

## Course Syllabus

1	Course title	<b>Multimedia</b>
2	Course number	<b>1902351</b>
3	<b>Credit hours (theory, practical)</b>	<b>3 Theory</b>
	<b>Contact hours (theory, practical)</b>	
4	Prerequisites/corequisites	<b>O-O Programming 2 (1902212)</b>
5	Program title	<b>CIS</b>
6	Program code	<b>2</b>
7	Awarding institution	<b>The University of Jordan</b>
8	Faculty	<b>King Abdullah II School for Information Technology</b>
9	Department	<b>CIS</b>
10	Level of course	<b>3<sup>rd</sup> Year</b>
11	Year of study and semester (s)	<b>Any</b>
12	Final Qualification	<b>Bachelor of Science (BSc)</b>
13	Other department (s) involved in teaching the course	<b>None</b>
14	Language of Instruction	<b>English</b>
15	Date of production/revision	<b>May 2015 / February 2020</b>
16	Required/ Elective	<b>Required</b>

### 16. Course Coordinator:

**Ammar Huneiti**  
**2<sup>nd</sup> Floor (CIS),**  
**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
<b>1. Introduction to Multimedia</b>	<b>Lecture notes</b>	<b>1</b>	<b>A2, A4</b>	<b>2</b>	<b>In -Class questions, Exam</b>	<b>All</b>
<b>1.1 Impact of Multimedia in Our Lives</b>	<b>Hand Out, Research Article, Web Links</b>	<b>1</b>	<b>A2, A4</b>	<b>3,4,5,6</b>	<b>In -Class questions, Exam</b>	<b>All</b>
<b>2.1 Analog vs Digital Media</b>	<b>1</b>	<b>1</b>	<b>A2, C1, D1</b>	<b>1,2</b>	<b>In -Class questions, Exam</b>	<b>All</b>
<b>2.2 Bits Basic Concepts</b>	<b>1</b>		<b>A2, C1, D1</b>	<b>1,2</b>		
<b>2.3 Digital Information Representation</b>	<b>1</b>		<b>A2, C1, D1</b>	<b>1,2</b>		
<b>3.1 Digital Images</b>	<b>2</b>	<b>3</b>	<b>A1, A2, A3, A4</b>	<b>1,2</b>	<b>In -Class questions, Exam</b>	<b>All</b>
<b>3.2 Bitmap vs Vector</b>	<b>2</b>		<b>B1, B2, B3, B4</b>	<b>1,2</b>		
<b>3.3 Digital Image File Compression</b>	<b>2</b>		<b>A1, C1, C5, D2, D3, D4, B1</b>	<b>1,2</b>		
<b>3.4 Digital Color Representation</b>	<b>2</b>		<b>C2, C3, D2, D3, D4</b>	<b>1,2</b>		
<b>3.5 Image Compression Techniques</b>	<b>Hand Out</b>	<b>2</b>	<b>A1, C1, C5, D2, D3, D4, B1</b>	<b>1,2</b>	<b>In -Class questions, Exam</b>	<b>All</b>
<b>Mid-Term Exam</b>	<b>L. Notes, Hand Out &amp; Ch 1,2</b>	<b>1</b>				<b>All</b>
<b>4.1 Nature of Sound Wave</b>	<b>4</b>	<b>3</b>	<b>A1, A2, A3, A4</b>	<b>1,2</b>		<b>All</b>
<b>4.2 Digitizing Sound</b>	<b>4</b>		<b>B1, B2, B3, B4</b>	<b>1,2</b>		
<b>4.3 Digital Sound File Types, Size and Compression</b>	<b>4</b>		<b>A1, C1, C5, D2, D4, B1</b>	<b>1,2</b>		
<b>Second Exam</b>	<b>Ch 4</b>	<b>1</b>				<b>All</b>
<b>5.1 Digital Video Broadcast</b>	<b>6</b>	<b>3</b>	<b>A1, A2, A3, A4</b>	<b>1,2</b>	<b>In -Class questions, Exam</b>	<b>All</b>
<b>5.2 Basic Terminology in Digital Video</b>	<b>6</b>		<b>B1, B2, B3, B4</b>	<b>1,2</b>		
<b>5.3 Digital Video Standards</b>	<b>6</b>		<b>B1, B2, B3, B4, D2</b>	<b>1,2</b>		
<b>5.4 Digital Video File</b>	<b>6</b>		<b>A1, C1, C5,</b>	<b>1,2</b>		

Types, Size and Compression			D2, D3, D4, B1			
Final Exam	All Material	1				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%
Second Exam ,Quiz, Project, etc	30%
Final Exam	40%

## 23. Course Policies:

- الامتناع المدير عن حضور المحاضرات أو الدروس أو عن الأعمال الأخرى التي تقضي الأنظمة بالموظابة 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:

Laptop  
DataShow

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

## 2°. References:

### **Text Book:**

1. Digital Media Primer, 2<sup>nd</sup> Edition, Yue-Ling Wong. Pearson Education, 2013.
2. Multimedia Making it Work, 7<sup>th</sup> 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](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: **23.10.2019**

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

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

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

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

### Copy to:

Head of Department  
Assistant Dean for Quality Assurance  
Course File