

**Department of Medical Device Technology Engineering – Al-Zahrawi University
College**

Course Title: Computer Applications I

First Semester – Academic Year 2024 / 2025

Course Description - Theoretical Component

College: Al-Zahrawi University College - Department of Medical Device Technology Engineering

Course Name: Computer Applications

Units: 6

Theoretical Hours: 4 hours per week

Language of Instruction: English

Instructor: Asst. Lecturer Hussein Abdulali Al-Saadi

General Objectives

- Introduce students to basic concepts of computers and technology.
- Enable students to understand computer hardware and software components.
- Develop skills in medical data analysis using computers.
- Equip students with the ability to use Office programs, especially Microsoft Excel.
- Enhance students' understanding of the importance of computers in medical and administrative applications.

Weekly Study Plan (Theoretical Lectures)

Week	Topic
1	Introduction to Computers – Definition, basic components (Hardware & Software).
2	Computer Hardware – Input/output devices, processor, memory, storage.
3	Software Components – Operating systems, application software, programming software.
4	Introduction to Excel – User interface, creating and saving documents.
5	Data Entry and Formatting – Tables, text, and number formatting.
6	Conditional Formatting, Sorting, and Filtering – Highlighting data using colors and conditions.
7	Basic Arithmetic Functions – SUM, AVERAGE, MIN, MAX.
8	Conditional Functions – IF, IF AND, IF OR, COUNT, COUNTIF.
9	Midterm Exam

10	Managing Worksheets – Adding, deleting, renaming, and protecting sheets.
11	Importing and Analyzing Data – Merging data from different sources.
12	Medical Data Analysis in Excel – Practical examples using real data.
13	Projects and Practical Applications – Preparing a comprehensive report and data analysis.
14	General Review and Final Exercises.
15	Theoretical and Practical Final Exam

Module Evaluation

Assessment Type	Component	Time/Number	Weight (Marks)	Week Due
Formative assessment	Quizzes	2	10% (10)	5 and 13
Formative assessment	Assignments	4	10% (10)	8,9,10, and 11
Formative assessment	Projects / Lab.	5	15% (15)	Continuous
Formative assessment	Report	1	5% (5)	6
Summative assessment	Midterm Exam	2hr	10% (10)	9
Summative assessment	Final Exam	4hr	50% (50)	16
	Total assessment			

Course Description - Practical Component

General Objectives

- Equip students with practical skills in using computers and their applications.
- Train students to work with operating systems, Office applications, and data management.
- Teach students how to analyze medical data using Excel.
- Enable students to prepare accurate reports and analytical tables.

Weekly Study Plan (Practical Lab)

Week	Practical Activity
1	Introduction to computers – hardware and software components.
2	Working with Windows OS – file management, shortcuts.
3	Opening and closing documents in Excel – saving, backups.
4	Creating tables and entering data – text, numbers, and column formatting.
5	Formatting data in different ways – colors, borders, backgrounds.
6	Conditional formatting – highlighting key medical values.
7	Working with arithmetic functions – SUM, AVERAGE, MIN, MAX.
8	Using conditional functions – IF, IF AND, IF OR.
9	Search and replace, sorting, filtering – professional data organization.
10	Inserting charts – visual data analysis.
11	Importing and analyzing external data.
12	Practical projects on medical data.
13	Case study analysis using Excel.
14	Final practical exam.
15	Comprehensive review and performance evaluation.

Recommended References

- *Computer Basics and Information Technology* – Dr. Ahmed Abdulsalam.
- *Microsoft Excel for Medical Data Analysis* – John Walkenbach.
- Online resources from *Microsoft*.
- Lectures by *Hussein Abdulali Al-Saadi* available for students.

Relation to Other Courses

- This course is related to fundamental computer courses and medical applications.
- It is a prerequisite for understanding how to use computers in medical and administrative analysis.