

The University of Jordan

Accreditation & Quality Assurance Center

COURSE Syllabus

1	Course title	Multimedia
2	Course number	1902351
3	Credit hours (theory, practical)	3 Theory
	Contact hours (theory, practical)	
4	Prerequisites/corequisites	O-O Programming 2 (1902212)
5	Program title	CIS
6	Program code	2
7	Awarding institution	The University of Jordan
8	Faculty	King Abdullah II School for Information Technology
9	Department	CIS
10	Level of course	3rd Year
11	Year of study and semester (s)	Any
12	Final Qualification	Bachelor of Science (BSc)
13	Other department (s) involved in teaching the course	None
14	Language of Instruction	English
15	Date of production/revision	October. 2022
16	Required/ Elective	Required (CIS) Elective(BIT)

16. Course Coordinator:

Ammar Huneiti
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Office No 212,
Office phone: 22577
E-mail : a.huneiti@ju.edu.jo

17. Other instructors:

NA

18. Course Description:

This course is mainly designed to introduce the theoretical concepts of digital media including images, audio, animation and video. The difference between analog and digital media is discussed. Different types of digital media are outlined and their digital storage process is explained in detail. The digital media encoding and decoding concepts are explained. In addition, different types of digital media compression techniques are

introduced. The most popular file formats are outlined for each media type. Finally, the Multimedia related hardware, software, and web-related issues are discussed where necessary.

19. Course aims and outcomes:

Aims:

- **Understand the theoretical concepts of digital media including images, audio, animation and video.**
- **Understand the difference between analog and digital media.**
- **Understand digital media storage process**
- **Understand the digital media encoding and decoding concepts**
- **Understand the different types of digital media compression techniques**
- **Outline the most popular file formats for each media type**
- **Understand the Multimedia related hardware, software, and web-related issues**

Intended Learning Outcomes (ILOs): Upon successful completion of this course students will be able to:

A- Knowledge and Understanding: Students should ...

A1) Understand how multimedia titles are digitally encoded, compressed and their development process.

A2) Know the different types of skills required to make multimedia titles both digital and analog.

A3) Understand the basic principles for creating different types of multimedia elements including

Images, audio, 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 encoding techniques

B2) Distinguish between Different multimedia types in terms of their storage, presentation and application.

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) Fix different digital media problems.

C2) Choose between different colouring scheme for a multimedia project

C3) Advise on the most suitable hardware for a multimedia project

C4) Create professional images, audios, and videos

C5) Compute the file sizes of different multimedia elements and the capability to trade-off between media quality and available computer resources

D- Transferable skills – with ability to:

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

D2) Advise on different specifications of digital media standards.

D3) Build professional multimedia titles

D4) Build the capability to trade-off between media quality and available computer resources.

20. Topic Outline and Schedule:

Topic	Reference (Chapter)	Week	Achieved ILOs	Program SOs	Evaluation Methods	Instructor
1. Introduction to Multimedia	Lecture notes	1	A2, A4	2	In –Class questions, Exam	All
1.1 MM Course Outline						
1.2 Impact of Multimedia in Our Lives	Hand Out, Research Article, Web Links	1	A2, A4	3,4,5,6	In –Class questions, Exam	All
2.1 Analog vs Digital Media	1	1	A2, C1, D1	1,2	In –Class questions, Exam	All
2.2 ADC/DAC	1		A2, C1, D1	1,2		
2.3 Media Encoding Decoding	1		A2, C1, D1	1,2		
2.4 Text Encoding Decoding (Char Set)	1		A2, C1, D1	1,2		
3.1 Digital Images 1 Bitmap vs Vector	2	3	A1, A2, A3, A4	1,2	In –Class questions, Exam	All
3.2 Digital Images 2 Image Size and Quality	2		A1, A2, A3, A4	1,2	In –Class questions, Exam	All
3.3 Vector Encoding	2		B1, B2, B3, B4	1,2		
3.4 Digital Color Models 1/2	2		C2, C3, D2, D3, D4	1,2		
3.5 Digital Color Models 2/2	2		C2, C3, D2, D3, D4	1,2		
4.1 Image Compression Techniques Introduction	Hand Out	2	A1, C1, C5, D2, D3, D4, B1	1,2	In –Class questions, Exam	All
4.2 Compression Performance Criteria	Hand Out		A1, C1, C5, D2, D3, D4, B1	1,2	In –Class questions, Exam	All

Mid-Term Exam	L. Notes, Hand Out & Ch 1,2	1				All
5.1 Nature of Sound Wave	4	3	A1, A2, A3, A4	1,2		All
5.2 Digitizing Sound	4		B1, B2, B3, B4	1,2		
5.3 Digital Sound File Types, Size and Compression	4		A1, C1, C5, D2, D4, B1	1,2		
Second Exam	Ch 4	1				All
6.1 Digital Video Broadcast	6	3	A1, A2, A3, A4	1,2	In –Class questions, Exam	All
6.2 Basic Terminology in Digital Video	6		B1, B2, B3, B4	1,2		
6.3 Digital Video Standards	6		B1, B2, B3, B4, D2	1,2		
6.4 Digital Video File Types, Size and Compression	6		A1, C1, C5, D2, D3, D4, B1	1,2		
Final Exam	All Material					All

21. Teaching Methods and Assignments:

Development of ILOs is promoted through the following teaching and learning methods:

Lectures and Discussions	A1, A2, A3, A4, B1, B2, C2, C3, C4, C5, D1, D2, D3, D4
Demonstration	B1, B2, B3, B4, C1, C2, C3, C4, C5, D1, D2, D3, D4

22. Evaluation Methods and Course Requirements:

Opportunities to demonstrate achievement of the ILOs are provided through the following assessment methods and requirements:

Mid-Term Exam	30%
Quiz	20%
Final Exam	50%

23. Course Policies:

- الامتناع المدير عن حضور المحاضرات أو الدروس أو عن الأعمال الأخرى التي تقضي الأنظمة بالمواظبة عليها ، وكل تحريض على هذا الامتناع سوف يؤدي الى حرمان الطالب من المادة المعنية.
- في حالة التغيب عن امتحان ال **Mid Term** لن يكون هناك امتحان تعويضي الا في حالة وجود عذر وحالة طارئة من المستشفى. على الطالب ابراز العذر لمدرس المادة في فتره لا تتجاوز الثلاثة ايام من تاريخ الامتحان. وللمدرس الحق في قبول او رفض العذر , وحسب التعليمات.
- Concerns or complaints should be expressed in the first instance to the module lecturer; if no resolution is forthcoming then the issue should be brought to the attention of the module coordinator (for multiple sections) who will take the concerns to the module representative meeting. Thereafter problems are dealt with by the Department Chair and if still unresolved the Dean and then ultimately the Vice President. For the final complaints, there will be a committee to review grading the final exam.
 - For more details on University regulations please visit <http://graduatedstudies.ju.edu.jo/RulesAndRegulations/Forms/Rules.aspx>
 - **Intended Grading Scale:**

0-49 **F,D-** 50-62 **D,D+** 63-73 **C-,C,C+** 74-83 **B-,B,B+** 84-100 **A-,A**

24. Required equipment:

Touch-screen Laptop and an E-pen

Fast Internet connection

LCD Screen

MM Software: Adobe Flash, MovieMaker, Sound Recorder, Adobe PhotoShop, Paint Bruch, Power Point.

2. References:

Text Book:

1. Digital Media Primer, 2nd Edition, Yue-Ling Wong. Pearson Education, 2013.
2. Multimedia Making it Work, 7th ed., Tay Vaughan, Mcgraw Hill, 2008.
3. The Science of digital Media, Jennifer Burg, Pearson Education, 2009

References:

1. Multimedia Computing, Communications and Applications, Steinmetz and Nahrstedt.
2. <http://www.widearea.co.uk/designer/compress.html>
3. http://www.digitalhymnal.org/glossary_m-z.html
4. <http://www.sigmm.org/Education/>

Journals:

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

2٦. Additional information:

Please Note: *the course outline and other learning resources are also available on the University E-Learning system (elearning.ju.edu.jo). Login using your account name and password given by the registration unit.*

Name of Course Coordinator: **Dr. Ammar Huneiti** Signature: ----  ----- Date:

22.1.2023 Head of curriculum committee/Department: ----- Signature: -----

Head of Department: ----- Signature: -----

Head of curriculum committee/Faculty: ----- Signature: -----

Dean: ----- -Signature: -----

Assurance

Copy to:
Head of Department
Assistant Dean for Quality

Course File

