



**SEMESTER LEARNING PLAN**  
**DEPARTMENT OF GEOMATICS ENGINEERING**  
**FACULTY OF CIVIL, PLANNING, and GEO ENGINEERING**

<b>PROGRAM</b>	<b>UNDERGRADUATE</b>		
<b>COURSE NAME</b>	<b>Geospatial Information Infrastructure</b>	<b>CODE</b>	<b>RM184953</b>
<b>SEMESTER</b>	<b>Elective Course</b>	<b>CREDITS</b>	<b>2 (two)</b>
<b>LECTURERS</b>	<b>Hepi Hapsari Handayani [Coord]</b>		
	<b>Lalu Muhamad Jaelani, Nurwatik</b>		
<b>COURSE MATERIALS</b>	1	The IIG concept and its IIG building components.	
	2	The concept of making IIG design and its development process.	
	3	Management and development of IIG to support various spatial-based development activities.	
	4	IIG and geoportal evaluation models.	
	5	Simple geoportal design using commercial and open source software.	
<b>EXPECTED LEARNING OUTCOMES THAT IMPOSED IN THE COURSE</b>	D	Able to perform spatial data acquisition using modern measurement methods, geospatial data processing, using industry standard software, and making standard designs and analyzes in the fields of geodesy, surveying, hydrography, remote sensing, photogrammetry, and cadastral.	
	E	Able to apply information & communication technology and the latest technological developments in the fields of geodesy, surveying, hydrographic, remote sensing, photogrammetry, geographic information systems, and cadastral.	
	H	Able to work in inter-disciplinary and inter-cultural teams so they can compete at national and international levels.	
<b>COURSE LEARNING OUTCOMES</b>	1	Students are able explain the concept of IIG and IIG components.	
	2	Students are able explain the needs of data and geospatial information in IIG.	
	3	Students are able explain the concepts of metadata, interoperability and feature catalogs.	
	4	Students are able make geoportal designs.	
	5	Students are able explain the concepts and methods of IIG and geoportal evaluation.	
	6	Students are able to explain the issue of using natural resources versus preserving the environment.	
<b>ABILITY CATEGORIES</b>	<i>Cognitive Prosecess</i>	<i>Analyse</i>	
	<i>Knowledge Domain</i>	<i>Procedural</i>	
	<i>Psychomotor</i>	<i>Conscious control</i>	
	<i>Affective</i>	<i>Change of attitude</i>	

Class	Lesson learning outcome	Criteria dan Assessment Indicator	Weight	Learning Materials	Learning Experience	Learning Methods	Estimated Time
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Students are able to explain the overall understanding of geospatial information infrastructure	Material completeness, depth of explanation, effectiveness of communication, accuracy of attitude	5%	Terms and definitions of Geospatial Information Infrastructure (IIG).  Example IIG	Lecture  Literature review	Teacher-centered learning  Student-centered  Problem-based learning	1x(3x50')

2	Students are able to explain the development of IIG at international and national levels	Material completeness, depth of explanation, effectiveness of communication, accuracy of attitude	10%	IIG Developments in the International	Class discussion (lecturers and students)	Teacher-centered learning	1x(3x50')
					Group discussion	Student-centered learning	
				The development of IIG in Indonesia	Group Presentation Assignment 1	Problem-based learning	
3	Students are able to explain the technological components, standards and data in IIG	Material completeness, depth of explanation, effectiveness of communication, accuracy of attitude	5%	Ecological concept	Lecture	Teacher-centered learning	1x(3x50')
				Ecosystem concept	Discussion	Student-centered learning	
				Carrying capacity of the environment	Literature review	Problem-based learning	
4	Students are able to explain the components of regulations, policies and institutions and the importance of these components in IIG development	Material completeness, depth of explanation, effectiveness of communication, accuracy of attitude	5%	Act 4 2011	Lecture	Teacher-centered learning	1x(3x50')
				Perpres 27/2014	Discussion	Student-centered learning	
				Network Node	Presentation	Problem-based learning	
				Node of the National Geospatial Information Network (JIGN)	National network node demo		
5	Students are able to explain the concept of interoperability and the steps to make it happen	Material completeness, depth of explanation, effectiveness of communication, accuracy of attitude	5%	Data heterogeneity	Lecture	Teacher-centered learning	1x(3x50')
				Harmonization	Discussion	Student-centered learning	
				Interoperability	Literature review	Problem-based learning	
6	Students are able to explain the concept of metadata	Material completeness, depth of explanation, effectiveness of communication, accuracy of attitude	10%	Definition of metadata	Class discussion (lecturers and students)	Teacher-centered learning	1x(3x50')
				ISO 19115	Group discussion	Student-centered learning	
				Indonesian national metadata	Quiz	Problem-based learning	
7	Students are able to explain the concept of a feature catalog	Material completeness, depth of explanation, effectiveness of communication, accuracy of attitude	5%	Definition of feature catalog	Discussion	Teacher-centered learning	1x(3x50')
				Example feature catalog	Literature review	Student-centered learning	
				Compilation of feature catalogs	Demo	Problem-based learning	
8	Mid Semester Evaluation					- Writing exam	2x50'

						- Discussion	1x50'
9	Students are able to explain the concept of OGC in IIG.	Material completeness, depth of explanation, effectiveness of communication, accuracy of attitude	5%	OpenGIS concept	Lecture	Teacher-centered learning	1x(3x50')
				OpenGIS specifications	Discussion	Student-centered learning	
				OpenGIS implementation	Literature review	Problem-based learning	
10	Students are able to explain the concept of web service	Material completeness, depth of explanation, effectiveness of communication, accuracy of attitude	10%	Web Map Service	Class discussion (lecturers and students)	Teacher-centered learning	1x(3x50')
				Web Feature Service	Group discussion	Student-centered learning	
				Web Coverage Service	Group Presentation	Problem-based learning	
				Web Processing Service	Assignment 2		
11	Students are able to explain the understanding of geoportals	Material completeness, depth of explanation, effectiveness of communication, accuracy of attitude	5%	Geoportals understanding	Lecture	Teacher-centered learning	1x(3x50')
				Geoportals function	Discussion	Student-centered learning	
				Geoportals and webGIS differences	Group discussion	Problem-based learning	
12	Students are able to explain the different forms of geoportals and philosophy of development	Material completeness, depth of explanation, effectiveness of communication, accuracy of attitude	10%	Geoportals Indonesia	Discussion	Teacher-centered learning	1x(3x50')
				INSPIRE Geoportals Geoportals in other countries	Literature review	Student-centered learning	
				Geoportals in local government	Demo	Problem-based learning	
				Geoportals in ministries / institutions			
13	Students are able to explain the procedures and processes of geoportals designing	Material completeness, depth of explanation, effectiveness of communication, accuracy of attitude	10%	Geoportals component	Class discussion (lecturers and students)	Teacher-centered learning	1x(3x50')
					Group discussion	Student-centered learning	
				Geoportals design	Group Presentation	Problem-based learning	
	Assignment 3						
	Students are able to explain the users and their	Material completeness, depth of		Business process	Lecture	Teacher-centered learning	
				Users	Class discussion (lecturers and students)	Student-centered learning	

14	interactions in geoportal in a study case both in commercial and non-commercial interests	Material completeness, depth of explanation, effectiveness of communication, accuracy of attitude	5%	Use case IIG for commercial and non-commercial stops	Group discussion	Problem-based learning	1x(3x50')
15	Students are able to explain explaining concepts, methods and IIG evaluation procedures	Material completeness, depth of explanation, effectiveness of communication, accuracy of attitude	10%	Concept of evaluation	Class discussion (lecturers and students)	Teacher-centered learning	1x(3x50')
				Evaluation of readiness	Group discussion	Student-centered learning	
				Performance evaluation	Compilation of papers (literature review)	Problem-based learning	
				SDI readiness index	Assignment 4		
16	Fin-Semester Evaluation					- Writing exam	2x50'
						- Discussion	1x50'
						<b>TOTAL</b>	16 x(3x50')