COURSE TITLE	**TE142322: Multimedia Signal Processing & Communications** Credits: 3 Semester: II
LEARNING OBJECTIVES	To study representation and characterisation of multimedia signals: audio, image & video, as well as coding techniques for efficient compression.
COMPETENCY	The students will understand the following: • Characterisation of multimedia signals in time, space and frequency domains, as well as probabilistically • Transform coding techniques • Dynamics of 2-D signal (image & video) and its exploitation for compression • Efficient compression techniques
SUBJECTS	• Video formation, perception and representation • Fourier analysis of video signals • Human hearing and visual systems • Video sampling • Video modeling • 2-D Motion estimation • Foundations of video coding • Waveform-based video coding • Content-based video coding • Scalable video coding • Audio coding techniques • Video compression standards
MAIN REFERENCES	• Yao Wang, Jorn Ostermann, Ya-Qin Zhang, Video Processing and Communications, Prentice Hall, 2002.
OPTIONAL REFERENCES	• H.J. Trussell & M.J. Vrhel, Fundamentals of Digital Imaging, Cambridge University Press, 2008. • Al Bovik, ed., The Essential Guide to Video Processing, Academic Press, 2009. • Artikel-artikel dari jurnal ilmiah: IEEE Transaction on Multimedia IEEE Transaction on Image Processing
PREREQUISITE	-