



BUKU PEDOMAN MATA KULIAH

COURSES MODULE HANDBOOK

PENGELOLAAN INFRASTRUKTUR INFORMASI GEOSPASIAL
GEOSPATIAL INFORMATION INFRASTRUCTURE

DEPARTEMEN TEKNIK GEOMATIKA
Fakultas Teknik Sipil, Perencanaan, dan Kebumian

*DEPARTMENT OF GEOMATICS ENGINEERING
Faculty of Civil Engineering, Planning, and Geo Engineering*

INSTITUT TEKNOLOGI SEPULUH NOPEMBER

21. Pengelolaan Infrastruktur Informasi Geospasial / *Geospatial Information Infrastructure Management*

Nama modul <i>Module name</i>	Pengelolaan Infrastruktur Informasi Geospasial <i>Management of Geospatial Information Infrastructure</i>
Tingkatan <i>Module level</i>	Pasca Sarjana (S2) <i>Master Degree</i>
Kode <i>Code</i>	CM235708
Mata kuliah <i>Course</i>	Pengelolaan Infrastruktur Informasi Geospasial <i>Management of Geospatial Information Infrastructure</i>
Semester <i>Semester</i>	III (tiga) atau IV (empat) <i>III (three) or IV (four)</i>
Penanggung jawab mata kuliah <i>Person responsible for the module</i>	Prof. Dr. Ir. Bangun Muljo Sukojo, DEA.DESS
Dosen <i>Lecturer</i>	Prof. Dr. Ir. Bangun Muljo Sukojo, DEA.DESS
Bahasa <i>Language</i>	Bahasa Indonesia dan Bahasa Inggris <i>Indonesian and English</i>
Relasi pada kurikulum <i>Relation to curriculum</i>	Mata kuliah pilihan untuk Program Master Teknik Geomatika <i>Elective Courses for Master of Geomatics Engineering</i>
Tipe pertemuan, jam tatap muka <i>Type of teaching, contact hours</i>	Kuliah, 1.67 jam x 16 minggu per semester <i>Lecture, 1.67 hours x 16 weeks per semester</i>
Beban belajar <i>Workload</i>	<p>Kuliah: 1.67 jam x 14 minggu = 23.38 jam Penugasan terstruktur: 2 jam x 14 minggu= 28 jam Kegiatan mandiri: 2 jam x 14 minggu = 28 jam Ujian: 1.67 jam x 2 kali = 3.34 jam Paper review: 2.83 jam x 14 = 39.62 Studi Case-based: 2.83 jam x 14 = 39.62 Total = 161.96 jam</p> <p><i>Lecture: 1.67 hours x 14 weeks = 23.38 hours Structured exercises and assignments: 2 hours x 14 weeks = 28 hours Independent activities: 2 hours x 14 weeks = 28 hours Exam: 1.67 hours x 2 time = 3.34 hours Paper review: 2.83 jam x 14 = 39.62 Case-based study: 2.83 jam x 14 = 39.62 Total = 161.96 hours</i></p>
Kredit <i>Credits</i>	2 SKS + 2 SKS tambahan beban <i>2 credits + 2 credits additional activities</i>
Persyaratan sesuai dengan peraturan ujian	Minimum 80% kehadiran untuk mengikuti ujian tertulis

<i>Requirements according to the examination regulations</i>	<i>Minimum 80% attendance in this course in order to take the exams</i>
Deskripsi Mata Kuliah	Mata kuliah ini berisikan materi tentang konsep dasar Pengelolaan Infrastruktur Informasi Geospasial (IIG). Peran teknik geomatika dalam mendesain, membangun, mengelola dan mengembangkan IIG. Dalam peran IIG di Indonesia, terkait berbagi-pakai serta tukar guna data dan informasi geospasial dalam rangka menanggapi permasalahan dan isu terkait IIG. <i>Description of Course</i>
	<i>This course contains material on the basic concepts of Geospatial Information Infrastructure Management (IIG). The role of geomatics engineering in designing, building, managing, and developing IIG. In the role of IIG in Indonesia, related to sharing and exchanging for geospatial data and information in order to respond to problems and issues related to IIG.</i>
Capaian Pembelajaran / Course Learning Outcomes	<ol style="list-style-type: none"> 1. Mampu menjelaskan kebutuhan data dan informasi geospasial dalam Infrastruktur Informasi Geospasial (IIG). 2. Mampu menjelaskan konsep metadata, interoperabilitas dan katalog fitur. 3. Mampu membuat desain geoportal. 4. Mampu menjelaskan konsep dan metode evaluasi Infrastruktur Informasi Geospasial (IIG) dan geoportal. 5. Mampu menjelaskan isu pemanfaatan sumberdaya alam versus pelestarian lingkungan.
<i>Module objectives/ Course learning outcomes</i>	<ol style="list-style-type: none"> 1. <i>Able to explain the needs of geospatial data and information in the Geospatial Information Infrastructure (IIG).</i> 2. <i>Able to explain the concept of metadata, interoperability, and catalog features.</i> 3. <i>Able to create geoportal design.</i> 4. <i>Able to explain the concepts and methods of evaluation of Geospatial Information Infrastructure (IIG) and geoportal.</i> 5. <i>Able to explain the issue of natural resource utilization versus environmental conservation.</i>

CPL Prodi yang dibebankan <i>Learning outcomes and their corresponding to PLOs</i>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th><th>PLO.1</th><th>PLO.2</th><th>PLO.3</th><th>PLO.4</th><th>PLO.5</th><th>PLO.6</th><th>PLO.7</th><th>PLO.8</th><th>PLO.9</th></tr> </thead> <tbody> <tr> <td>CLO.1</td><td></td><td></td><td>✓</td><td></td><td></td><td></td><td>✓</td><td></td><td></td></tr> <tr> <td>CLO.2</td><td></td><td></td><td></td><td>✓</td><td></td><td></td><td>✓</td><td></td><td></td></tr> <tr> <td>CLO.3</td><td></td><td></td><td></td><td>✓</td><td></td><td></td><td>✓</td><td></td><td></td></tr> <tr> <td>CLO.4</td><td></td><td></td><td>✓</td><td>✓</td><td></td><td></td><td>✓</td><td></td><td></td></tr> <tr> <td>CLO.5</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td>CLO.6</td><td></td><td></td><td>✓</td><td>✓</td><td></td><td></td><td>✓</td><td></td><td></td></tr> </tbody> </table>		PLO.1	PLO.2	PLO.3	PLO.4	PLO.5	PLO.6	PLO.7	PLO.8	PLO.9	CLO.1			✓				✓			CLO.2				✓			✓			CLO.3				✓			✓			CLO.4			✓	✓			✓			CLO.5										CLO.6			✓	✓			✓		
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Mata kuliah wajib prasyarat <i>Mandatory prerequisites</i>	-																																																																						
Pokok Bahasan	<ol style="list-style-type: none"> 1. Konsep dan komponen penyusun Infrastruktur Informasi Geospasial (IIG) 2. Kebutuhan data dan informasi geospasial dalam Infrastruktur Informasi Geospasial (IIG) 3. Konsep metadata, interoperabilitas dan katalog fitur 4. Pembuatan desain geoportal 5. Konsep dan metode evaluasi Infrastruktur Informasi Geospasial (IIG) dan geoportal 6. Isu pemanfaatan sumberdaya alam versus pelestarian lingkungan 																																																																						
Content	<ol style="list-style-type: none"> 1. <i>Concept and components of geospatial information infrastructure</i> 2. <i>Geospatial data and information requirement in geospatial information infrastructure</i> 3. <i>Concept of metadata, interoperability, and feature catalog</i> 4. <i>Geoportal design</i> 5. <i>Concept and method for evaluation in geospatial information infrastructure</i> 6. <i>Utilization against preservation of natural resources issue</i> 																																																																						
Pembelajaran dan Persyaratan Ujian <i>Study and examination requirements and forms of examination</i>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Rencana Evaluasi</th><th style="text-align: center;">Bobot Weight</th></tr> </thead> <tbody> <tr> <td>Studi Kasus 1 <i>Case Method 1</i></td><td style="text-align: center;">20%</td></tr> <tr> <td>Studi Kasus 1 <i>Case Method 1</i></td><td style="text-align: center;">20%</td></tr> <tr> <td>Tugas Assignment</td><td style="text-align: center;">20%</td></tr> <tr> <td>Evaluasi Tengah Semester <i>Middle Term Examination</i></td><td style="text-align: center;">10%</td></tr> <tr> <td>Evaluasi Akhir Semester <i>Final Examination</i></td><td style="text-align: center;">30%</td></tr> </tbody> </table>	Rencana Evaluasi	Bobot Weight	Studi Kasus 1 <i>Case Method 1</i>	20%	Studi Kasus 1 <i>Case Method 1</i>	20%	Tugas Assignment	20%	Evaluasi Tengah Semester <i>Middle Term Examination</i>	10%	Evaluasi Akhir Semester <i>Final Examination</i>	30%																																																										
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Media yang digunakan <i>Media employed</i>	Classical teaching tools with whiteboard and powerpoint presentation
Daftar Pustaka <i>Reading list</i>	<ol style="list-style-type: none"> 1. Sukojo, B.M., 2017, Pengantar Informasi Geospasial, ITS, Surabaya. 2. Schade, S. et al. (2020). Geospatial Information Infrastructures. In: Guo, H., Goodchild, M.F., Annoni, A. (eds) Manual of Digital Earth. Springer, Singapore. 3. Williamson, I.P., Rajabifard, I., and Feeney, M.F., 2003, Developing Spatial Data Infrastructures From Concept to Reality, CRC Press, New York. 4. Groot, R., and McLaughlin, J.D., 2000, Geospatial Data Infrastructure Concepts, Cases and Good Practice, NHBS, USA.