

**The University of Jordan**  
KASIT/ Computer Information Systems Department  
☪☪Advanced Multimedia 1902450

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**Objectives of the course and Competency coverage:**

- This course aims to develop the students' ability to understand multimedia concepts, tools and applications.
- Develop the students' skills of using multimedia tools and techniques.,
- Introduce approaches and models for multimedia techniques and applications
- Highlight and integrate image processing and compression techniques

*After completing this course the student should be able to:*

- Understand multimedia techniques and applications
- Understand Multimedia components (Text, image, audio and video) principles.
- Understand and use compression technique in different multimedia components.
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**Intended Learning Outcomes:**

The intended learning outcomes of this course are:

**A- *Knowledge and Understanding: Students should ...***

- A1) Understand how multimedia titles are made and their development process.
- A2) Know the different types of skills required to make multimedia titles
- A3) Understand the main principles for creating different types of multimedia elements including text, graphics, sound, animation and video.
- A4) Know about different types of hardware and software tools used for developing multimedia.

**B- *Intellectual skills: with the ability to ...***

- B1) Distinguish between the tasks of different multimedia development team members
- B2) Distinguish between linear multimedia, nonlinear multimedia and hypermedia
- B3) Use production software tools to produce primitive multimedia elements
- B4) Use authoring software tools to produce a multimedia title

**C- *Subject specific skills – with ability to ...***

- C1) Use different multimedia production tools.
- C2) Choose the best coloring scheme for a multimedia project
- C3) Advise on the most suitable hardware for a multimedia project
- C4) Create professional images, animations, and videos
- C5) Compute the file sizes of different multimedia elements

**D- *Transferable skills – with ability to***

- D1) Plan for a multimedia project including the needed skill set

- D2) Manage the needed resources for a multimedia project
- D3) Build professional multimedia titles

### **Teaching/Learning Methods**

Lectures and Discussions	<b>A1+A2+A3+A4+B1+C2+C3+C4+C5+D1+D2+D3</b>
Assignments/Project	<b>C1+C4+D3</b>
Demonstration	<b>B2+B3+B4+C1+C2+C3+C4+D2+D3</b>
Research	<b>B3+B4+C1+C2+C4+C5+D1+D2+D3</b>

### **Text Books**

- **The main text books for this course are:**

1. The Science of Digital Media, J. Burg, Prentice Hall, 2009.
2. Fundamentals of Multimedia, Li and Drew, Pearson Prentice Hall, 2004.
3. Multimedia: Making it work, Tay Vaughan, 7th ed., McGraw Hill, 2008.
4. Multimedia communications, applications, networks, protocols and standards", Fred Halsall, Pearson Education,2001

- **Other reading material:**

1. Multimedia: Computing, Communications and Applications, materiRalf Steinmetz and Klara Nahrstedt, Prentice-Hall Inc.,2001
2. Multimedia Communication Systems: Techniques, Standards, and Networks, K.R Rao,Z .S. Bojkovic and D.A. Milovanovic, Prentice Hall of India,2002
3. Networked Multimedia Systems-Concepts, Architecture and design, Raghavan S V and Tripatti S K , Prentice hall, 1998

- **Journals:**

1. ACM Proceedings on Multimedia Computing, Communications, and Applications (TOMCCAP)
2. IEEE Transactions on Multimedia
3. IEEE Multimedia Magazine

## Course Content:

#	Topics	Duration (Week)	Chapter
1	Introduction to Multimedia	1	1 (Ref 1) 1 (Ref 2)
3	Graphics and Image Representations	2	2 (Ref 1) 3 (Ref 2)
4	Color in Image and Video	1	2,3 (Ref 1) 4 (Ref 2)
5	Digitised Audio	2	4 (Ref 1) 5 (Ref 2)
	<b>Mid-Term Exam</b>		
6	Digital Video	2	6 (Ref 1) 6 (Ref 2)
<b>7</b>	<b>MIDI Audio</b>	<b>1</b>	<b>4 (Ref 1) 5 (Ref 2)</b>
8	Loss and Lossless Compression Techniques	1	7 (Ref 1) 7, 8 (Ref 2)
9	Image Compression Technique (JPEG)	1	3 (Ref 1), 9 (Ref 2)
10	Video and Audio Compression Techniques	2	7 (Ref 1) 10 (Ref 2) 4 (Ref 4) 5 (Ref 1) 13 (Ref 2) 4 (Ref 4)
	<b>Final Exam</b>		

## Grading:

The total grades of this course are assigned as follows:

Middle term exam	30%
Research, Assignments, Class presentation, Project	20%
Final Exam	50%

## Notes

- Students are expected to attend class; there is no system of permitted absences. The instructor in each class determines the effect of absences on a student's grade in that class. Students may not normally receive credit for a course if they do not attend 15 % of the class meetings.
- Assignments and research should be delivered in time.