

EE6427 VIDEO SIGNAL PROCESSING

Acad Unit: 3.0
Prerequisite: Nil
Effective: Acad Year 1999-2000 (Semester 2)
Last update: Aug 2001

OBJECTIVE

The objective of this course is to provide students with knowledge in video signal processing. This course focuses on advanced topics in video processing, especially on the image and video filter, video compression, and some international standards for image and video processing. All of these topics are important to the understanding the nowadays video technologies and applications.

DESIRED OUTCOME

Through this course, students are expected to achieve a deep knowledge of video compression, and some international standards for image and video processing. Besides, it is hope that through learning the theories that may help students to develop some state-of-the-art video processing applications. This course will also arouse students' interest in the course and further motivate them towards developing their career in the area of multimedia processing.

OTHER RELEVANT INFORMATION

This course is intended for postgraduates. A prior exposure to signal processing, through coursework and/or experience, is assumed.

CONTENT

Video Basics. Video Signals Sampling and Rate Conversion. Video Signal Filtering and Enhancement. Video Coding Principles and Standards. Emerging Video Communications Systems.

ASSESSMENT SCHEME

Continuous Assessment	20%
Final Examination	80%

TEXTBOOKS

1. A Murat Tekalp, Digital Video Processing, Prentice-Hall, 1995.
2. Peter D. Symes, Video Compression, McGraw-Hill, 1998.

REFERENCES

1. Barry G. Haskell, Atul Puri, and Arun N. Netravali, Digital Video: An Introduction to MPEG-2, Chapman and Hall, 1997.