

PROGRAM STUDI MAGISTER TEKNIK GEOMATIKA
MASTER OF GEOMATICS ENGINEERING



BUKU PEDOMAN MATA KULIAH *COURSES MODULE HANDBOOK*

MITIGASI BENCANA
DISASTER MITIGATION

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

4. Mitigasi Bencana / *Disaster Mitigation*

Nama modul <i>Module name</i>	Mitigasi Bencana <i>Disaster Mitigation</i>
Tingkatan <i>Module level</i>	Pasca Sarjana (S2) <i>Master Degree</i>
Kode <i>Code</i>	CM235504
Mata kuliah <i>Course</i>	Mitigasi Bencana <i>Disaster Mitigation</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>	Dr. Ir. Amien Widodo, M.Si.
Dosen <i>Lecturer</i>	Dr. Ir. Amien Widodo, M.Si.
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</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>
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 <i>Description of Course</i>																																																			
Capaian Pembelajaran / Course Learning Outcomes	<ol style="list-style-type: none"> Mahasiswa mampu menerapkan ilmu dan teknologi kebumian dalam penanggulangan bencana Mahasiswa mampu menganalisis, mengembangkan dan menyediakan penggunaan alternatif ilmu dan teknologi dalam pengurangan risiko bencana di daerahnya Mahasiswa menerapkan ilmu dan teknologi kebumian dalam mitigasi bencana geologi Mahasiswa bertanggung jawab atas hasil kerja sendiri dan kelompok melalui laporan dan presentasi ilmiah baik poster maupun paper 																																																		
<i>Module objectives/ Course learning outcomes</i>	<ol style="list-style-type: none"> <i>Able to develop and apply earth science and technology for disaster management</i> <i>Able to identify, analyze, develop and provide alternative uses of science and technology for disaster reduction at students district</i> <i>Able to develop and apply earth science and technology for geological disasters</i> <i>Able to identify, analyze, develop and provide alternative uses of science and technology for reporting ini poster and paper</i> 																																																		
CPMK dan hubungan dengan CPL Prodi <i>Learning outcomes and their corresponding to PLOs</i>	<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> <th>CLO.1</th> <td></td> <td></td> <td></td> <td></td> <td>✓</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <th>CLO.2</th> <td></td> <td></td> <td></td> <td></td> <td></td> <td>✓</td> <td></td> <td></td> <td></td> </tr> <tr> <th>CLO.3</th> <td></td> <td></td> <td></td> <td></td> <td>✓</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <th>CLO.4</th> <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						✓			
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Mata kuliah wajib prasyarat <i>Mandatory prerequisites</i>	-																																																		
Pokok Bahasan	Mata kuliah ini mempelajari tentang deskripsi resiko, ancaman, dan bencana. Selain itu, ada pula jenis bencana dan sejarah penanggulangan bencana di Indonesia. Manajemen bencana berdasarkan regulasi di Indonesia. Karakteristik geologi gempa bumi, tsunami, gunung vulkanik, erosi, sedimentasi, dan banjir bandang. Project based diutamakan mengenai mitigasi bencana tanah longsor. Kuliah tamu tentang kebencanaan dan penulisan artikel ilmiah/paper tentang kebencanaan.																																																		

<p><i>Content</i></p>	<p><i>This course studies the description of risks, threats, and disasters. Types of disasters and the history of disaster management in Indonesia. Disaster management based on regulations in Indonesia. Geological characteristics of earthquakes, tsunamis, volcanic mountains, erosion, sedimentation, and flash floods. Project-based priority on landslide disaster mitigation. Guest lectures on disasters and writing scientific articles/papers on disasters.</i></p>												
<p>Pembelajaran dan Persyaratan Ujian <i>Study and examination requirements and forms of examination</i></p>	<table border="1"> <thead> <tr> <th data-bbox="711 546 1241 622">Rencana Evaluasi</th> <th data-bbox="1241 546 1410 622">Bobot Weight</th> </tr> </thead> <tbody> <tr> <td data-bbox="711 622 1241 712">Tugas dan Resume <i>Assignment and resume</i></td> <td data-bbox="1241 622 1410 712">10%</td> </tr> <tr> <td data-bbox="711 712 1241 801">Kuis <i>Quiz</i></td> <td data-bbox="1241 712 1410 801">10%</td> </tr> <tr> <td data-bbox="711 801 1241 880">Evaluasi Tengah Semester : Studi kasus <i>Mid Semester Exam : Case study</i></td> <td data-bbox="1241 801 1410 880">30%</td> </tr> <tr> <td data-bbox="711 880 1241 969">Resume dan Tugas Kelas <i>Assignment and resume</i></td> <td data-bbox="1241 880 1410 969">20%</td> </tr> <tr> <td data-bbox="711 969 1241 1093">Evaluasi Akhir Semester : Project-based <i>Final Semester Exam : Project-based</i></td> <td data-bbox="1241 969 1410 1093">30%</td> </tr> </tbody> </table>	Rencana Evaluasi	Bobot Weight	Tugas dan Resume <i>Assignment and resume</i>	10%	Kuis <i>Quiz</i>	10%	Evaluasi Tengah Semester : Studi kasus <i>Mid Semester Exam : Case study</i>	30%	Resume dan Tugas Kelas <i>Assignment and resume</i>	20%	Evaluasi Akhir Semester : Project-based <i>Final Semester Exam : Project-based</i>	30%
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Evaluasi Akhir Semester : Project-based <i>Final Semester Exam : Project-based</i>	30%												
<p>Media yang digunakan <i>Media employed</i></p>	<p>Classical teaching tools with white board and power point presentation</p>												
<p>Daftar Pustaka <i>Reading list</i></p>	<ol style="list-style-type: none"> 1. Hamblin, W.K., 1982; The Earth's Dynamic Systems; 3rd Edition. Minesotta. 2. Geoinformatics for Disasters ://nidm.gov.in/PDF/modules/geo.pdf 3. https://www.bnpb.go.id/home/get_publicasi/12/buku 4. https://www.bnpb.go.id/home/get_publicasi/13/jurnal 												