Course Specification

— (Bachelor)

Course Title: Multimedia Systems	
Course Code: CIT1301	
Program: Bachelor in Information Technology	
Department: Information Technology	
College: Faculty of Computers and Information Technology	
Institution: University of Tabuk	
Version: 1.0	
Last Revision Date: 27 July 2022	

Table of Contents

A. General information about the course:

1. Course Identification

1. Credit hours:

3 CRs. (Three Credit Hours)

2. Course type

A.	☐University	☐College	☒ Department	☐Track	☐Others
B.	☒ Required		☐Elective		

3. Level/year at which this course is offered: (5/3ʳᵈ Year)

4. Course general Description:

Students will be introduced to principles and current technologies of multimedia systems, multimedia standards, and gain hands-on experience in this area. Issues in effectively representing, processing, and retrieving multimedia data such as sound and music, graphics, image and video will be addressed.

5. Pre-requirements for this course (if any):

Object-Oriented Programming (CSC1201)

6. Co-requisites for this course (if any):

7. Course Main Objective(s):

- Understand the components of multimedia systems and current multimedia technology.
- Understand concepts of text, audio, image, and video media including their use and formats.
- Understand the use of multimedia in web development and publishing multimedia.
- Understand current compression methods and standards.
- Create and edit digital images, audio, and video using multimedia software.
- Design and develop a multimedia system that integrates graphic, audio, and video elements.
- Develop further skills in team project management.

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	45	100
2	E-learning		
3	Hybrid ● Traditional classroom ● E-learning		

No	Mode of Instruction	Contact Hours	Percentage
4	Distance learning		

3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	**Lectures**	45
2.	**Laboratory/Studio**	
3.	**Field**	
4.	**Tutorial**	
5.	**Others (specify)**	
Total		45

B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of PLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	**Knowledge and understanding**			
1.1	**Recognize and explain Multimedia (Text, Audio, Image and graphics, Video); compression, and multimedia networks.**	K1,K2	Presentation Using case study to extract requirement for a system	● Home works ● Project ● Exams
2.0	**Skills**			
2.1	**Analyze and develop a workable multimedia systems**	S1	Presentation Assign team project for the team under instructor supervision Class discussion Tutorial on the tool	● Home works ● project

Code	Course Learning Outcomes	Code of PLOs aligned with program	Teaching Strategies	Assessment Methods
2.2	**Create multimedia graphics and animations**	**S2**	Presentation Assign team project for the team under instructor supervision Class discussion Tutorial on the tool	● Home works ● project
3.0	**Values, autonomy, and responsibility**			
3.1	**Demonstrate and present project to various audiences.**	**V2**	Class discussion	project

C. Course Content

No	List of Topics	Contact Hours
1.	**Introduction to multimedia technology and systems (What is multimedia?, multimedia examples, multimedia Hardware, multimedia software tools and representation medium)**	3
2.	**Introduction to components of multimedia systems (presentation medium, storage medium, transmission medium and interactive multimedia)**	3
3.	**Multimedia Systems (Part 1): multimedia systems categories, multimedia presentation systems and multimedia development system.**	3
4.	**Multimedia Systems (Part 2): multimedia technology challenges**	3
5.	**Text multimedia (Part1): What is text? and text encoding**	3
6.	**Text multimedia (Part2): Text encryption.**	3
7.	**Audio multimedia (Part 1): What is audio? and audio representation.**	3
8.	**Audio multimedia (Part 2): audio sampling**	3
9.	**Image/graphics multimedia (Part1): images representation, concept of pixels and image types.**	3
10.	**Image/graphics multimedia (Part 2): images encryption.**	3
11.	**Video multimedia: video concept and characteristics.**	3
12.	**Compression/decompression and relevance to multimedia (Part 1): compression vs encoding and the importance of compression.**	3
13.	**Compression/decompression and relevance to multimedia (Part 2): compression algorithms.**	3
14.	**Publishing multimedia and authoring tools (Part 1): what is authoring tools ? and authoring tools vs programming**	3

15.	Publishing multimedia and authoring tools (Part 2): examples of authoring tools.	3
Total		**45**

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Participation	Throughout semester	**10%**
2.	Homework	6, 11	**10%**
3.	Project	**15**	**20%**
4.	Midterm exams	**6,12**	**20%**
5.	Final Exam	**10**	**40%**

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.).

E. Learning Resources and Facilities

1. References and Learning Resources

Essential References	● The Science of Digital Media, Jennifer Burg 2009, Prentice Hall, 1/E.
Supportive References	● **Fundamentals of Multimedia, Li & Drew, 2004, Prentice Hall, 1/E.** ● **The Non-Designer's Web Book, Robin Williams and John Tollett, 2000, 2nd Edition,** ● **Richard E. Mayer. (2001). Multimedia Learning, Cambridge University Press** ● **Managing Interactive Media: Project Management for Web and Digital Media, 4/E by England and Finney. 2002** ● **Multimedia Fundamentals: Media Coding and Content Processing 2/E by Steinmetz and Nahrstedt.**
Electronic Materials	
Other Learning Materials	

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	**Lecture room of each section to accommodate 25 students.**

Items	Resources
Technology equipment (projector, smart board, software)	**Projectors, data show, smart board, etc.**
Other equipment (depending on the nature of the specialty)	

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of Teaching	Faculty, Program Leaders, and Advisory Board	Both Direct and Indirect
	Students	Indirect
Effectiveness of Students Assessment	Faculty, Program Leaders, Advisory Board, and Independent Opinion	Both Direct and Indirect
Quality of Learning Resources	Faculty, Students, and Advisory Board	Indirect
The Extent to which CLOs have been Achieved	Faculty, Program Leaders, Advisory Board, and Independent Opinion	Direct (as in section B) and Indirect/Surveys
	Students	Indirect
Other	-	-

Assessors (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	
REFERENCE NO.	
DATE	