



**STRUKTUR MATA KULIAH PADA KURIKULUM PROGRAM  
STUDI PASCASARJANA, DEPARTEMEN TEKNIK SIPIL,  
FAKULTAS TEKNIK SIPIL, PERENCANAAN DAN  
KEBUMIHAN, INSTITUT TEKNOLOGI SEPULUH NOPEMBER  
TAHUN 2023-2028**

***COURSE STRUCTURE IN THE CURRICULUM OF  
POSTGRADUATE STUDY PROGRAM, CIVIL ENGINEERING  
DEPARTMENT, FACULTY OF CIVIL, PLANNING AND GEO  
ENGINEERING, INSTITUT TEKNOLOGI SEPULUH  
NOPEMBER, 2023-2028***

**1. PRODI S-2 TEKNIK SIPIL BIDANG KEAHLIAN STRUKTUR  
CIVIL ENGINEERING MASTER'S STUDY PROGRAM (EXPERTISE  
AREA IN STRUCTURE)**

**DAFTAR MATA KULIAH WAJIB / LIST OF COMPULSORY COURSES**

<b>No.</b>	<b>Kode MK Course Code</b>	<b>Nama Mata Kuliah (MK) Course Name</b>	<b>satuan kredit semester (sks) Credit Semester Unit</b>
<b>Semester 1 / 1<sup>st</sup> Semester</b>			
1	CS235101	Statistik untuk Penelitian <i>Statistic for Research</i>	3
2	CS235110	Teori Elastisitas <i>Theory of Elasticity</i>	3
3	CS235111	Dinamika Struktur <i>Structural Dynamics</i>	3
4	CS235112	Metode Elemen Hingga <i>Finite Element Methods</i>	3
<b>Jumlah sks / Number of Credits</b>			<b>12</b>
<b>Semester 2 / 2<sup>nd</sup> Semester</b>			
1	CS235201	Metodologi Penelitian dan Penulisan Ilmiah <i>Research Methodology and Scientific Writing</i>	3
2		Mata Kuliah Pilihan* <i>Elective Courses*</i>	6
<b>Jumlah sks / Number of Credits</b>			<b>9</b>
<b>Semester 3 / 3<sup>rd</sup> Semester</b>			
1		Mata Kuliah Pilihan* <i>Elective Courses*</i>	7
<b>Jumlah sks / Number of Credits</b>			<b>7</b>
<b>Semester 4 / 4<sup>th</sup> Semester</b>			
1	CS235499	Tesis <i>Thesis</i>	8
<b>Jumlah sks / Number of Credits</b>			<b>8</b>

No.	Kode MK Course Code	Nama Mata Kuliah (MK) Course Name	satuan kredit semester (sks) Credit Semester Unit
<b>Total sks / Total Credits</b>			<b>36</b>

**DAFTAR MATA KULIAH PILIHAN / LIST OF ELECTIVE COURSES**

No.	Kode MK Course Code	Nama Mata Kuliah (MK) Course Name	satuan kredit semester (sks) Credit Semester Unit
1	CS235241	Konsep dan Sistem Struktur <i>Structural Concept and System</i>	3
2	CS235242	Teknologi Material <i>Materials Technology</i>	3
3	CS235243	Stabilitas Struktur <i>Structures Stability</i>	3
4	CS235244	Analisis Tegangan Eksperimental <i>Experimental Stress Analysis</i>	3
5	CS235245	Optimasi untuk Teknik Sipil <i>Optimation for Civil Engineering</i>	3
6	CS235246	Perilaku Duktail Elemen Beton <i>Ductile Behavior of Concrete Elements</i>	3
7	CS235247	Perilaku Duktail Struktur Baja <i>Ductile Behavior of Steel Structures</i>	3
8	CS235331	Teori Pelat dan Cangkang <i>Theory of Plates And Shell</i>	3
9	CS235332	Mekanika Bahan Lanjut <i>Advanced Mechanics of Materials</i>	3
10	CS235333	Teori Plastisitas <i>Theory of Plasticity</i>	3
11	CS235334	Pemeliharaan Struktur <i>Structures Maintenance</i>	3
12	CS235335	Material Komposit	3

No.	Kode MK Course Code	Nama Mata Kuliah (MK) Course Name	satuan kredit semester (sks) Credit Semester Unit
		<i>Composites Material</i>	
13	CS235336	Perilaku Daktail Struktur Beton <i>Ductile Behavior of Concrete Structures</i>	3
14	CS235337	Perencanaan Struktur Khusus <i>Design of Special Structures</i>	3
15	CS235338	Struktur Beton Pracetak dan Pratekan <i>Precast and Prestressed Concrete Structures</i>	3
16	CS235378	Struktur Bangunan Baja <i>Steel Structure Element</i>	4
17	CS235379	Struktur Bangunan Beton <i>Structure Concrete Building</i>	3

**2. PRODI S-2 TEKNIK SIPIL BIDANG KEAHLIAN GEOTEKNIK  
CIVIL ENGINEERING MASTER'S STUDY PROGRAM (EXPERTISE  
AREA IN GEOTECHNICAL)**

**DAFTAR MATA KULIAH WAJIB / LIST OF COMPULSORY COURSES**

<b>No.</b>	<b>Kode MK Course Code</b>	<b>Nama Mata Kuliah (MK) Course Name</b>	<b>satuan kredit semester (sks) Credit Semester Unit</b>
<b>Semester 1 / 1<sup>st</sup> Semester</b>			
1	CS235101	Statistik untuk Penelitian <i>Statistic for Research</i>	3
2	CS235113	Dinamika Tanah <i>Soil Dynamics</i>	3
3	CS235114	Rekayasa Pondasi dan Pemodelan Geoteknik <i>Foundation Engineering and Geotechnical Modeling</i>	3
4	CS235115	Rheologi Dan Perilaku Mikroskopis Tanah <i>Rheology and Soil Microscopics Behavior</i>	3
<b>Jumlah sks / Number of Credits</b>			<b>12</b>
<b>Semester 2 / 2<sup>nd</sup> Semester</b>			
1	CS235201	Metodologi Penelitian dan Penulisan Ilmiah <i>Research Methodology and Scientific Writing</i>	3
2	CS235210	Pengujian Tanah Lanjut dan Interpretasinya <i>Advanced Soil Investigation and Interpretation</i>	3
3		Mata Kuliah Pilihan* <i>Elective Courses*</i>	2
<b>Jumlah sks / Number of Credits</b>			<b>8</b>
<b>Semester 3 / 3<sup>rd</sup> Semester</b>			
1	CS235311	Metode Perbaikan Tanah dan Reklamasi <i>Soil Improvement Method and Reclamation</i>	3
2		Mata Kuliah Pilihan* <i>Elective Courses*</i>	5

No.	Kode MK Course Code	Nama Mata Kuliah (MK) Course Name	satuan kredit semester (sks) Credit Semester Unit
<b>Jumlah sks / Number of Credits</b>			<b>8</b>
<b>Semester 4 / 4<sup>th</sup> Semester</b>			
1	CS235499	Tesis <i>Thesis</i>	8
<b>Jumlah sks / Number of Credits</b>			<b>8</b>
<b>Total sks / Total Credits</b>			<b>36</b>

**DAFTAR MATA KULIAH PILIHAN / LIST OF ELECTIVE COURSES**

No.	Kode MK Course Code	Nama Mata Kuliah (MK) Course Name	satuan kredit semester (sks) Credit Semester Unit
1	CS235250	Dam Tanah dan Batuan <i>Soil &amp; Rock Dams</i>	3
2	CS235251	Dewatering dan Penggalian <i>Dewatering and Excavation</i>	3
3	CS235252	Mekanika Tanah dan Pondasi <i>Soil Mechanics and Foundation</i>	4
4	CS235253	Perkembangan, Permasalahan, dan Penyelesaian Terkini Bidang Geoteknik <i>Development, Problems, and Resolution In Geotechnics</i>	3
5	CS235339	Tanah Gambut <i>Peat Soil</i>	2
6	CS235340	Tanah Tidak Jenuh <i>Unsaturated Soil</i>	2
7	CS235341	Timbunan dan Konstruksi Penahan Tanah <i>Embankment And Earth Retaining Structure</i>	5

**3. PRODI S-2 TEKNIK SIPIL BIDANG KEAHLIAN MANAJEMEN  
PROYEK KONSTRUKSI (MPK)  
CIVIL ENGINEERING MASTER'S STUDY PROGRAM (EXPERTISE  
AREA IN CONSTRUCTION PROJECT MANAGEMENT)**

**DAFTAR MATA KULIAH WAJIB / LIST OF COMPULSORY COURSES**

<b>No.</b>	<b>Kode MK Course Code</b>	<b>Nama Mata Kuliah (MK) Course Name</b>	<b>satuan kredit semester (sks) Credit Semester Unit</b>
<b>Semester 1 / 1<sup>st</sup> Semester</b>			
1	CS235101	Statistik untuk Penelitian <i>Statistic for Research</i>	3
2	CS235116	Analisis Sistem dan Pengambilan Keputusan <i>Systems Analytic and Decision Making</i>	2
3	CS235117	Hukum, Pengadaan, dan Kontrak <i>Law, Procurement and Contract</i>	2
4	CS235118	Manajemen Proyek Konstruksi <i>Construction Project Management</i>	3
<b>Jumlah sks / Number of Credits</b>			<b>10</b>
<b>Semester 2 / 2<sup>nd</sup> Semester</b>			
1	CS235201	Metodologi Penelitian dan Penulisan Ilmiah <i>Research Methodology and Scientific Writing</i>	3
2	CS235211	Manajemen Biaya dan Waktu <i>Cost and Time Management</i>	3
3	CS235212	Manajemen Kualitas dan Risiko <i>Quality Management and Risk Management</i>	3
4		Mata Kuliah Pilihan* <i>Elective Courses*</i>	2
<b>Jumlah sks / Number of Credits</b>			<b>11</b>
<b>Semester 3 / 3<sup>rd</sup> Semester</b>			
1	CS235312	Pengembangan Proyek Properti <i>Property Project Development</i>	3

No.	Kode MK Course Code	Nama Mata Kuliah (MK) Course Name	satuan kredit semester (sks) Credit Semester Unit
2	CS235313	Manajemen Teknologi Konstruksi <i>Construction Technology Management</i>	2
3		Mata Kuliah Pilihan* <i>Elective Courses*</i>	2
<b>Jumlah sks / Number of Credits</b>			<b>7</b>
<b>Semester 4 / 4<sup>th</sup> Semester</b>			
1	CS235499	Tesis <i>Thesis</i>	8
<b>Jumlah sks / Number of Credits</b>			<b>8</b>
<b>Total sks / Total Credits</b>			<b>36</b>

#### DAFTAR MATA KULIAH PILIHAN / LIST OF ELECTIVE COURSES

No.	Kode MK Course Code	Nama Mata Kuliah (MK) Course Name	satuan kredit semester (sks) Credit Semester Unit
1	CS235249	Manajemen Desain <i>Design Management</i>	2
2	CS235269	Konstruksi Berkelanjutan <i>Sustainability Construction</i>	2
3	CS235270	Perencanaan dan Pengendalian Biaya dan Waktu Konstruksi <i>Cost and Time Planning and Controlling Costruction</i>	2
4	CS235271	Optimasi Biaya dan Waktu <i>Cost and Time Optimization</i>	2
5	CS235272	Desain, Pengadaan dan Kontrak Konstruksi <i>Design, Procurement and Contracts Construction</i>	2
6	CS235342	Otomasi Konstruksi	2



<b>No.</b>	<b>Kode MK Course Code</b>	<b>Nama Mata Kuliah (MK) Course Name</b>	<b>satuan kredit semester (sks) Credit Semester Unit</b>
		<i>Construction Optimization</i>	
7	CS235344	Manajemen Strategi <i>Strategic Management</i>	2
8	CS235346	Manajemen Alat Berat <i>Heavy Equipment Management</i>	2
9	CS235347	Teknik Pengambilan Keputusan <i>Decision Making Technique</i>	2
10	CS235382	Operasi Konstruksi <i>Construction Operation</i>	2

**4. PRODI S-2 TEKNIK SIPIL BIDANG KEAHLIAN MANAJEMEN DAN REKAYASA SUMBER DAYA AIR (MRSDA)  
CIVIL ENGINEERING MASTER'S STUDY PROGRAM (EXPERTISE AREA IN WATER RESOURCES MANAGEMENT AND ENGINEERING)**

**DAFTAR MATA KULIAH WAJIB / LIST OF COMPULSORY COURSES**

<b>No.</b>	<b>Kode MK Course Code</b>	<b>Nama Mata Kuliah (MK) Course Name</b>	<b>satuan kredit semester (sks) Credit Semester Unit</b>
<b>Semester 1 / 1<sup>st</sup> Semester</b>			
1	CS235101	Statistik untuk Penelitian <i>Statistic for Research</i>	3
2	CS235119	Analisis Sistem Sumber Daya Air <i>Analysis of Water Resources System</i>	2
3	CS235120	Hidrolika Terapan <i>Applied Hydrolics</i>	3
4	CS235121	Hidrologi Terapan <i>Applied Hydrology</i>	3
<b>Jumlah sks / Number of Credits</b>			<b>11</b>
<b>Semester 2 / 2<sup>nd</sup> Semester</b>			
1	CS235201	Metodologi Penelitian dan Penulisan Ilmiah <i>Research Methodology and Scientific Writing</i>	3
2	CS235213	Hidrodinamika Pantai <i>Coastal Hydrodynamics</i>	3
3	CS235214	Morfologi Sungai <i>River Morphology</i>	3
4		Mata Kuliah Pilihan* <i>Elective Courses*</i>	2
<b>Jumlah sks / Number of Credits</b>			<b>11</b>
<b>Semester 3 / 3<sup>rd</sup> Semester</b>			
1	CS235314	Manajemen Sumber Daya Air Terpadu	3

No.	Kode MK Course Code	Nama Mata Kuliah (MK) Course Name	satuan kredit semester (sks) Credit Semester Unit
		<i>Integrated Water Resources Management</i>	
2		Mata Kuliah Pilihan* <i>Elective Courses*</i>	3
<b>Jumlah sks / Number of Credits</b>			<b>6</b>
<b>Semester 4 / 4<sup>th</sup> Semester</b>			
1	CS235499	Tesis <i>Thesis</i>	8
<b>Jumlah sks / Number of Credits</b>			<b>8</b>
<b>Total sks / Total Credits</b>			<b>36</b>

**DAFTAR MATA KULIAH PILIHAN / LIST OF ELECTIVE COURSES**

No.	Kode MK Course Code	Nama Mata Kuliah (MK) Course Name	satuan kredit semester (sks) Credit Semester Unit
1	CS235254	Eksplorasi Air Tanah <i>Ground Water Exploration</i>	2
2	CS235255	Perencanaan dan Perancangan Bangunan Pantai <i>Design of Coastal Protection</i>	3
3	CS235256	Hidrologi <i>Hydrology</i>	2
4	CS235257	Pengelolaan Sumber Daya Air <i>Water Resources Management</i>	2
5	CS235258	Perancangan Bangunan Sungai <i>Design of River Protection</i>	3
6	CS235350	GIS dan Remote Sensing <i>GIS and Remote Sensing</i>	3
7	CS235351	Model Fisik Hidrolik <i>Hydraulic Physical Modelling</i>	2

**5. PRODI S-2 TEKNIK SIPIL BIDANG KEAHLIAN MANAJEMEN DAN REKAYASA TRANSPORTASI (MRT)**

***CIVIL ENGINEERING MASTER'S STUDY PROGRAM (EXPERTISE AREA IN TRANSPORTATION MANAGEMENT AND ENGINEERING)***

**DAFTAR MATA KULIAH WAJIB / LIST OF COMPULSORY COURSES**

<b>No.</b>	<b>Kode MK Course Code</b>	<b>Nama Mata Kuliah (MK) Course Name</b>	<b>satuan kredit semester (sks) Credit Semester Unit</b>
<b>Semester 1 / 1<sup>st</sup> Semester</b>			
1	CS235101	Statistik untuk Penelitian <i>Statistic for Research</i>	3
2	CS235122	Manajemen Jalan Raya <i>Highway Management</i>	3
3	CS235123	Manajemen Lalu Lintas <i>Traffic Management</i>	3
4	CS235124	Pemodelan Transportasi <i>Transportation Modelling</i>	3
<b>Jumlah sks / Number of Credits</b>			<b>12</b>
<b>Semester 2 / 2<sup>nd</sup> Semester</b>			
1	CS235201	Metodologi Penelitian dan Penulisan Ilmiah <i>Research Methodology and Scientific Writing</i>	3
2	CS235215	Dampak Lingkungan dan Keselamatan Transportasi Darat <i>Environmental Impact and Safety Transportation</i>	2
3	CS235216	Fasilitas Transportasi dan Perpindahan Moda <i>Intermoda and Transportation Facilities</i>	3
4		Mata Kuliah Pilihan* <i>Elective Courses*</i>	3*
<b>Jumlah sks / Number of Credits</b>			<b>10</b>

No.	Kode MK Course Code	Nama Mata Kuliah (MK) Course Name	satuan kredit semester (sks) Credit Semester Unit
<b>Semester 3 / 3<sup>rd</sup> Semester</b>			
1	CS235315	Ekonomi Transportasi <i>Transportation Economic</i>	3
2		Mata Kuliah Pilihan* <i>Elective Courses*</i>	3*
<b>Jumlah sks / Number of Credits</b>			<b>6</b>
<b>Semester 4 / 4<sup>th</sup> Semester</b>			
1	CS235499	Tesis <i>Thesis</i>	8
<b>Jumlah sks / Number of Credits</b>			<b>8</b>
<b>Total sks / Total Credits</b>			<b>36</b>

**DAFTAR MATA KULIAH PILIHAN / LIST OF ELECTIVE COURSES**

No.	Kode MK Course Code	Nama Mata Kuliah (MK) Course Name	satuan kredit semester (sks) Credit Semester Unit
1	CS235259	Sistem Geometrik Heavy Rail <i>Heavy Rail Geometric System</i>	3
2	CS235260	Jaringan Jalan Kereta Api Perkotaan dan Regional <i>Urban and Regional Railway Network</i>	3
3	CS235261	Sistem Transportasi Massal <i>Mass Transportation System</i>	3
4	CS235262	Manajemen Perkerasan Jalan <i>Pavement Distress Management</i>	3
5	CS235352	Manajemen Pelabuhan <i>Port Management</i>	3
6	CS235353	Manajemen Airport <i>Airport Management</i>	3

<b>No.</b>	<b>Kode MK Course Code</b>	<b>Nama Mata Kuliah (MK) Course Name</b>	<b>satuan kredit semester (sks) Credit Semester Unit</b>
7	CS235354	Sistem Transportasi Urban dan Regional <i>Urban and Regional Transportation System</i>	3

**6. PRODI S-2 TEKNIK SIPIL BIDANG KEAHLIAN REKAYASA DAN  
MANAJEMEN BENDUNGAN (RMB)  
CIVIL ENGINEERING MASTER'S STUDY PROGRAM (EXPERTISE  
AREA IN DAM ENGINEERING AND MANAGEMENT)**

**DAFTAR MATA KULIAH WAJIB / LIST OF COMPULSORY COURSES**

<b>No.</b>	<b>Kode MK Course Code</b>	<b>Nama Mata Kuliah (MK) Course Name</b>	<b>satuan kredit semester (sks) Credit Semester Unit</b>
<b>Semester 1 / 1<sup>st</sup> Semester</b>			
1	CS235101	Statistik untuk Penelitian <i>Statistic for Research</i>	3
2	CS235129	Hidrologi dan Hidraulika Lanjut <i>Advanced Hydraulics and Hydrology</i>	2
3	CS235130	Manajemen Konstruksi Bendungan <i>Dam Construction Management</i>	2
4	CS235131	Geologi dan Seismologi <i>Geology and Seismology</i>	2
5	CS235132	Kesehatan, Keselamatan Kerja dan Lingkungan <i>Health, Safety and Environment</i>	2
<b>Jumlah sks / Number of Credits</b>			<b>11</b>
<b>Semester 2 / 2<sup>nd</sup> Semester</b>			
1	CS235201	Metodologi Penelitian dan Penulisan Ilmiah <i>Research Methodology and Scientific Writing</i>	3
2	CS235219	Desain dan Konstruksi Temporary Works <i>Design and Construction of Temporary Works</i>	3
3	CS235220	Desain dan Konstruksi Bendungan Urugan <i>Design and Construction of Embankment Dam</i>	3
4	CS235221	Desain dan Konstruksi Bendungan Beton <i>Design and Construction of Concrete Dam</i>	3
<b>Jumlah sks / Number of Credits</b>			<b>12</b>

No.	Kode MK Course Code	Nama Mata Kuliah (MK) Course Name	satuan kredit semester (sks) Credit Semester Unit
<b>Semester 3 / 3<sup>rd</sup> Semester</b>			
1	CS235316	Desain dan Konstruksi Spillway dan Outlets <i>Design and Construction of Spillway and Outlets</i>	3
2		Mata Kuliah Pilihan* <i>Elective Courses*</i>	2*
<b>Jumlah sks / Number of Credits</b>			<b>5</b>
<b>Semester 4 / 4<sup>th</sup> Semester</b>			
1	CS235499	Tesis <i>Thesis</i>	8
<b>Jumlah sks / Number of Credits</b>			<b>8</b>
<b>Total sks / Total Credits</b>			<b>36</b>

**DAFTAR MATA KULIAH PILIHAN / LIST OF ELECTIVE COURSES**

No.	Kode MK Course Code	Nama Mata Kuliah (MK) Course Name	satuan kredit semester (sks) Credit Semester Unit
1	CS235374	Desain Arch Dam <i>Design of Arch Dam</i>	2
2	CS235375	Instrumentasi dan Kelengkapan Bendungan <i>Instrumentation and Equipment of Dam</i>	2



**7. PRODI S-2 TEKNIK SIPIL BIDANG KEAHLIAN PRESERVASI  
JALAN PADA KONDISI GEOTEKNIK TANAH SULIT (PJKPGTS)  
CIVIL ENGINEERING MASTER'S STUDY PROGRAM (EXPERTISE  
AREA IN ROAD PRESERVATION IN DIFFICULT SOIL  
GEOTECHNICAL CONDITIONS)**

<b>No.</b>	<b>Kode MK Course Code</b>	<b>Nama Mata Kuliah (MK) Course Name</b>	<b>satuan kredit semester (sks) Credit Semester Unit</b>
<b>Semester 1 / 1<sup>st</sup> Semester</b>			
1	CS235133	Matematika dan Statistik untuk Penelitian <i>Mathematic and Statistic for Research</i>	3
2	CS235134	Metodologi Penelitian dan Penulisan Ilmiah <i>Research Methodology and Scientific Writing</i>	3
3	CS235135	Pengaruh Hujan dan Fluktuasi Muka Tanah Air Terhadap Infiltrasi dan Kekuatan Tanah <i>Influence of Rain and Groundwater Fluctuations on Soil Infiltration and Soil Strength</i>	2
4	CS235136	Pengujian Geoteknik dan Geofisika untuk Tanah Sulit <i>Geotechnical and Geophysical Testing for Difficult Soils</i>	3
5	CS235137	Prinsip Dasar Manajemen Aset Preservasi Jalan <i>Basic Principles of Road Preservation Asset Management</i>	2
6	CS235138	Rekayasa Gempa untuk Geoteknik <i>Earthquake Engineering for Geotechnics</i>	2
<b>Jumlah sks / Number of Credits</b>			<b>15</b>
<b>Semester 2 / 2<sup>nd</sup> Semester</b>			
1	CS235223	Material Maju untuk Konstruksi Jalan <i>Advanced Materials for Road Constructions</i>	2

No.	Kode MK Course Code	Nama Mata Kuliah (MK) Course Name	satuan kredit semester (sks) Credit Semester Unit
2	CS235224	Metode Perbaikan Tanah <i>Soil Improvement Methods</i>	2
3	CS235225	Tanah Gambut dan Aplikasinya <i>Peat Soil and its Applications</i>	2
4	CS235226	Tanah Lunak dan Tanah Mengembang dan Aplikasinya <i>Soft &amp; Swelling Soil and its Applications</i>	2
5	CS235227	Tanah Tidak Jenuh dan Aplikasinya <i>Unsaturated Soil and its Applications</i>	2
<b>Jumlah sks / Number of Credits</b>			<b>10</b>
<b>Semester 3 / 3<sup>rd</sup> Semester</b>			
1	CS235317	Magang dan Pengumpulan Data Tesis <i>Internship and Thesis Data Collections</i>	3
<b>Jumlah sks / Number of Credits</b>			<b>3</b>
<b>Semester 4 / 4<sup>th</sup> Semester</b>			
1	CS235499	Tesis <i>Thesis</i>	8
<b>Jumlah sks / Number of Credits</b>			<b>8</b>
<b>Total sks / Total Credits</b>			<b>36</b>

**8. PRODI S-2 TEKNIK SIPIL BIDANG KEAHLIAN GEOTEKNIK  
JALAN RAYA (GJR)  
CIVIL ENGINEERING MASTER'S STUDY PROGRAM (EXPERTISE  
AREA IN HIGHWAY GEOTECHNICAL)**

**DAFTAR MATA KULIAH WAJIB / LIST OF COMPULSORY COURSES**

<b>No.</b>	<b>Kode MK Course Code</b>	<b>Nama Mata Kuliah (MK) Course Name</b>	<b>satuan kredit semester (sks) Credit Semester Unit</b>
<b>Semester 1 / 1<sup>st</sup> Semester</b>			
1	CS235139	Perencanaan Perkerasan dan Badan Jalan untuk Indonesia <i>Designing Pavement and Embankment Suitable for Indonesia</i>	3
2	CS235140	Timbunan dan Konstruksi Penahan Tanah <i>Embankment and Retaining Structure</i>	3
3	CS235141	Metode Pelaksanaan Konstruksi untuk Jalan <i>Construction Method for Highway</i>	2
4	CS235142	Jembatan dan Sistem Drainase untuk Jalan <i>Bridge and Drainage System for Highway</i>	3
5	CS235143	Matematika dan Statistik untuk Penelitian <i>Mathematic and Statistic for Research</i>	2
<b>Jumlah sks / Number of Credits</b>			<b>13</b>
<b>Semester 2 / 2<sup>nd</sup> Semester</b>			
1	CS235228	Metodologi Penelitian dan Penulisan Ilmiah <i>Research Methodology and Scientific Writing</i>	2
2	CS235229	Metode Perbaikan Tanah untuk Jalan Raya <i>Soil Improvement Method for Highway</i>	3
3	CS235230	Penanggulangan Masalah Jalan pada Tanah Gambut, Tanah Retak, dan Tanah Mengembang	3

No.	Kode MK Course Code	Nama Mata Kuliah (MK) Course Name	satuan kredit semester (sks) Credit Semester Unit
		<i>Solutions of Problems with Highway on Peat Soil, Cracked Soil, and Swelling Soil</i>	
4		Mata Kuliah Pilihan* <i>Elective Course*</i>	2*
<b>Jumlah sks / Number of Credits</b>			<b>10</b>
<b>Semester 3 / 3<sup>rd</sup> Semester</b>			
1	CS235319	Magang dan Pengumpulan Data Tesis <i>Internship and Thesis Data Collections</i>	3
2	CS235320	Perkembangan, Permasalahan, dan Penyelesaian Terkini Bidang Geoteknik <i>Development, Problems, and Solution in Geotechnics</i>	2
<b>Jumlah sks / Number of Credits</b>			<b>5</b>
<b>Semester 4 / 4<sup>th</sup> Semester</b>			
1	CS235499	Tesis <i>Thesis</i>	8
<b>Jumlah sks / Number of Credits</b>			<b>8</b>
<b>Total sks / Total Credits</b>			<b>36</b>

#### DAFTAR MATA KULIAH PILIHAN / LIST OF ELECTIVE COURSES

No.	Kode MK Course Code	Nama Mata Kuliah (MK) Course Name	satuan kredit semester (sks) Credit Semester Unit
1	CS235268	Rekayasa Gempa untuk Geoteknik <i>Earthquake Engineering for Geotechnical</i>	2
2	CS235376	Tanah Tidak Jenuh dan Aplikasinya <i>Unsaturated Soil and Its Applications</i>	2
3	CS235377	Rekayasa Pondasi dan Pemodelan Geoteknik	2

<b>No.</b>	<b>Kode MK Course Code</b>	<b>Nama Mata Kuliah (MK) Course Name</b>	<b>satuan kredit semester (sks) Credit Semester Unit</b>
		<i>Foundation Engineering and Geotechnical Modeling</i>	

**9. PRODI S-2 TEKNIK SIPIL BIDANG KEAHLIAN MANAJEMEN DAN REKAYASA SIPIL (MRS)**

***CIVIL ENGINEERING MASTER'S STUDY PROGRAM (EXPERTISE AREA IN MANAGEMENT AND CIVIL ENGINEERING)***

**DAFTAR MATA KULIAH WAJIB / LIST OF COMPULSORY COURSES**

<b>No.</b>	<b>Kode MK Course Code</b>	<b>Nama Mata Kuliah (MK) Course Name</b>	<b>satuan kredit semester (sks) Credit Semester Unit</b>
<b>Semester 1 / 1<sup>st</sup> Semester</b>			
1	CS235125	Statistik dan Optimasi <i>Statistics and Optimization</i>	3
2	CS235126	Manajemen Proyek Konstruksi <i>Project Management</i>	3
3	CS235127	Manajemen Transportasi <i>Transportation Management</i>	3
4	CS235128	Manajemen Sumber Daya Air Terpadu <i>Integrated Water Resources Management</i>	3
<b>Jumlah sks / Number of Credits</b>			<b>12</b>
<b>Semester 2 / 2<sup>nd</sup> Semester</b>			
1	CS235201	Metodologi Penelitian dan Penulisan Ilmiah <i>Research Methodology and Scientific Writing</i>	3
2	CS235217	Perkembangan-Permasalahan-Penyelesaian Terkini Bidang Geoteknik <i>Recent Development-Problems-Solutions in Geotechnical Engineering</i>	3
3	CS235218	Forensik dan Perbaikan Struktur <i>Structure forensic and Retrofitting</i>	3
4		Mata Kuliah Pilihan* <i>Elective Course*</i>	3*
<b>Jumlah sks / Number of Credits</b>			<b>12</b>
<b>Semester 3 / 3<sup>rd</sup> Semester</b>			

No.	Kode MK Course Code	Nama Mata Kuliah (MK) Course Name	satuan kredit semester (sks) Credit Semester Unit
1		Mata Kuliah Pilihan* <i>Elective Course*</i>	4*
<b>Jumlah sks / Number of Credits</b>			<b>4</b>
<b>Semester 4 / 4<sup>th</sup> Semester</b>			
1	CS235499	Tesis <i>Thesis</i>	8
<b>Jumlah sks / Number of Credits</b>			<b>8</b>
<b>Total sks / Total Credits</b>			<b>36</b>

**DAFTAR MATA KULIAH PILIHAN / LIST OF ELECTIVE COURSES**

No.	Kode MK Course Code	Nama Mata Kuliah (MK) Course Name	satuan kredit semester (sks) Credit Semester Unit
1	CS235263	Teknologi Struktur Tahan Gempa <i>Technology of Earthquake Resistant Structures</i>	3
2	CS235264	Metode Perbaikan Tanah dan Reklamasi <i>Soil Improvement Method and Reclamation</i>	3
3	CS235265	Manajemen Kualitas dan Risiko <i>Risk and Quality Management</i>	3
4	CS235266	Mitigasi Bencana Daya Rusak Air <i>Disaster Mitigation Related to Water</i>	2
5	CS235267	Sistem Transportasi Urban dan Regional <i>Urban and Regional Transportation System</i>	3
6	CS235355	Teknologi Konstruksi Jembatan <i>Technology of Bridge Constructions</i>	3
7	CS235356	Sistem Pemantauan Kesehatan Struktur <i>Structural Health Monitoring Systems</i>	3

<b>No.</b>	<b>Kode MK Course Code</b>	<b>Nama Mata Kuliah (MK) Course Name</b>	<b>satuan kredit semester (sks) Credit Semester Unit</b>
8	CS235357	Penggalian dan Dewatering <i>Dewatering and Excavation</i>	2
9	CS235358	Rekayasa Pondasi dan Pemodelan Geoteknik <i>Foundation Engineering and Geotechnical Modeling</i>	3
10	CS235359	Pengembangan Proyek Properti <i>Property Project Development</i>	3
11	CS235360	Manajemen Desain <i>Design Management</i>	2
12	CS235361	Konstruksi Berkelanjutan <i>Sustainable Construction</i>	2
13	CS235362	Manajemen Pengadaan dan Kontrak <i>Procurement and Contract Management</i>	2
14	CS235363	Manajemen Drainase untuk Kota Cerdas <i>Intelegent Drainage Management for Smart City</i>	2
15	CS235364	Manajemen Zona Pantai Terpadu <i>Integrated Coastal Zone Management</i>	2
16	CS235365	Manajemen Irigasi Modern <i>Modern Irrigation Management</i>	2
17	CS235366	Manajemen Lalu Lintas <i>Traffic Management</i>	3
18	CS235367	Ekonomi Transportasi <i>Transportation Economic</i>	3
19	CS235368	Manajemen Preservasi Jalan <i>Road Preservation Management</i>	2
20	CS235369	Manajemen Kepelabuhananan <i>Port Management</i>	3
21	CS235370	Manajemen Perkeretaapian <i>Railway Management</i>	2



<b>No.</b>	<b>Kode MK Course Code</b>	<b>Nama Mata Kuliah (MK) Course Name</b>	<b>satuan kredit semester (sks) Credit Semester Unit</b>
22	CS235371	Manajemen Angkutan Barang <i>Freight Transportation Management</i>	2
23	CS235372	Manajemen Transportasi Udara <i>Air Transportation Management</i>	2
24	CS235373	Manajemen Airport <i>Airport Management</i>	3

**10. PRODI S-2 TEKNIK SIPIL BY RISET****CIVIL ENGINEERING MASTER'S STUDY PROGRAM BY  
RESEARCH**

No.	Kode MK Course Code	Nama Mata Kuliah (MK) Course Name	satuan kredit semester (sks) Credit Semester Unit
<b>Semester 1 / 1<sup>st</sup> Semester</b>			
1	CS235134	Metodologi Penelitian dan Penulisan Ilmiah <i>Research Methodology and Scientific Writing</i>	3
2		Mata Kuliah Rekognisi Pembelajaran Lampau (RPL)* <i>Past Learning Recognition Course*</i>	3*
3		Mata Kuliah Wajib* <i>Compulsory Course*</i>	6*
<b>Jumlah sks / Number of Credits</b>			<b>12</b>
<b>Semester 2 / 2<sup>nd</sup> Semester</b>			
1	CS235248	Publikasi I <i>Publication I</i>	6
<b>Jumlah sks / Number of Credits</b>			<b>6</b>
<b>Semester 3 / 3<sup>rd</sup> Semester</b>			
1	CS235380	Publikasi II <i>Publication II</i>	8
2	CS235381	Tesis I <i>Thesis I</i>	4
<b>Jumlah sks / Number of Credits</b>			<b>12</b>
<b>Semester 4 / 4<sup>th</sup> Semester</b>			
1	CS235498	Tesis II <i>Thesis II</i>	6
<b>Jumlah sks / Number of Credits</b>			<b>6</b>
<b>Total sks / Total Credits</b>			<b>36</b>