

SILABUS MATAKULIAH
PROGRAM STUDI PENDIDIKAN TEKNIK ELEKTRO
FAKULTAS TEKNIK
UNIVERSITAS NEGERI YOGYAKARTA

Nama matakuliah : **Komunikasi Data**
No. Kode / SKS : /2
Semester : **Genap**
Dosen : **Dr. Samsul Hadi, M.T.**

A. Deskripsi Matakuliah

Matakuliah ini membahas komunikasi data antar komputer dengan protokol yang sangat populer saat ini, yaitu *Transmission Control Protocol/Internet Protocol* (TCP/IP). Materi tersebut mencakup: pengertian TCP/IP, komunikasi data, *Local Area Network* (LAN), *Wide Area Network* (WAN), hubungan antar-jaringan, pengamanan jaringan, fasilitas transmisi, dan konvergensi data dan suara.

B. Standar Kompetensi

Kompetensi lulusan yang diharapkan.

1. Mendeskripsikan konsep TCP/IP.
2. Mendeskripsikan komunikasi data.
3. Mengidentifikasi *Local Area Network* (LAN).
4. Mengidentifikasi *Wide Area Network* (WAN).
5. Membuat hubungan antar-jaringan.
6. Mengenal sistem pengamanan jaringan.
7. Mengidentifikasi fasilitas transisi data.
8. Memahami konvergensi data dan suara.

C. Skema kerja

No.	Topik	Uraian	Sumber
1	Lingkup TCP/IP	Internet, <i>Application Layer Protocol</i> , <i>User Datagram Protocol</i> , <i>Transmission Control Protocol</i> (TCP)	Carne, E. B., hal 1 - 11
2	Koneksi dalam TCP/IP dan <i>IP Address</i>	Membuat koneksi, Internet Protokol, dan IP Address	Carne, E. B., hal 12 - 25
3	Peralatan Komunikasi, Panggilan Data, dan	Peralatan Komunikasi, Panggilan Data, dan Model	Carne, E. B., hal 27 - 36

	Model <i>Open Systems Interconnection</i>	<i>Open Systems Interconnection</i>	
4	Model Internet	<i>Application Layer, Transport Layer, Internet Layer, Network Interface Layer</i>	Carne, E. B., hal 37 - 41
5	Jaringan Lokal (1)	<i>Classic Ethernet, IEEE 802.3 (Ethernet) LAN, dan Konfigurasi</i>	Carne, E. B., hal 43 - 48
6	Jaringan Lokal (2)	<i>Token-Ring LAN, Fiber Distributed Data Interface, dan Bit Ordering</i>	Carne, E. B., hal 52 - 57
7	<i>Wide Area Network</i>	<i>Point-to-Point Link, Nonbroadcast Multiple Access Link, dan Kualitas Layanan</i>	Carne, E. B., hal 59 - 78
8	Ujian Tengah Semester		
10	Membuat Hubungan Antar-jaringan (1)	<i>Repeater, Bridge, Router, dan Gateway; Bridging, Routing.</i>	Carne, E. B., hal 81 - 96
11	Membuat Hubungan Antar-jaringan (2)	<i>Virtual LAN, Multiprotocol Label Switching</i>	Carne, E. B., hal 96 - 102
12	Pengamanan Jaringan (1)	<i>Network Address Translation, Proxies, Tunnels, Encryption, Decryption, Authentication</i>	Carne, E. B., hal 105 - 113
13	Pengamanan Jaringan (2)	<i>IP Security, Firewall, Jenis-jenis VPN, Dasar Koneksi</i>	Carne, E. B., hal 114 - 119
14	Fasilitas Transmisi Data	Kabel UTP, Kabel Optik, Radio	Carne, E. B., hal 121 - 140
15	Konvergensi Data dan Suara	<i>Local Loop, Modems dan Jaringan Digital, TV Kabel, Voice over IP (VoIP)</i>	Carne, E. B., hal 145 - 158
16	Ujian Akhir Semester		

D. Penilaian

Tugas mingguan 6 buah	: 25
Tugas akhir	: 15
Ujian sisipan	: 25
Ujian akhir	: 30
Partisipasi kelas	: 5

Jumlah	: 100

E. Buku Bacaan

1. Utama

Carne, E. B. (2004). *A professional's guide to data communication in a TCP/IP world*. Boston: Artech House, Inc.

2. Pendukung

Fitzgerald, J. & Dennis, A. (2009). *Business data communications and networking*. New York: John Wiley & Sons, Inc.



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A Professional's Guide to
DATA COMMUNICATION
in a **TCP/IP WORLD**

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E. Bryan Carne

TLFeBOOK

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E. Bryan Carne



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TENTH EDITION

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