



INSTITUT TEKNOLOGI SEPULUH NOPEMBER (ITS)
FAKULTAS TEKNOLOGI ELEKTRO DAN INFORMATIKA CERDAS
DEPARTEMEN TEKNIK ELEKTRO
Program Studi Sarjana (S1) Teknik Telekomunikasi

1	Nama Mata Kuliah / Course Name :	Layanan dalam Jaringan / <i>Services over Networks</i>
2	Kode Mata Kuliah / Course Code :	EL234706
3	Kredit / Credits :	3 SKS
4	Semester / Semester :	Pilihan / Elective Course

Deskripsi Mata Kuliah / Course Description

Mata kuliah Layanan Dalam Jaringan membahas penyediaan layanan dalam jaringan, jenis dan karakteristik layanan, arsitektur sistem penyedia layanan dalam internet, kualitas layanan dan rekayasa jaringan.

The Network Services course covers the provision of services within a network, types and characteristics of services, architecture of service providers in the internet system, service quality, and network engineering.

Capaian Pembelajaran Lulusan (CPL) Yang Dibebankan Mata Kuliah / Program Learning Outcomes Charged to The Course

1. (CPL-05) Mampu merancang komponen, sistem, dan proses yang logis dan realistis sesuai dengan spesifikasi yang ditentukan dengan mempertimbangkan aspek keselamatan, sosial, budaya, lingkungan, dan ekonomi.
(PLO-05) Able to design components, systems, and/or processes to meet desired needs within realistic constraints in such aspects as law, economic, environment, social, politics, health and safety, sustainability as well as to recognize and/or utilize the potential of local and national resources with global perspective
2. (CPL-07) Mampu mengidentifikasi, memformulasikan, menganalisis, dan menyelesaikan permasalahan kompleks di bidang teknik telekomunikasi
(PLO-07) Able to identify, formulate, analyze, and solve the complex problems in the field of Telecommunication Engineering
3. (CPL-08) Mampu mengetahui dan mengaplikasi metode dan keahlian sesuai perkembangan terkini di bidang ilmu pengetahuan dan teknologi untuk menyelesaikan permasalahan di bidang Teknik Telekomunikasi dengan mengedepankan nilai-nilai universal
(PLO-08) Able to know and apply methods, skills according to the latest developments in the field of science and technology to solve electrical engineering problems by prioritizing universal values

Capaian Pembelajaran Mata Kuliah / Course Learning Outcomes

1. Menguasai konsep penyediaan layanan / *Mastering the concept of service provision*
2. Menguasai dan memahami arsitektur sistem penyedia layanan dalam internet / *Mastering and understanding the architecture of service providers in the internet system*
3. Menguasai Implementasi arsitektur infrastruktur penyedia layanan / *Mastering the implementation of infrastructure architecture for service providers*
4. Menguasai Kinerja dan kualitas layanan dalam jaringan. / *Mastering the performance and quality of services in networks*
5. Menguasai pengukuran dan evaluasi kualitas layanan dalam jaringan internet. / *Mastering the measurement and evaluation of service quality in internet networks.*

Pokok Bahasan / Contents

1. Penyediaan layanan dalam jaringan, termasuk jenis dan karakteristik layanan. / *Provision of services in networks, including types and characteristics of services.*
2. Arsitektur sistem penyedia layanan dalam internet / *Architecture of service providers in the internet system.*
3. Implementasi arsitektur infrastruktur penyedia layanan dalam skala kecil. / *Implementation of infrastructure architecture for service providers on a small scale.*
4. Kinerja dan kualitas layanan dalam jaringan. / *Performance and quality of services in networks.*
5. Pengukuran dan evaluasi kualitas layanan dalam jaringan internet. / *Measurement and evaluation of service quality in internet networks.*

Prasyarat / Pre-requisite**Pustaka / Reference**

1. Oliver Heckman, the Competitive Internet Service Provider, John Willey & Sons, 2006
2. Floris van den Broek, Management of Internasional Networks, CRC Press, 2000
3. K. Sharon Evans, Telecommunications Network Modelling, Planning and Design, The Institution of Engineering and Technology, 2004
4. Ramin Sadre, Scalability of Networks and Services, Springer, 2009.
5. Aileen Cater-Steel, Information Technology Governance and Service Management: Framework and Adaptations, Information Science Reference, 2009
6. Tim Szigeti et al, End to End QoS Network Design, Cisco Press, 2014