

LE 517 Data Communications and Networks

Lecture Time Wed 13.30 -16.30 **Consult Time** Wed 13.00-13.30

Instructor Dr. Piya Techateerawat **E-mail** tpiya@engr.tu.ac.th

Text Book William A. SHAY, *Understanding Data Communications and Networks*, PWS Publishing Company.

Reference Books William Stalling, *Data and Computer Communications*, Prentice Hall
Behrouz A. Forouzan, *Data Communications and networking*, McGraw-Hill

Grading

1. Class Participation	10%
2. Projects and Reports	30%
3. Midterm Exam	30%
4. Final Exam	30%

Objective

1. To understand the principle and protocols in data communications and networks.
2. To improve the ability in solving problem in communications and networks.
3. To organize self-study in the related fields.

Course Description

Introduction to data communications and networks, layered network architecture, point-to-point protocols and links, delay models in data networks, multi-access communication, routing in data networks and data flow control.

Tentative Class Schedule

Week	Content
1	Introduction to Communications and Computer Networks
2	OSI Model and Standards
3	Communication Media and Codes
4	Transmission, Interface and Multiplexing
5	Contention Protocols and Data Compression
6	Data Integrity
7	Data Security and Encryption
8	Mid-term Examination
9	Protocol Controls
10	LAN Technology Part I
11	LAN Technology Part II
12	WAN Technology Part I
13	WAN Technology Part II
14	Additional Network Protocols I
15	Additional Network Protocols II
16	Review
17	Final Examination