

Course	Course Name	Urban and Regional Infrastructure
	Course Code	DK184402
	Credit	4
	Semester	IV

Description of Course	
<p>Urban and Regional Infrastructure course requires students to understand various linkages between infrastructure and urban and regional development as the realization of regional spatial structure. Aspects related to this course are aspects of distribution and aspects of provision, infrastructure management, and infrastructure development for coastal, rural / agropolitan areas, as well as industry and mining. By following this course, students are expected to be able to plan the provision of infrastructure in the region and city scale, and use it as an instrument for the preparation of infrastructure development strategy.</p>	
Learning Outcomes	
Knowledge	<ol style="list-style-type: none"> 1. Mastering the theoretical concept of urban and regional planning in the aspects of urban studies, regional studies, spatial science, data science & computer application, socio-political, environmental management, built environment design, infrastructure and transportation system, coastal studies, management, economics. 2. Mastering the techniques and processes of urban and regional planning in qualitative, quantitative, spatial modeling (geographic information systems) and presentation techniques. 3. Mastering the methods of spatial/aspatial planning in decision-making.
Specific Skill	<ol style="list-style-type: none"> 1. Able to compile the planning concept and direction of the plan through the study of strategic issues in the context of urban, regional, and coastal planning problems with understanding through observation and utilization of the data of physical/spatial, social, economic and environmental.

	<ol style="list-style-type: none"> 2. Able to utilize ICT in the management of data to produce information that is easily understood by the public and the decision makers. 3. Able to describe the spatial characteristics of urban, regional and coastal area through the linkage analyze of spatial and aspatial aspects so that provide the information as the basis for drawing up planning model 4. Able to compile an alternative spatial model through a qualitative and quantitative approach in the form of scenarios setting the pattern of space and structure of urban, regional, and coastal area as well as propose the appropriate solutions 5. Able to produce a creative, innovative, sustainability spatial plan which the results are well researched against the rules and theory of planning and mengkomunikasikannya are visual, verbal and written, which can be accountable academically.
General Skill	<ol style="list-style-type: none"> 1. Able to apply logical, critical, systematic, and innovative thinking in the context of development or implementation of science and technology by considering and applying the suitable value of humanities in accordance with their expertise 2. Able to demonstrate independent, quality and scalable performance
Attitude	-
Course Learning Outcomes	
Knowledge	Students are able to implement the infrastructure development concept, techniques and services standard of infastructure, and formulation of infrastructue supply scenarios.
Spesific Skill	<ol style="list-style-type: none"> 1. Able to explain basic principles and concepts of infrastructure systems 2. Students are able to explain about the challenges and opportunities of infrastructure development 3. Students are able to apply standard of

	<p>infrastructure requirement in urban and regional development covering electricity, telecommunication, water and sanitation system, garbage system, drainage system, energy infrastructure and transportation infrastructure.</p> <ol style="list-style-type: none"> 4. Students are able to explain the principles of infrastructure development for coastal and island areas 5. Students are able to explain the principles of infrastructure development for rural / agropolitan areas 6. Students are able to explain the principles of infrastructure development for industrial and mining areas 7. Students are able to formulate principles, functions, mechanisms and concepts of Infrastructure provisioning location planning approach.
General Skill	Students are able to think logically and systematically to make the right decision in the effort of developing the urban and regional infrastructure
Main Subject Learning Outcomes	
<ol style="list-style-type: none"> 1. Able to explain basic principles and concepts of infrastructure systems 2. Students are able to explain about the challenges and opportunities of infrastructure development 3. Students are able to apply standard of infrastructure requirement in urban and regional development covering electricity, telecommunication, water and sanitation system, garbage system, drainage system, energy infrastructure and transportation infrastructure. 4. Students are able to explain the principles of infrastructure development for coastal and island areas 5. Students are able to explain the principles of infrastructure development for rural / agropolitan areas 6. Students are able to explain the principles of infrastructure development for industrial and mining areas 	
Main Subject	

1. The scope of infrastructure and its linkage in the embodiment of spatial structure
2. Challenges and opportunities of regional infrastructure development
3. Infrastructure in urban and regional development covering electricity, telecommunication, water and sanitation systems, sewage systems, drainage systems, energy infrastructure and transportation infrastructure.
4. Infrastructure of coastal areas and islands
5. Infrastructure of rural / agropolitan area
6. Infrastructure of industrial and mining areas

Prerequisite

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References

1. Diktat Infrastruktur Wilayah dan Kota I.
2. Kodoatie, Robert J. (2003). *Manajemen dan Rekayasa Infrastruktur*. Pustaka Pelajar. Yogyakarta.
3. Kodoatie, Robert J. (2005). *Pengantar Manajemen Infrastruktur*. Pustaka Pelajar. Yogyakarta.
4. Nana Rukmana, dkk. (1993). *Manajemen Pembangunan Infrastruktur Perkotaan*. LP3ES. Jakarta.
5. Rainer, George, PE. (1990). *Understanding Infrastructure: A Guide for Architect and Planners*. John Wiley & Sons. New York.
6. Sinulingga, B.D. (1999). *Pembangunan Kota: Tinjauan Regional dan Lokal*. Pustaka Sinar Harapan. Jakarta.
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8. Kodoatie, Robert J. dan Roestam Sjarief. (2005). *Pengelolaan Sumber Daya Air Terpadu*. Penerbit ANDI. Yogyakarta.
9. Suryokusumo, R. Ferry Anggoro. (2008). *Pelayanan Publik dan Pengelolaan Infrastruktur*. Sinergi Publishing. Yogyakarta.
10. Kodoatie, Robert J. dan Roestam Sjarief. (2010). *Tata Ruang Air: Pengelolaan Bencana, Pengelolaan Infrastruktur, Penataan Ruang Wilayah, Pengelolaan Lingkungan Hidup*. Andi Offset. Yogyakarta.
11. Benedict, Mark A. (2000) *Green Infrastructure: A Strategic Approach to Land Conservation*. American Planning Association PAS Memo.
12. McMahon, Edward T. (2000). *Green Infrastructure*. Planning Commissioners Journal, Number 37.
13. Little, Charles E. (1989). *Greenways for America*. The Johns Hopkins University Press. Baltimore and London.

14. Hctor, T.S., M.H. Carr and P.D. Zwick. (2000). *Identifying a Linked Reserve System Using a Regional Landscape Approach: The Florida Ecological Network*. Conservation Biology 14:4:984-1000.
15. Weber T., and J. Wolf. (2000). *Maryland's Green Infrastructure: Using Landscape Assessment Tools to Identify a Regional Conservation Strategy*. Environmental Monitoring and Assessment 63:265-277.