes <b>Discussion:</b> 50 minutes <b>MID-EXAM3:</b> 60 minutes + 50 Minutes		5

Week	Sub-CLO (Support CLO to)	Indicator	Form of assessment	Learning Methods (Lecture / Assignment / other forms of learning)	Time (Duration)	Learning Material / Study Material [Literature]	Assessment Weight (%)
			lecture explanation.  <b>Assessment:</b> <b>Test:</b> MID-EXAM3 essay question <b>Non Test: -</b>				
7 (IWA)			<b>Criteria:</b> 1. Accuracy in the use of analytical methods and clear sources, in accordance with the description of the lecture explanation.  <b>Assessment:</b> <b>CBL 4:</b> Field Observation (Structured Assignment)	<ul style="list-style-type: none"> <li>• Lecture.</li> </ul> Lecture <ul style="list-style-type: none"> <li>• Discussion</li> <li>• <b>CBL 4:</b> Field Observation (Structured Assignment)</li> </ul>	<b>Lecture:</b> 2x 50 minutes <b>Discussion:</b> 50 minutes <b>CBL-4:</b> 60 minutes + 50 Minutes		<b>10</b>
8	MID-EXAM						

Week	Sub-CLO (Support CLO to)	Indicator	Form of assessment	Learning Methods (Lecture / Assignment / other forms of learning)	Time (Duration)	Learning Material / Study Material [Literature]	Assessment Weight (%)
IWA and BSW materials							
9 (SH)	SUB CLO-6: Offers a case example of overcoming automobile dependence: <b>Compact City.</b>	1. Accuracy in analyzing case examples of overcoming motor vehicle dependence: <b>Compact City.</b>	<p><b>Criteria:</b></p> <p>1. Accuracy in the use of analytical methods and clear sources, in accordance with the description of the lecture explanation.</p> <p><b>Assessment:</b> <b>CBL 5:</b> Field Observation (Structured Assignment)</p>	<ul style="list-style-type: none"> <li>• Lecture.</li> </ul> <p>Lecture</p> <ul style="list-style-type: none"> <li>• Discussion</li> <li>• <b>CBL 5:</b> Field Observation (Structured Assignment)</li> </ul>	<p><b>Lecture:</b> 2x 50 minutes</p> <p><b>Discussion:</b> 50 minutes</p> <p><b>CBL-5:</b> 60 minutes + 50 Minutes</p>		7
10 (SH)	SUB CLO-6: Offers a case example of overcoming automobile dependence: <b>TDM.</b>	<p>1. Motorized: <b>TDM.</b></p> <p>2. Accuracy in analyzing case examples of overcoming motor vehicle</p>	<p><b>Criteria:</b></p> <p>1. Accuracy in the use of analytical methods and clear sources, in</p>	<ul style="list-style-type: none"> <li>• Lecture.</li> </ul> <p>Lecture</p> <ul style="list-style-type: none"> <li>• Discussion</li> <li>• <b>CBL 6:</b> Field Observation (Structured Assignment)</li> </ul>	<p><b>Lecture:</b> 2x 50 minutes</p> <p><b>Discussion:</b> 50 minutes</p> <p><b>CBL-6:</b> 60 minutes + 50 Minutes</p>		7

Week	Sub-CLO (Support CLO to)	Indicator	Form of assessment	Learning Methods (Lecture / Assignment / other forms of learning)	Time (Duration)	Learning Material / Study Material [Literature]	Assessment Weight (%)
		dependence: <b>TDM.</b>	accordance with the description of the lecture explanation.  <b>Assessment:</b> <b>CBL 6:</b> Field Observation (Structured Assignment)				
11 (SH)	SUB CLO-6: Offer case examples of overcoming automobile dependency: <b>Provision of Public Transportation (Trains and Buses).</b>	1. Accuracy in analyzing case examples of overcoming motor vehicle dependence: <b>Provision of Public Transportation (Trains and Buses).</b>	<b>Criteria:</b> 1. Accuracy in the use of analytical methods and clear sources, by the description of the lecture explanation.  <b>Assessment:</b> <b>CBL 7:</b> Field Observation	<ul style="list-style-type: none"> <li>● Lecture.</li> <li>● Lecture</li> <li>● Discussion</li> <li>● <b>CBL 7:</b> Field Observation (Structured Assignment)</li> </ul>	<b>Lecture:</b> 2x 50 minutes <b>Discussion:</b> 50 minutes <b>CBL-7:</b> 60 minutes + 50 Minutes		7

Week	Sub-CLO (Support CLO to)	Indicator	Form of assessment	Learning Methods (Lecture / Assignment / other forms of learning)	Time (Duration)	Learning Material / Study Material [Literature]	Assessment Weight (%)
			(Structured Assignment)				
12 (SH)	SUB CLO-6: Offers a case example of overcoming automobile dependency: <b>TOD.</b>	1. Accuracy in analyzing case examples of overcoming motor vehicle dependence: <b>TOD.</b>	<b>Criteria:</b> 1. Accuracy in the use of analytical methods and clear sources, by the description of the lecture explanation. <b>Assessment:</b> <b>Test:</b> FINAL EXAM1 essay question <b>Non Test:</b> -	<ul style="list-style-type: none"> <li>• Lecture.</li> </ul> Lecture <ul style="list-style-type: none"> <li>• Discussion</li> <li>• FINAL EXAM1</li> </ul>	<b>Lecture:</b> 2x 50 minutes <b>Discussion:</b> 50 minutes <b>FINAL EXAM1:</b> 60 minutes + 50 Minutes		7
13 (NF)	SUB CLO-7: Analyze the relationship between sustainable transportation and smart logistics.	1. Accuracy in analyzing the relationship between sustainable transportation and smart logistics.	<b>Criteria:</b> 1. Accuracy in the use of analytical methods and clear sources, in accordance	<ul style="list-style-type: none"> <li>• Lecture.</li> </ul> Lecture <ul style="list-style-type: none"> <li>• Discussion</li> <li>• FINAL EXAM2</li> </ul>	<b>Lecture:</b> 2x 50 minutes <b>Discussion:</b> 50 minutes <b>FINAL EXAM 2:</b> 60 minutes + 50 Minutes		5

Week	Sub-CLO (Support CLO to)	Indicator	Form of assessment	Learning Methods (Lecture / Assignment / other forms of learning)	Time (Duration)	Learning Material / Study Material [Literature]	Assessment Weight (%)
			with the description of the lecture explanation. <b>Assessment:</b> <b>Test:</b> FINAL EXAM2 essay question <b>Non Test:</b> -				
14 (NF)			<b>Criteria:</b> 1. Accuracy in the use of analytical methods and clear sources, in accordance with the description of the lecture explanation. <b>Assessment:</b> <b>CBL 8:</b> Field Observation	<ul style="list-style-type: none"> <li>● Lecture.</li> </ul> Lecture <ul style="list-style-type: none"> <li>● Discussion</li> <li>● <b>CBL 8:</b> Field Observation (Structured Assignment)</li> </ul>	<b>Lecture:</b> 2x 50 minutes <b>Discussion:</b> 50 minutes <b>CBL-8:</b> 60 minutes + 50 Minutes		7

Week	Sub-CLO (Support CLO to)	Indicator	Form of assessment	Learning Methods (Lecture / Assignment / other forms of learning)	Time (Duration)	Learning Material / Study Material [Literature]	Assessment Weight (%)
15 (NF)			(Structured Assignment)  <b>Criteria:</b> 1. Accuracy in the use of analytical methods and clear sources, in accordance with the description of the lecture explanation.  <b>Assessment:</b> <b>CBL 9:</b> Field Observation (Structured Assignment)	<ul style="list-style-type: none"> <li>Lecture.</li> </ul> Lecture <ul style="list-style-type: none"> <li>Discussion</li> <li><b>CBL 9:</b> Field observation (Structured Assignment)</li> </ul>	<b>Lecture:</b> 2x 50 minutes <b>Discussion:</b> 50 minutes <b>CBL-9:</b> 60 minutes + 50 Minutes		7
16	FINAL EXAM SH & NF material						

## TASK FORMAT (ASSESSMENT)

<b>Course Content</b>	:	<b>Artificial Intelligence-Based Water Transportation</b>			
<b>Semester</b>	:	<b>5</b>	<b>CREDITS</b>	:	<b>3</b>
<b>Task</b>	:	<b>1</b>	<b>Week 1</b>	:	<b>4</b>
<b>Date Assignment Given</b>	:	<b>Week 4</b>	<b>Date Assignment Collected</b>	:	<b>Week 8</b>
<b>CLO</b>	:	<b>1</b>	<b>CBL</b>	:	<b>1</b>

### 1. Task Purpose

Students are able to analyze water transportation needs

### 2. Task Description

- a. Objective: prepare a paper on the water transportation needs of island and mainland countries.
- 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 by 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"> <li>● No literature</li> <li>● unfounded study selection</li> <li>● discussion is not appropriate</li> <li>● poor continuity between chapters</li> </ul>
Less	21 - 40	<ul style="list-style-type: none"> <li>● Literature is lacking and many are invalid</li> <li>● selection of case studies is not appropriate</li> <li>● less discussion</li> <li>● less continuity between chapters</li> </ul>
Simply	41 - 60	<ul style="list-style-type: none"> <li>● The literature is sufficient and some are still invalid</li> <li>● good case study selection</li> <li>● less discussion</li> <li>● sufficient continuity between chapters</li> </ul>
Good	61 - 80	<ul style="list-style-type: none"> <li>● Sufficient literature</li> <li>● selection of interesting case studies</li> <li>● interesting discussion</li> <li>● good continuity between chapters</li> </ul>
Very good	> 80-100	<ul style="list-style-type: none"> <li>● Recent and valid literature</li> <li>● sharp and original discussion</li> <li>● the continuity between chapters is very good.</li> </ul>

## TASK FORMAT (ASSESSMENT)

<b>Course Content</b>	:	<b>Artificial Intelligence-Based Water Transportation</b>			
<b>Semester</b>	:	<b>5</b>	<b>CREDITS</b>	:	<b>3</b>
<b>Task</b>	:	<b>2</b>	<b>Week 1</b>	:	<b>5</b>
<b>Date Assignment Given</b>	:	<b>Week 5</b>	<b>Date Assignment Collected</b>	:	<b>Week 8</b>
<b>CLO</b>	:	<b>1</b>	<b>CBL</b>	:	<b>2</b>

### 1. Task Purpose

Students are able to analyze water transportation infrastructure in island countries.

### 2. Task Description

- a. Objective: prepare a paper on water transportation infrastructure in island countries.
- 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 by 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"> <li>● No literature</li> <li>● unfounded study selection</li> <li>● discussion is not appropriate</li> <li>● poor continuity between chapters</li> </ul>
Less	21 - 40	<ul style="list-style-type: none"> <li>● Literature is lacking and many are invalid</li> <li>● selection of case study is not appropriate</li> <li>● less discussion</li> <li>● less continuity between chapters</li> </ul>
Simply	41 - 60	<ul style="list-style-type: none"> <li>● The literature is sufficient and some are still invalid</li> <li>● good case study selection</li> <li>● less discussion</li> <li>● sufficient continuity between chapters</li> </ul>
Good	61 - 80	<ul style="list-style-type: none"> <li>● Sufficient literature</li> <li>● selection of interesting case studies</li> <li>● interesting discussion</li> <li>● good continuity between chapters</li> </ul>
Very good	> 80-100	<ul style="list-style-type: none"> <li>● Recent and valid literature</li> <li>● sharp and original discussion</li> <li>● the continuity between chapters is very good.</li> </ul>

## TASK FORMAT (ASSESSMENT)

<b>Course Content</b>	:	<b>Artificial Intelligence-Based Water Transportation</b>			
<b>Semester</b>	:	<b>5</b>	<b>CREDITS</b>	:	<b>3</b>
<b>Task</b>	:	<b>3</b>	<b>Week 1</b>	:	<b>6</b>
<b>Date Assignment Given</b>	:	<b>Week 6</b>	<b>Date Assignment Collected</b>	:	<b>Week 8</b>
<b>CLO</b>	:	<b>1</b>	<b>CBL</b>	:	<b>3</b>

### 1. Task Purpose

Students are able to analyze water transportation infrastructure in mainland countries.

### 2. Task Description

- a. Objective: prepare a paper on water transportation infrastructure in mainland countries.
- 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 by 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"> <li>● No literature</li> <li>● unfounded study selection</li> <li>● discussion is not appropriate</li> <li>● poor continuity between chapters</li> </ul>
Less	21 - 40	<ul style="list-style-type: none"> <li>● Literature is lacking and many are invalid</li> <li>● selection of case study is not appropriate</li> <li>● less discussion</li> <li>● less continuity between chapters</li> </ul>
Simply	41 - 60	<ul style="list-style-type: none"> <li>● The literature is sufficient and some are still invalid</li> <li>● good case study selection</li> <li>● less discussion</li> <li>● sufficient continuity between chapters</li> </ul>
Good	61 - 80	<ul style="list-style-type: none"> <li>● Sufficient literature</li> <li>● selection of interesting case studies</li> <li>● interesting discussion</li> <li>● good continuity between chapters</li> </ul>
Very good	> 80-100	<ul style="list-style-type: none"> <li>● Recent and valid literature</li> <li>● sharp and original discussion</li> <li>● the continuity between chapters is very good.</li> </ul>

## TASK FORMAT (ASSESSMENT)

<b>Course Content</b>	:	<b>Artificial Intelligence-Based Water Transportation</b>			
<b>Semester</b>	:	<b>5</b>	<b>CREDITS</b>	:	<b>3</b>
<b>Task</b>	:	<b>4</b>	<b>Week 1</b>	:	<b>7</b>
<b>Date Assignment Given</b>	:	<b>Week 7</b>	<b>Date Assignment Collected</b>	:	<b>Week 8</b>
<b>CLO</b>	:	<b>2</b>	<b>CBL</b>	:	<b>4</b>

### 1. Task Purpose

Students are able to analyze the prospects for developing water transportation.

### 2. Task Description

- a. Object of the assignment: prepare a paper on the prospects for developing water transportation in island and mainland countries.
- 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 by 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"> <li>● No literature</li> <li>● unfounded study selection</li> <li>● discussion is not appropriate</li> <li>● poor continuity between chapters</li> </ul>
Less	21 - 40	<ul style="list-style-type: none"> <li>● Literature is lacking and many are invalid</li> <li>● selection of case study is not appropriate</li> <li>● less discussion</li> <li>● less continuity between chapters</li> </ul>
Simply	41 - 60	<ul style="list-style-type: none"> <li>● The literature is sufficient and some are still invalid</li> <li>● good case study selection</li> <li>● less discussion</li> <li>● sufficient continuity between chapters</li> </ul>
Good	61 - 80	<ul style="list-style-type: none"> <li>● Sufficient literature</li> <li>● selection of interesting case studies</li> <li>● interesting discussion</li> <li>● good continuity between chapters</li> </ul>
Very good	> 80-100	<ul style="list-style-type: none"> <li>● Recent and valid literature</li> <li>● sharp and original discussion</li> <li>● the continuity between chapters is very good.</li> </ul>

## TASK FORMAT (ASSESSMENT)

<b>Course Content</b>	:	<b>Artificial Intelligence-Based Water Transportation</b>			
<b>Semester</b>	:	<b>5</b>	<b>CREDITS</b>	:	<b>3</b>
<b>Task</b>	:	<b>5</b>	<b>Week 1</b>	:	<b>9</b>
<b>Date Assignment Given</b>	:	<b>Week 9</b>	<b>Date Assignment Collected</b>	:	<b>Week 16</b>
<b>CLO</b>	:	<b>2</b>	<b>CBL</b>	:	<b>5</b>

### 1. Task Purpose

Students are able to analyze the potential of water transportation in archipelagic countries .

### 2. Task Description

- a. Objective: prepare a paper on the potential of water transportation in an island nation.
- 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 by 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"> <li>● No literature</li> <li>● unfounded study selection</li> <li>● discussion is not appropriate</li> <li>● poor continuity between chapters</li> </ul>
Less	21 - 40	<ul style="list-style-type: none"> <li>● Literature is lacking and many are invalid</li> <li>● selection of case study is not appropriate</li> <li>● less discussion</li> <li>● less continuity between chapters</li> </ul>
Simply	41 - 60	<ul style="list-style-type: none"> <li>● The literature is sufficient and some are still invalid</li> <li>● good case study selection</li> <li>● less discussion</li> <li>● sufficient continuity between chapters</li> </ul>
Good	61 - 80	<ul style="list-style-type: none"> <li>● Sufficient literature</li> <li>● selection of interesting case studies</li> <li>● interesting discussion</li> <li>● good continuity between chapters</li> </ul>
Very good	> 80-100	<ul style="list-style-type: none"> <li>● Recent and valid literature</li> <li>● sharp and original discussion</li> </ul>

- |  |  |   |
|--|--|---|
|  |  | <ul style="list-style-type: none"> <li>• the continuity between chapters is very good.</li> </ul> |
|--|--|---|

## **TASK FORMAT (ASSESSMENT)**

<b>Course Content</b>	:	<b>Artificial Intelligence-Based Water Transportation</b>			
<b>Semester</b>	:	<b>5</b>	<b>CREDITS</b>	:	<b>3</b>
<b>Task</b>	:	<b>6</b>	<b>Week 1</b>	:	<b>10</b>
<b>Date Assignment Given</b>	:	<b>Week 10</b>	<b>Date Assignment Collected</b>	:	<b>Week 16</b>
<b>CLO</b>	:	<b>2</b>	<b>CBL</b>	:	<b>6</b>

### 1. Task Purpose

Students are able to analyze the potential of water transportation in mainland countries.

### 2. Task Description

- a. Objective: prepare a paper on the potential of water transportation in mainland countries.
- 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"> <li>• No literature</li> <li>• unfounded study selection</li> <li>• discussion is not appropriate</li> <li>• poor continuity between chapters</li> </ul>
Less	21 - 40	<ul style="list-style-type: none"> <li>• Literature is lacking and many are invalid</li> <li>• selection of case study is not appropriate</li> <li>• less discussion</li> <li>• less continuity between chapters</li> </ul>
Simply	41 - 60	<ul style="list-style-type: none"> <li>• The literature is sufficient and some are still invalid</li> <li>• good case study selection</li> <li>• less discussion</li> <li>• sufficient continuity between chapters</li> </ul>
Good	61 - 80	<ul style="list-style-type: none"> <li>• Sufficient literature</li> <li>• selection of interesting case studies</li> <li>• interesting discussion</li> <li>• good continuity between chapters</li> </ul>
Very good	> 80-100	<ul style="list-style-type: none"> <li>• Recent and valid literature</li> <li>• sharp and original discussion</li> </ul>

		• the continuity between chapters is very good.
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## **TASK FORMAT (ASSESSMENT)**

<b>Course Content</b>	:	<b>Artificial Intelligence-Based Water Transportation</b>			
<b>Semester</b>	:	<b>5</b>	<b>CREDITS</b>	:	<b>3</b>
<b>Task</b>	:	<b>7</b>	<b>Week 1</b>	:	<b>12</b>
<b>Date Assignment Given</b>	:	<b>Week 12</b>	<b>Date Assignment Collected</b>	:	<b>Week 16</b>
<b>CLO</b>	:	<b>3</b>	<b>CBL</b>	:	<b>7</b>

### 1. Task Purpose

Students are able to analyze, and conclude water transportation for tourism and logistics in island countries.

### 2. Task Description

- a. Objective: prepare a paper on water transportation for tourism and logistics in island countries.
- 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 by 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"> <li>• No literature</li> <li>• unfounded study selection</li> <li>• discussion is not appropriate</li> <li>• poor continuity between chapters</li> </ul>
Less	21 - 40	<ul style="list-style-type: none"> <li>• Literature is lacking and many are invalid</li> <li>• selection of case study is not appropriate</li> <li>• less discussion</li> <li>• less continuity between chapters</li> </ul>
Simply	41 - 60	<ul style="list-style-type: none"> <li>• The literature is sufficient and some are still invalid</li> <li>• good case study selection</li> <li>• less discussion</li> <li>• sufficient continuity between chapters</li> </ul>
Good	61 - 80	<ul style="list-style-type: none"> <li>• Sufficient literature</li> <li>• selection of interesting case studies</li> <li>• interesting discussion</li> </ul>

		<ul style="list-style-type: none"><li>● good continuity between chapters</li></ul>
Very good	> 80-100	<ul style="list-style-type: none"><li>● Recent and valid literature</li><li>● sharp and original discussion</li><li>● the continuity between chapters is very good.</li></ul>

## **TASK FORMAT (ASSESSMENT)**

<b>Course Content</b>	:	<b>Artificial Intelligence-Based Water Transportation</b>			
<b>Semester</b>	:	<b>5</b>	<b>CREDITS</b>	:	<b>3</b>
<b>Task</b>	:	<b>8</b>	<b>Week 1</b>	:	<b>13</b>
<b>Date Assignment Given</b>	:	<b>Week 13</b>	<b>Date Assignment Collected</b>	:	<b>Week 16</b>
<b>CLO</b>	:	<b>3</b>	<b>CBL</b>	:	<b>8</b>

### 1. Task Purpose

Students are able to analyze, and conclude water transportation for tourism and logistics in mainland countries.

### 2. Task Description

- a. Objective: prepare a paper on water transportation for tourism and logistics in mainland countries.
- 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"> <li>● No literature</li> <li>● unfounded study selection</li> <li>● discussion is not appropriate</li> <li>● poor continuity between chapters</li> </ul>
Less	21 - 40	<ul style="list-style-type: none"> <li>● Literature is lacking and many are invalid</li> <li>● selection of case study is not appropriate</li> <li>● less discussion</li> <li>● less continuity between chapters</li> </ul>
Simply	41 - 60	<ul style="list-style-type: none"> <li>● The literature is sufficient and some are still invalid</li> <li>● good case study selection</li> <li>● less discussion</li> <li>● sufficient continuity between chapters</li> </ul>
Good	61 - 80	<ul style="list-style-type: none"> <li>● Sufficient literature</li> <li>● selection of interesting case studies</li> <li>● interesting discussion</li> <li>● good continuity between chapters</li> </ul>
Very good	> 80-100	<ul style="list-style-type: none"> <li>● Recent and valid literature</li> <li>● sharp and original discussion</li> <li>● the continuity between chapters is very good.</li> </ul>

## TASK FORMAT (ASSESSMENT)

<b>Course Content</b>	:	<b>Artificial Intelligence-Based Water Transportation</b>			
<b>Semester</b>	:	<b>5</b>	<b>CREDITS</b>	:	<b>3</b>
<b>Task</b>	:	<b>9</b>	<b>Week 1</b>	:	<b>14</b>
<b>Date Assignment Given</b>	:	<b>Week 14</b>	<b>Date Assignment Collected</b>	:	<b>Week 16</b>
<b>CLO</b>	:	<b>4</b>	<b>CBL</b>	:	<b>9</b>

### 1. Task Purpose

Students are able to evaluate the sustainability of water transportation in island countries.

### 2. Task Description

- a. Object of the assignment: prepare a paper on the sustainability of water transportation in island nations.
- 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"> <li>● No literature</li> <li>● unfounded study selection</li> <li>● discussion is not appropriate</li> <li>● poor continuity between chapters</li> </ul>
Less	21 - 40	<ul style="list-style-type: none"> <li>● Literature is lacking and many are invalid</li> <li>● selection of case study is not appropriate</li> <li>● less discussion</li> <li>● less continuity between chapters</li> </ul>
Simply	41 - 60	<ul style="list-style-type: none"> <li>● The literature is sufficient and some are still invalid</li> <li>● good case study selection</li> <li>● less discussion</li> <li>● sufficient continuity between chapters</li> </ul>
Good	61 - 80	<ul style="list-style-type: none"> <li>● Sufficient literature</li> <li>● selection of interesting case studies</li> <li>● interesting discussion</li> <li>● good continuity between chapters</li> </ul>
Very good	> 80-100	<ul style="list-style-type: none"> <li>● Recent and valid literature</li> <li>● sharp and original discussion</li> </ul>

		<ul style="list-style-type: none"><li>• the continuity between chapters is very good.</li></ul>
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## **TASK FORMAT (ASSESSMENT)**

<b>Course Content</b>	:	<b>Artificial Intelligence-Based Water Transportation</b>			
<b>Semester</b>	:	<b>5</b>	<b>CREDITS</b>	:	<b>3</b>
<b>Task</b>	:	<b>10</b>	<b>Week 1</b>	:	<b>15</b>
<b>Date Assignment Given</b>	:	<b>Week 15</b>	<b>Date Assignment Collected</b>	:	<b>Week 16</b>
<b>CLO</b>	:	<b>4</b>	<b>CBL</b>	:	<b>10</b>

### 1. Task Purpose

Students are able to evaluate the sustainability of water transportation in mainland countries.

### 2. Task Description

- a. Object of the assignment: prepare a paper on the sustainability of water transportation in mainland countries.
- 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 by 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"> <li>● No literature</li> <li>● unfounded study selection</li> <li>● discussion is not appropriate</li> <li>● poor continuity between chapters</li> </ul>
Less	21 - 40	<ul style="list-style-type: none"> <li>● Literature is lacking and many are invalid</li> <li>● selection of case study is not appropriate</li> <li>● less discussion</li> <li>● less continuity between chapters</li> </ul>
Simply	41 - 60	<ul style="list-style-type: none"> <li>● The literature is sufficient and some are still invalid</li> <li>● good case study selection</li> <li>● less discussion</li> <li>● sufficient continuity between chapters</li> </ul>
Good	61 - 80	<ul style="list-style-type: none"> <li>● Sufficient literature</li> <li>● selection of interesting case studies</li> <li>● interesting discussion</li> <li>● good continuity between chapters</li> </ul>
Very good	> 80-100	<ul style="list-style-type: none"> <li>● Recent and valid literature</li> <li>● sharp and original discussion</li> <li>● the continuity between chapters is very good.</li> </ul>



## 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
<b>Able to explain theoretical concepts and apply research methods in the field of water transportation planning</b>	<ul style="list-style-type: none"> <li>• Explain theoretical concepts in the field of urban and regional planning</li> <li>• Apply research and methods in the field of water transportation planning</li> </ul>	10	Unable to translate the problem into all comprehensive parameters	Able to translate the problem into 30% comprehensive parameters	Able to translate questions into 60% comprehensive parameters	Able to translate the problem into 90% comprehensive parameters
<b>Able to use water transportation planning processes and methods</b>	<ul style="list-style-type: none"> <li>• Using processes and methods Water transportation planning</li> </ul>	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
<b>Able to operate software applications that support research,</b>	<ul style="list-style-type: none"> <li>• Use data management, analysis and evaluation</li> </ul>	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

<b>Dimensions</b>	<b>Criteria</b>	<b>Maximum Value</b>	<b>Bad 0-55</b>	<b>Simply 56-69</b>	<b>Good 70-80</b>	<b>Very good 81-100</b>
<b>planning of water transportation</b>	applications in the field of water transportation research and planning.		precise in results and units	and precise in results and units.	and precise in results and units.	and precise in results and units
<b>Able to apply theories and methods in the field of PWK for the integration of water transportation planning</b>	<ul style="list-style-type: none"> <li>● Explain the theory, methods, and interaction concepts of water transportation planning</li> </ul>	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.
<b>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.</b>	<ul style="list-style-type: none"> <li>● Apply a responsible attitude in the tasks that are their responsibility</li> <li>● Use knowledge in the field of transportation planning to manage and lead a team or organization.</li> <li>● Apply attitudes by the laws, values, norms, and ethics of</li> </ul>	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
	the planning profession					



