

**University of Technology**  
**Computer Engineering Department**  
**Academic Year 2023-2024**  
**4<sup>th</sup> Year- Second semester- All Branches**



<b>CE-IT441</b>			
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Contents of syllabus	Hours
<p><b>1- Introduction</b></p> <ul style="list-style-type: none"> <li>- Introduction to Multimedia</li> <li>- Components of Multimedia</li> <li>- Hypermedia and Multimedia</li> </ul>	2
<p><b>2- Graphics and Image Data representations</b></p> <ul style="list-style-type: none"> <li>- Graphics/Image Data Types</li> <li>- Popular File Formats</li> </ul>	4
<p><b>3- Color Models</b></p> <ul style="list-style-type: none"> <li>- Color Models in Images</li> <li>- Color Models in video</li> </ul>	4
<p><b>4- Basics of Digital Audio</b></p> <ul style="list-style-type: none"> <li>- Digitization of sound</li> <li>- Quantization and Transmission of Audio</li> </ul>	4
<p><b>5- Multimedia Data Compression</b></p> <ul style="list-style-type: none"> <li>- Lossless Compression Algorithms</li> <li>- Lossy Compression Algorithms</li> </ul>	4
<p><b>6- Image Compression Standards</b></p> <ul style="list-style-type: none"> <li>- JPEG Standard</li> <li>- JPEG2000 Standard</li> </ul>	4
<p><b>7- Basic Video Compression Techniques</b></p> <ul style="list-style-type: none"> <li>- Introduction to Video Compression</li> <li>- Search for Motion vector</li> <li>- MPEG Video Coding</li> </ul>	4

<b>8- Basic Audio Compression Techniques</b> <ul style="list-style-type: none"><li>- ADPCM in speech Coding</li><li>- G.726 ADPCM</li><li>- MPEG Audio Compression</li></ul>	4
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**References:**

**TEXT BOOKS:**

- 1- Ze-Nian Li and Mark S. Drew: "Fundamentals of Multimedia".2014.
- 2- Parag Havald & Gerard Medio: "Multimedia systems".2009.

