

COURSE OUTLINE
(SATUAN ACARA PENGAJARAN)

Course	Komunikasi Digital y : 2007/2008
Course Leader	1. Ir. Muhamad Asvial, M.Eng., PhD E : asvial@ee.ui.ac.id W : www.ee.ui.ac.id/lecturer.php?id=asvial Mobile: 081382984852
<i>Referred Research Group and Affiliations in Elektro UI</i>	- CICER (<i>Center for Information and Communications Engineering Research</i>) www.ee.ui.ac.id/cicer - Mobile Communications Research Group
References	- Digital Communications: Fundamentals and Applications, by Bernard Sklar, Prentice Hall, 2001, ISBN 0-13-084788-7 - Communication Systems Engineering, by John G. Proakis and Masoud Salehi, Prentice Hall, 2002, ISBN 0-13-095007-6 - Introduction to Digital Communications, by Michel B. Prusley, Pearson, Prentice Hall, 2005, ISBN 0-13-123392-0
Grading system	UTS, UAS, Assignment
General objective	Understanding the concept of digital communication which is used to transfer information from a source to a destination and to achieve an overall system insight.
Minggu 1	Overview of Digital Communication System, basic concepts and definitions, signals and systems
Minggu 2	Baseband Modulation
Minggu 3	Baseband transmission and correlator receivers
Minggu 4	Signal Space and Minimum Distance Detection
Minggu 5	Average symbol error probability and optimum detection
Minggu 6	Inter symbol interference, pulse shaping, equalization
Minggu 7	Bandpass modulation, coherent and non-coherent detection
Minggu 8	UTS
Minggu 9	Error performance of bandpass modulation schemes
Minggu 10	Channel coding, error correction and detection, linear block codes, Hamming and cyclic codes
Minggu 11	Continuous of block codes, convolutional codes, encoder structure
Minggu 12	State diagram and trellis, Soft and hard decision decoding using Viterbi Algorithm
Minggu 13	Transfer function, interleaving, concatenated codes
Minggu 14	Shannon limit, Comparison of different modulation schemes, trade off between modulation and coding
Minggu 15	Summary
Minggu 16	UAS