# Course Specifications

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|---|---|
| **Course Title:** | Multimedia Information Systems |
| **Course Code:** | 434CIS-3 |
| **Program:** | **Information Systems** |
| **Department:** | **Information Systems** |
| **College:** | College of Computer Science and Information Systems |
| **Institution:** | Najran University |

## Table of Contents

## A. Course Identification

| | |
|---|---|
| **1. Credit hours:** | **3 (2,2,1)** |
| **2. Course type** | |
| **a.** | University [ ] College [ ] Department [√] Others [ ] |
| **b.** | Required [√] Elective [ ] |
| **3. Level/year at which this course is offered:** | **Level 7/ Year 4** |
| **4. Pre-requisites for this course** (if any)**:** | |
| **5. Co-requisites for this course** (if any)**:** | |

**6. Mode of Instruction** (mark all that apply)

| No | Mode of Instruction | Contact Hours | Percentage |
|---|---|---|---|
| 1 | **Traditional classroom** | **75** | 100% |
| 2 | **Blended** | | |
| 3 | **E-learning** | | |
| 4 | **Correspondence** | | |
| 5 | **Other** | | |

**7. Actual Learning Hours** (based on academic semester)

| No | Activity | Learning Hours |
|---|---|---|
| **Contact Hours** | | |
| 1 | **Lecture** | 30 |
| 2 | **Laboratory/Studio** | 30 |
| 3 | **Tutorial** | 15 |
| 4 | **Others** (specify) | |
| | **Total** | 75 |
| **Other Learning Hours*** | | |
| 1 | **Study** | 30 |
| 2 | **Assignments** | 5 |
| 3 | **Library** | 6 |
| 4 | **Projects/Research Essays/Theses** | |
| 5 | **Others** (Presentations) | 4 |
| | **Total** | 45 |

* The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

## B. Course Objectives and Learning Outcomes

### 1. Course Description

This course introduces multimedia concept, multimedia information system, multimedia components such as graphics, image, text, video, sound and animation. Calculation of storage size of image ,audio and video with different colour black & white, colour map or gray scale

and true color, and interested in digital media, read on to discover career and education opportunities available in this growing specialty, Compression, Optical Memory Media, Programming, Resources and Quality of Service, Media Server, Documents, Semantics (Ontology and Metadata), Synchronization, Design, Application, Learning, and User Interfaces.

**2. Course Main Objective**

To introduce the concepts of Multimedia Information System and how it is affecting Labor marking , business enterprises , governments, consumers, and people in general.

**3. Course Learning Outcomes**

| | CLOs | Aligned PLOs |
|---|---|---|
| 1 | **Knowledge:** | |
| 1.1 | Define Multimedia Information System, devices ,applications ,authoring , Data compression ,Quality of Service , and multimedia network. | K1 |
| 2 | **Skills :** | |
| 2.1 | Calculate storage size of image ,audio and video | S1,S4 |
| 2.3 | Solve simple compression using Huffman Coding Algorithm | S2 , S4 |
| 2.4 | Create Macromedia Flash, animations and learning interactions | K1 , S2 , S4 |
| 3 | **Competence:** | |
| 3.1 | Develop leadership and teamwork skills in the implementation of the concept of multimedia in small project. | C1,C2 |
| 3.2 | Appraise the self-learning and judgement skills regarding professional behavior and immoral practices. | C3 |

## C. Course Content

| No | List of Topics | Contact Hours |
|---|---|---|
| 1 | Introduction to Multimedia Technology | 4 Hrs |
| 2 | Multimedia system, Multimedia Components | 4 Hrs |
| 3 | Multimedia Data Basics | 4 Hrs |
| 4 | Graphic and image Data Representation | 6 Hrs |
| 5 | Type extensions of (Image , Video , Audio ) | 6 Hrs |
| 6 | Data Compression Method and Classification | 8 Hrs |
| 7 | Compression presentation and Method ( image ,Audio ,Video ) | 8 Hrs |
| 8 | Apply run_lingth coding and huffman coding | 8 Hrs |
| 9 | ATM Network and QoS | 6 Hrs |
| 10 | Multimedia Authoring Concepts and Tools | 6 Hrs |
| 11 | Access Networks and Techniques (UMTS) | 6 Hrs |
| 12 | Software throw server / Client | 5 Hrs |
| 13 | Concept of (GIS/GPS) | 4 Hrs |
| **Total** | | 75 |

## D. Teaching and Assessment

### 1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

| Code | Course Learning Outcomes | Teaching Strategies | Assessment Methods |
|---|---|---|---|
| **1.0** | **Knowledge** | | |
| 1.1 | Define Multimedia Information System, devices ,applications ,authoring , Data compression ,Quality of Service , and multimedia network. | Class lectures (Showing and delivering PPT presentation in the class), and lecture notes. | Quiz ,midterm exam ,Final exam |
| **2.0** | **Skills** | | |
| 2.1 | Calculate storage size of image ,audio and video | - Lab<br>- Students calculate storage problems in small groups and giving correction on their solution during class. | Quiz ,midterm exam, final exam, Assignment ,Tutorial |
| 2.3 | Solve simple compression using Huffman Coding Algorithm | Class lectures (Showing and delivering PPT presentation in the class), and lecture notes, are designed to achieve the course objectives. | Quiz ,midterm exam, final exam, Assignment ,Tutorial |
| 2.4 | Create Macromedia Flash, animations and learning interactions | - Class lectures(Showing and delivering PPT presentation in the class).<br>- Labs<br>- Showing software installation during lab<br>- Group discussion | Lab Assignment , final lab exam, project |
| **3.0** | **Competence** | | |
| 3.1 | Develop leadership and teamwork skills in the implementation of the concept of multimedia in small project. | - Motivating students to be active during class by asking questions regularly.<br>- Students present their work after group discussion session. | - Assignment<br>- Presentation |
| 3.2 | Appraise the self-learning and judgement skills regarding professional behavior and immoral practices. | - Motivating students to work in the home, to search from the internet, to read related reference books by giving them | - Assignment<br>- Homework<br>- Presentation |

| Code | Course Learning Outcomes | Teaching Strategies | Assessment Methods |
|---|---|---|---|
| | | assignments related to multimedia information systems..<br>- Let students present their work after group discussion session. | |

**2. Assessment Tasks for Students**

| # | Assessment task* | Week Due | Percentage of Total Assessment Score |
|---|---|---|---|
| **1** | Lab activities | 1-to-13 | 10 |
| **2** | Assignment 1 | 4 | 1 |
| **3** | Quiz 1 | 5 | 4 |
| **4** | First Midterm Exam | 7 | 15 |
| **5** | Assignment 2 | 8 | 1 |
| **6** | Second Midterm Exam | 9 | 15 |
| **7** | Tutorial | 11 | 2 |
| **8** | Final Lab | 15 | 12 |
| **9** | Final Test | 16 | 40 |

***Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

## E. Student Academic Counseling and Support

**Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice :**

- weekly office hours =10
- weekly academic advising hours = 4

## F. Learning Resources and Facilities

**1. Learning Resources**

| | |
|---|---|
| **Required Textbooks** | R. Steinmetz; K. Nahrstedt: Fundamentals of Multimedia, Vol. 1: Media Coding and Content Processing. Prentice Hall: Latest edition. |
| **Essential References Materials** | • Fundamentals of Multimedia, Fundamentals of Multimedia, Authors: Li, Ze-Nian, ISBN 978-3-319-05290-8, 2014<br>• N. Chapman; J. Chapman: Digital Multimedia. (2nd ed.), Wiley 2004, ISBN: 0-470-85890-7.<br>• K. R. Rao; Z. S. Bojkovic; D. A: Milovanovic: Multimedia Communication Systems: Techniques, Standards, and Networks. Prentice Hall 2002, ISBN: 0-13-031398-X Pete |

| | |
|---|---|
| | Bettinger, Michael G Wing, latest edition, Geographic Information System 2003 |
| **Electronic Materials** | A Multimedia Communication System https://doi.org/10.1016/B978-0-08-051574-8.50090-X |
| **Other Learning Materials** | |

**2. Facilities Required**

| Item | Resources |
|---|---|
| **Accommodation** (Classrooms, laboratories, demonstration rooms/labs, etc.) | Room Laboratory |
| **Technology Resources** (AV, data show, Smart Board, software, etc.) | Data show multimedia system , PCs Headset and Microphone system. |
| **Other Resources** (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list) | |

## G. Course Quality Evaluation

| Evaluation Areas/Issues | Evaluators | Evaluation Methods |
|---|---|---|
| Effectiveness of teaching and assessment | Students | Indirect |
| Extent of achievement of course learning outcomes, | Students | Indirect |
| Extent of achievement of course learning outcomes, | Instructor | Direct |
| The quality of learning resources | Program Leaders | Direct |
| | | |
| | | |
| | | |

**Evaluation areas** (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)
**Evaluators** (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
**Assessment Methods** (Direct, Indirect)

## H. Specification Approval Data

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|---|---|
| **Council / Committee** | Department Council |
| **Reference No.** | Session No. 10 (441-38-43300) |
| **Date** | 17/02/2020 |