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<tr><td colspan="2" rowspan="2"></td><td colspan="5">Universitas Negeri Surabaya
Fakultas Vokasi
Program Studi D4 Transportasi</td><td>Kode Dokumen</td></tr>
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		Universitas Negeri Surabaya **Fakultas Vokasi** **Program Studi D4 Transportasi**					**Kode Dokumen**

SEMESTER LEARNING PLAN

Course		KODE		Rumpun MataKuliah	Bobot Kredit			SEMESTER	Tanggal Penyusunan
Jalan Kereta Api		99993940102032		Transportasi	**T=2**	**P=0**	**ECTS=3.18**	5	16 Juli 2024

OTORISASI		Pengembang S.P	Koordinator Rumpun matakuliah	Koordinator Program Studi
		Dr. Ir. Dadang Supriyatno, MT.,IPU.,ASEAN Eng.	....	Dr. Anita Susanti, S.Pd., M.T.

Model Pembelajaran	Case Study

Program Learning Outcomes (PLO)	PLO program Studi yang dibebankan pada matakuliah	
	PLO-5	Memiliki ketakwaan kepada Tuhan YME, kemandirian, nasionalisme dan kepekaan sosial.
	Program Objectives (PO)	
	PO - 1	Mahasiswa mengerti dan memahami unsur-unsur konstruksi bangunan atas dan bawah jalan rel
	Matrik PLO-PO	

PO	PLO-5
PO-1	

Matrik PO pada Kemampuan akhir tiap tahapan belajar (Sub-PO)

PO	Minggu Ke															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PO-1																

Deskripsi Singkat Mata Kuliah	Mata kuliah ini memberikan gambaran kepada mahasiswa : Mata kuliah ini memberikan gambaran kepada mahasiswa : Sejarah perkembangan jalan kereta api di Indonesia dan konstruksi perkerasan, Definisi track , fungsi jalan kereta api, bagaimana mengetahui klasifikasi jalan berdasarkan kecepatan tempuh, passing tonas e beban gandar, jenis rel, dimensi tubuh jalan rel, penampang jalan kereta api, memperkenalkan kepada mahasiswa perencanaan jalan kereta api antara lain : Distribusi beban-beban pada jalan kereta api, lapisan dasar tanah, tudung pasir, Balas, Jenis-jenis Rel, Gaya-gaya yang bekerja pada Jalan Kereta Api (gaya sentrifugal, gaya penggulingan kereta api), Geometrik jalan Rel (alinyemen horisontal dan Vertikal) perencanaan konstruksi bawah dan atas, Emplasemen, Perlintasan dan Jenis-jenis wesel.

Pustaka	Utama :	
	1. Dadang. 2004. Buku Ajar Jalan Raya & KA. Surabaya:FT. Sipil Unesa. 2. Banks, J.H. 2002. Introduction to Transportation Engineering. MacGraw Hill. 2nd Edition. Boston. 502p 3. Oglesby. 1982. Highway Engineering. Singapore. 4. Utomo, S.H.T. 2009. Jalan Rel. Beta Offset. Edisi Kedua. Yogyakarta. 5. Surakim, Konstruksi Jalan Rel, Penerbit Nuansa Cendekia Bandung (2014) 6. PJKA 1986 Perencanaan Konstruksi jalan Rel (Peraturan Dinas 10 A,B,C) 7. Imam Subarkah 1981 Jalan Kereta Api Bandung : Idea Dharma	
	Pendukung :	

Dosen Pengampu	Dr. Ir. H. Dadang Supriyatno, M.T. Purwo Mahardi, S.T., M.Sc.

Minggu Ke-	Kemampuan akhir tiap tahapan belajar (Sub-PO)	Penilaian		Bantuk Pembelajaran, Metode Pembelajaran, Penugasan Mahasiswa, [Estimasi Waktu]		Materi Pembelajaran [Pustaka]	Bobot Penilaian (%)
		Indikator	Kriteria & Bentuk	Luring (offline)	Daring (online)		

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Mahasiswa mengerti definisi jalan kereta api, serta ruang lingkup dan kereta api bagi masyarakat pengguna	Mahasiswa dapat mengerti transportasi, Sistem Transportasi dan Teknik Sistem Transportasi	**Kriteria:** Masing-masing soal diberikan bobot penilaian, apabila memenuhi kreteria subtansi dan semua soal benar, maka nilai bisa 100 % **Bentuk Penilaian** : Tes	2 X 50		**Materi:** Sejarah perkembangan perkeretaapian di Indonesia sampai masa kemerdekaan, Perkembangan rail, railfastening, bantalan, balas dan sub balas **Pustaka:** *Dadang. 2004. Buku Ajar Jalan Raya & KA. Surabaya:FT. Sipil Unesa.*	0%
2	Mahasiswa mengerti klasifikasi kereta api dalam pemenuhan kehidupan masyarakat	Mahasiswa dapat mengerti perkembangan transportasi moda darat dan peranan transportasi dalam kehidupan masyarakat		2 X 50		**Material:** Superstructure components: various types of rails, and various types of rail fastening. **Reference:** *Surakim, Railway Construction, Nuansa Scholar Bandung Publisher (2014)*	0%
3	Students understand the Geometric Characteristics of JKA Environmental Conditions Economic considerations and the surrounding community	Students understand the components in geometric design of railway roads		2 X 50		**Material:** Substructure Components: Bearings, Reply **Reference:** *PJKA 1986 Railway Construction Planning (Service Regulations 10 A,B,C)*	0%
4	Students are able to understand the types of train traffic surveys, planning train traffic surveys, inventory surveys, calculating train operational capacity	Students can understand and differentiate the definitions of each sub-material.		2 X 50		**Material:** Substructure construction components: Base and sub base **Reference:** *PJKA 1986 Railway Construction Planning (Service Regulations 10 A,B,C)*	0%
5	Students are able to prepare a geometric pre-plan for a railway road with the elements: Sight Distance, Horizontal Alignment, Vertical Alignment	Students can understand various variables in planning good road geometry for safe roads		2 X 50		**Material:** Various types of rail connections and rail welding techniques **Reference:** *PJKA 1986 Railway Construction Planning (Service Regulations 10 A, B, C)*	0%

No	Sub-CPMK	Indicator	Criteria	Time		Material & References	Weight
6	Students are able to understand the needs/road materials in: Stability analysis, soil bearing capacity analysis, material quality	Students are able to calculate the kung force of the soil		2 X 50		**Material:** Theory of short and long connections (long welde rail) **References:** *Surakim, Railway Construction, Nuansa Scholar Bandung Publisher (2014)*	0%
7	Students are able to understand the needs/road materials in: Stability analysis, soil bearing capacity analysis, material quality	Students are able to calculate the kung force of the soil		2 X 50			0%
8	UTS	UTS	**Criteria:** UTS	UTS 2 X 50			0%
9	Students are able to understand the planning of lower & upper construction of railway roads: planning methods, lower and upper construction	Students are able to analyze road pavement layers according to the conditions of the surrounding environment		2 X 50			0%
10	Students understand and understand railway drainage and complementary buildings: surface drainage, sub-surface drainage, road drainage buildings, other complementary buildings	Students are able to tell about the development of road transportation infrastructure in various regions.		2 X 50			0%
11	Students understand & understand the development of Railway Transportation: Development of railroads in Indonesia,	Students are able to understand the definition and role of free space for safe train travel		2 X 50			0%
12	Rail road elements: Carriage load conveying, Rails, Rail connections, Rail Fastening, Bearings, Ballast,	Students are able to understand the stages of load delivery from upper construction to lower construction of the railway		2 X 50			0%
13	Students are able to recognize and understand the various types of railway bodies in straight lines and curves	Students are able to understand the shapes of railroad bodies		2 X 50			0%
14	Students are able to recognize and understand curved steel roads: curved loads and widening of curved rails	Students are able to understand the planning stages of a railroad in curves		2 X 50			0%
15	Students are able to recognize and understand Elements and Stations: Several train functions, Several types of stations, Several types of installations, Buildings and complementary facilities	Students are able to understand the function of emplacements and stations for train travel and train users		2 X 50			0%

16	Students are able to recognize and understand Elements and Stations: Several train functions, Several types of stations, Several types of installations, Buildings and complementary facilities	Students are able to understand the function of emplacements and stations for train travel and train users		2 X 50			0%

Evaluation Percentage Recap: Case Study

No	Evaluation	Percentage
		0%

Notes

1. **Learning Outcomes of Study Program Graduates (PLO - Study Program)** are the abilities possessed by each Study Program graduate which are the internalization of attitudes, mastery of knowledge and skills according to the level of their study program obtained through the learning process.
2. **The PLO imposed on courses** are several learning outcomes of study program graduates (CPL-Study Program) which are used for the formation/development of a course consisting of aspects of attitude, general skills, special skills and knowledge.
3. **Program Objectives (PO)** are abilities that are specifically described from the PLO assigned to a course, and are specific to the study material or learning materials for that course.
4. **Subject Sub-PO (Sub-PO)** is a capability that is specifically described from the PO that can be measured or observed and is the final ability that is planned at each learning stage, and is specific to the learning material of the course.
5. **Indicators for assessing** ability in the process and student learning outcomes are specific and measurable statements that identify the ability or performance of student learning outcomes accompanied by evidence.
6. **Assessment Criteria** are benchmarks used as a measure or measure of learning achievement in assessments based on predetermined indicators. Assessment criteria are guidelines for assessors so that assessments are consistent and unbiased. Criteria can be quantitative or qualitative.
7. **Forms of assessment:** test and non-test.
8. **Forms of learning:** Lecture, Response, Tutorial, Seminar or equivalent, Practicum, Studio Practice, Workshop Practice, Field Practice, Research, Community Service and/or other equivalent forms of learning.
9. **Learning Methods:** Small Group Discussion, Role-Play & Simulation, Discovery Learning, Self-Directed Learning, Cooperative Learning, Collaborative Learning, Contextual Learning, Project Based Learning, and other equivalent methods.
10. **Learning materials** are details or descriptions of study materials which can be presented in the form of several main points and sub-topics.
11. **The assessment weight** is the percentage of assessment of each sub-PO achievement whose size is proportional to the level of difficulty of achieving that sub-PO, and the total is 100%.
12. TM=Face to face, PT=Structured assignments, BM=Independent study.