

PROGRAM STUDI MAGISTER TEKNIK GEOMATIKA  
MASTER OF GEOMATICS ENGINEERING



# BUKU PEDOMAN MATA KULIAH *COURSES MODULE HANDBOOK*

PENGELOLAAN INFRASTRUKTUR INFORMASI GEOSPASIAL  
GEOSPATIAL INFORMATION INFRASTRUCTURE

DEPARTEMEN TEKNIK GEOMATIKA  
Fakultas Teknik Sipil, Perencanaan, dan Kebumihan

*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*

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



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