



# Course Specification

## (Bachelor)

**Course Title:** Applied Project

**Course Code:** 281 CIS- 3

**Program** Information Systems

**Department** Computer Department

**College:** Applied College

**Institution :** Najran University

**Version :** 3

**Last Revision Date:** 1-10-2024



## Table of Contents

|                                                                                      |   |
|--------------------------------------------------------------------------------------|---|
| A. General information about the course: .....                                       | 3 |
| B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods ..... | 4 |
| C. Course Content.....                                                               | 5 |
| D. Students Assessment Activities .....                                              | 5 |
| E. Learning Resources and Facilities .....                                           | 6 |
| F. Assessment of Course Quality .....                                                | 7 |
| G. Specification Approval.....                                                       | 7 |



## A. General information about the course:

### 1. Course Identification

1. Credit hours: (3 hours )

#### 2. Course type

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

3. Level/year at which this course is offered: (2<sup>nd</sup> year, level 4)

#### 4. Course General Description:

This course introduces the scientific research methods under the supervisor guidance to focus on a specific project and students should search through information sources such as the library and the Internet.

At the end of the semester, students should submit the final report of the project to the supervisor for reviewing.

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

All the previous courses

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

NO

#### 7. Course Main Objective(s):

- To provide hands-on training to design a software product according to the procedure and practices as pictured in Software Engineering.
- To develop the ability to synthesis information and knowledge in the field of Scientific and applied Research
- To develop presentation skills and to speak with audience.
- To Be able to work effectively as a member of a development team and under guidance.

### 2. Teaching mode (mark all that apply)

| No | Mode of Instruction   | Contact Hours    | Percentage |
|----|-----------------------|------------------|------------|
| 1  | Traditional classroom | 3 hours per week | 100%       |
| 2  | E-learning            |                  |            |





| No | Mode of Instruction                                                                                | Contact Hours | Percentage |
|----|----------------------------------------------------------------------------------------------------|---------------|------------|
| 3  | Hybrid <ul style="list-style-type: none"> <li>Traditional classroom</li> <li>E-learning</li> </ul> |               |            |
| 4  | Distance learning                                                                                  |               |            |

### 3. Contact Hours (based on the academic semester)

| No    | Activity          | Contact Hours |
|-------|-------------------|---------------|
| 1.    | Lectures          | 0             |
| 2.    | Laboratory/Studio | 45            |
| 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 the program | Teaching Strategies                                            | Assessment Methods                  |
|------|----------------------------------------------------------------------------------------|---------------------------------------|----------------------------------------------------------------|-------------------------------------|
| 1.0  | Knowledge and understanding                                                            |                                       |                                                                |                                     |
| 1.1  | Identify solutions to real-world problems using the knowledge gained during the study. | K2                                    | Seminar<br>Discussion<br>Presentation<br>Searching<br>Teamwork | Weekly Report                       |
| 1.2  | Understand the basic concepts of scientific research methodology                       | K1                                    | Discussion                                                     | Follow up Form. periodic evaluation |
| ...  |                                                                                        |                                       |                                                                |                                     |
| 2.0  | Skills                                                                                 |                                       |                                                                |                                     |
| 2.1  | Develop software system to solve specific problem                                      | S2                                    | Seminar<br>Discussion<br>Presentations<br>Brainstorming        | Follow up Form. periodic evaluation |
| 2.2  | Design a system that solves the selected problem                                       | S4                                    | Discussion<br>Presentations<br>Lab work                        | Final Presentation                  |





| Code | Course Learning Outcomes                                                               | Code of PLOs aligned with the program | Teaching Strategies                                | Assessment Methods |
|------|----------------------------------------------------------------------------------------|---------------------------------------|----------------------------------------------------|--------------------|
|      |                                                                                        |                                       | Project Brainstorming                              |                    |
| ...  | Analyze the data to get the results and then discuss them                              | S3                                    | Teamwork                                           | Final report       |
| 3.0  | Values, autonomy, and responsibility                                                   |                                       |                                                    |                    |
| 3.1  | Demonstrate projects and assignments in team work to assemble computer and operate it. | V2                                    | Small group work<br>Group Presentation<br>Projects | Group report       |
| 3.2  |                                                                                        |                                       |                                                    |                    |
| ...  |                                                                                        |                                       |                                                    |                    |

### C. Course Content

| No    | List of Topics                                                              | Contact Hours |
|-------|-----------------------------------------------------------------------------|---------------|
| 1.    | Problem definition                                                          | 3             |
| 2.    | System Study/ Field Survey / Literature Survey.                             | 3             |
| 3.    | Requirement Analysis                                                        | 6             |
| 4.    | Data Flow Diagrams / Algorithm design/ Flow Chart design, Comparison Design | 6             |
|       | Code generation for various modules and algorithms                          | 6             |
|       | Testing of modules and refinements / Starting of experimental analysis      | 3             |
|       | Validation / consolidation of algorithms results.                           | 3             |
|       | Integrating the modules in formulation of research / Experimental findings. | 6             |
|       | Testing the software as one unit                                            | 6             |
|       | Writing professional documents and revised it & Project Defense             | 3             |
| Total |                                                                             | 45            |

### D. Students Assessment Activities

| No | Assessment Activities *          | Assessment timing (in week no) | Percentage of Total Assessment Score |
|----|----------------------------------|--------------------------------|--------------------------------------|
| 1. | Student review of the supervisor | during the semester            | 5                                    |





| No  | Assessment Activities *                                            | Assessment timing (in week no) | Percentage of Total Assessment Score |
|-----|--------------------------------------------------------------------|--------------------------------|--------------------------------------|
| 2.  | Student cooperation with co-workers                                | during the semester            | 10                                   |
| 3.  | Refer the student to the sources and references                    | during the semester            | 5                                    |
| 4.  | Student understanding of application development concepts          | 3                              | 10                                   |
| 5.  | The student's ability to analyze the problem to find solutions     | 7-6-5                          | 5                                    |
| 6.  | The ability of the student to design a system to solve the problem | 10-12                          | 8                                    |
| 7.  | The student's ability to develop a software system                 | 11                             | 7                                    |
| 8.  | Search                                                             | 13                             | 10                                   |
| 9.  | Discussion                                                         | 14                             | 40                                   |
| 10. | Total                                                              |                                | 100                                  |

\*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     | Information Technology Project Management , Kathy Schwalbe, 7th edition, 2014                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Supportive References    | Modern System Analysis & Design- Jeffrey Hpffer, Joey George, Joseph Valacich, 6th edition, Pearson • Benjamin Rosenzwing, Elena Silvestrova, Oracle PL/SQL by Example, Printice Hall, Latest Edition. • Sommerville, Software Engineering, Edition 8, 2007 • Herbert Schildt The Complete Reference, JAVA 2, Latest Edition, McGraw Hill Publishing Company Ltd . • Data Structures and Algorithms in Java, 5th Edition, by Michael Goodrich and Roberto Tamassia. • B.A. Forouzan, Data Communications and Networking, fourth edition, McGraw – Hill • Electronic Commerce 2010, A Managerial Perspective, Prentice Hall, (latest edition). Efraim Turban, Jae Lee, David King and Michel Chung Ethical and Social Issues in the Information Age, Joseph M. Kizza Springer; 4th Edition, 2010 |
| Electronic Materials     | <a href="http://www.nu.edu.sa/web/guest/979">http://www.nu.edu.sa/web/guest/979</a> • Najran University E.Library Saudi Digital Library                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Other Learning Materials | Searching the Internet                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

### 2. Required Facilities and equipment





| Items                                                                                     | Resources                                                                |
|-------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| <b>facilities</b><br>(Classrooms, laboratories, exhibition rooms, simulation rooms, etc.) | General Lab Depending on the individual projects                         |
| <b>Technology equipment</b><br>(projector, smart board, software)                         | Depending on the individual projects, computational facilities will vary |
| <b>Other equipment</b><br>(depending on the nature of the specialty)                      |                                                                          |

## F. Assessment of Course Quality

| Assessment Areas/Issues                     | Assessor                                   | Assessment Methods                                                                       |
|---------------------------------------------|--------------------------------------------|------------------------------------------------------------------------------------------|
| Effectiveness of teaching                   | Student                                    | Direct: Questioners                                                                      |
| Effectiveness of Students assessment        | Teacher<br>Audit and review committees     | Direct: CW & HW<br>Exercises and short quizzes<br>Projects<br>Mid and final paper exams. |
| Quality of learning resources               | Teachers and course description committees | Indirect: Benchmarking<br>Self-evaluation<br>External evaluation                         |
| The extent to which CLOs have been achieved | Teacher                                    | Direct: Measuring the learning outcomes                                                  |
| Other                                       |                                            |                                                                                          |

**Assessors** (Students, Faculty, Program Leaders, Peer Reviewers, Others (specify))

**Assessment Methods** (Direct, Indirect)

## G. Specification Approval

|                           |  |
|---------------------------|--|
| <b>COUNCIL /COMMITTEE</b> |  |
| <b>REFERENCE NO.</b>      |  |
| <b>DATE</b>               |  |

