

Course Title and Code IT 443 Multimedia Data compression

I. Course Identification and General Information:

Course Title	Multimedia Data compression	Course Code	IT 443	Pre-requisite	IT 214
Department	Information Technology	Course Level	10	Credit Hours	3(3+0)

II. Course Description/Topics: The following course topics will be covered.

Multimedia definition, Introduction to Multimedia, Multimedia Authoring and Tools, Graphics and Image Data Representations, Lossless Compression Algorithms, Huffman Coding, Arithmetic Coding, Dictionary Techniques, Context Based Compression, Lossy Coding.

III. Course Outcomes: Summary of the main learning outcomes for students enrolled in the course.

- Differentiate and use key terms such as: information, data Compression, Lossless and Loss compression techniques, statically and Dictionary Models, and give a brief history of Multimedia system.
- Explain the advantages of data Compression approach compared to traditional data.
- Understand the various characteristics of different media.
- Understand the requirements and techniques of processing multimedia.
- Explain the basic data compression algorithms and show how they work on a particular input; implement these algorithms; compare their efficiency in terms of speed and compression ratio.

IV. Required Text:

- Z-N Li Fundamentals of Multimedia, Ze-Nian Li & Mark S. Drew, Pearson Education, 2018.
- Introduction to Data Compression, Sayood, K., Morgan Kauffman Publishers inc., San Francisci, CA. 1996.

V. References:

- "Techniques & Standards for Image, Rao K R & Hwang J J, Video & Audio Coding", PH-PTR ,95
- "Multimedia in Practice – Technology & Applications", Jeffcoate J, PHI, (Indian Reprint 1998).