Department of Electrical Engineering
EENG 5850 & EENG 4010
Spring 2020
Video Processing and Communications

INSTRUCTOR

Dr. Kamesh Namuduri, Office: NTRP B-234, Phone: 940-369-8960

CLASS MEETINGS

T/T H: 4:00PM – 5:20 PM

OFFICE HOURS

T/Th 2 PM to 4 PM OR APPOINTMENT

COURSE DESCRIPTION

This course explores topics ranging from the *fundamentals* of video coding, motion estimation, source and channel coding, transform (wavelet and discrete cosine) coding to the *state-of-the-art* compression and multimedia standards such as MPEG-4, H.264, MPEG-7, and MPEG-21. Advanced research topics including video streaming, joint source-channel coding, distributed video coding, and video surveillance using sensor networks will be discussed.

TEXTBOOK

Required: Yao Wang, Jörn Ostermann, and Ya-Qin Zhang, *Video Processing and Communications*, Press: Prentice Hall, NJ, 2002.

PREREQUISITES

Background in Probability and Random Processes, Digital Signal Processing, and Digital Communications are required for this course. Contact the Instructor for more details.

COURSE OBJECTIVES

Students will be able to understand the general principles of video coding, gain hands-on experience in developing video processing applications, and become familiar with the industry standards in video coding.

GRADING POLICIES

Grading will be based on a weighted combination of class participation, exams, final project presentation, and project report.

Homework: 20%, Midterm I: 20%, Midterm II: 20%, Quizzes: 10% and Project: 30%