



# Course Specification

## (Bachelor)

Course Title: **Computer Maintenance Skills**

Course Code: **TP153**

Program: **Programming and Computer Science**

Department: *Enter Department Name .*

College: **Applied College**

Institution: **Umm Al-Qura University**

Version: **1.0**

Last Revision Date: **Jan 2025**

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## A. General information about the course:

### 1. Course Identification

1. Credit hours: ( 3 )

#### 2. Course type

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

3. Level/year at which this course is offered: (1<sup>st</sup> level –1<sup>st</sup> year)

#### 4. Course General Description:

This course is designed to equip the candidates for becoming an Entry Level L1, Desktop Support, Service Engineer, Customer Support Engineer, FM Engineer, Hardware Engineer and IT Support Specialist in End User Computing environment.

Candidates will learn about Desktop and Laptop Computer Hardware Technology like Motherboard, Hard Disk, Memory Processors, Assembling, Computer Peripherals Like Printers & Scanners.

Windows 10 Operating system, Understanding the latest Technologies. Troubleshooting all kinds of Hardware and OS related issues.

Through this course, candidates shall also gain the knowledge to take the International Certification example like CompTIA A+ Certification Core 1 (220-1201).

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

Nil

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

Nil

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

During this course Students will achieve:

- Understanding Computers Architecture
- Understanding operating system function and architecture.





- Knowledge of computer hardware technologies including components such as Motherboard, Processor, RAM and storage
- Understanding Computer Assembling
- Install and configure user operating system such Windows10/11 or Linux
- Understanding User Account Management and local security policies

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

| No | Mode of Instruction  | Contact Hours                 | Percentage |
|----|--|-------------------------------|------------|
| 1  | Traditional classroom  | (2 Lecture + 2 Lab.)<br>/Week |            |
| 2  | E-learning   |                               |            |
| 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          | 2*15          |
| 2.    | Laboratory/Studio | 2*15          |
| 3.    | Field             |               |
| 4.    | Tutorial          |               |
| 5.    | Others (specify)  |               |
| Total |                   | 60            |

## 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  | Understanding Computers Architecture | K4                                    | Lectures and tutorial | Quizzes, exams, and assignments. |





| Code | Course Learning Outcomes  | Code of PLOs aligned with the program | Teaching Strategies   | Assessment Methods               |
|------|---|---------------------------------------|-----------------------|----------------------------------|
| 1.2  | Understand operating system function and architecture.  | K4                                    | Lectures and tutorial | Quizzes, exams, and assignments. |
| 1.3  | Understand and demonstrate knowledge of computer hardware technologies, including components such as the motherboard, processor, RAM, and storage devices | K4                                    | Lectures and tutorial | Quizzes, exams, and assignments. |
| 1.4  | Understand User Account Management and local security policies  | K4                                    | Lectures and tutorial | Quizzes, exams, and assignments. |
| 2.0  | <b>Skills</b>   |                                       |                       |                                  |
| 2.1  | Install and configure user operating system such Windows10/11 or Linux  | S4                                    | Lectures and tutorial | Quizzes, exams, and assignments. |
| 2.2  | Disassemble and assemble a computer.  | S4                                    | Lectures and tutorial | Quizzes, exams, and assignments. |
| 2.3  | Troubleshoot basic desktop computer hardware and software problems.   | S4                                    | Lectures and tutorial | Quizzes, exams, and assignments. |
| 3.0  | <b>Values, autonomy, and responsibility</b>   |                                       |                       |                                  |
| 3.1  | Work effectively and collaboratively in a teamwork setting  | V3                                    | Lectures and tutorial | assignments                      |

### C. Course Content

| No | List of Topics  | Contact Hours |      |
|----|---|---------------|------|
|    |   | Lecture       | Lab. |
| 1. | Course Orientation  | 1             | 1    |
| 2. | Introduction to computer hardware and computer components | 3             | 0    |
| 3. | Computer disassembly / Assembly.                          | 0             | 9    |





|              |  |           |           |
|--------------|--|-----------|-----------|
| 4.           | Introductions to Operating system functions and architecture.      | 6         | 0         |
| 5.           | <b>Introduction to MS-Windows customer service.</b>                | 0         | 4         |
| 6.           | Computer Motherboard technologies and firmware utilities.          | 4         | 0         |
| 7.           | Processor and Memory technologies.                                 | 4         | 0         |
| 8.           | Cooling and power supply basics.                                   | 4         | 0         |
| 9.           | <b>Secondary Storage technologies.</b>                             | 4         | 0         |
| 10.          | <b>Basic I/O devices and technologies.</b>                         | 4         | 0         |
| 11.          | <b>Desktop Operating system installation</b>                       | 0         | 6         |
| 12.          | <b>Desktop operating system configuration and utility software</b> | 0         | 4         |
| 13.          | <b>Trouble shooting and maintenance basics</b>                     | 0         | 6         |
| <b>Total</b> |  | <b>30</b> | <b>30</b> |

#### D. Students Assessment Activities

| No | Assessment Activities * | Assessment timing (in week no) | Percentage of Total Assessment Score |
|----|-------------------------|--------------------------------|--------------------------------------|
| 1. | H.W (Lecture)           | 5                              | 10%                                  |
| 2. | Lab Activities          | 2-14                           | 10%                                  |
| 3. | Midterm                 | 8                              | 20%                                  |
| 4. | Lab Final Exam          | 15                             | 20%                                  |
| 5. | Final Exam              | 16                             | 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     | CompTIA A+ Complete Study Guide 2-Volume Set: Volume 1 Core 1 Exam 220-1201 and Volume 2 Core 2 Exam 220-1202 (Sybex Study Guide) 6th Edition |
| Supportive References    |   |
| Electronic Materials     |   |
| Other Learning Materials |   |

##### 2. Required Facilities and equipment

| Items   | Resources              |
|---|------------------------|
| <b>facilities</b><br>(Classrooms, laboratories, exhibition rooms, simulation rooms, etc.) | Classroom & Laboratory |





| Items  | Resources  |
|--|--|
| <b>Technology equipment</b><br>(projector, smart board, software)    | <b>Data show</b><br><b>Internet access</b>   |
| <b>Other equipment</b><br>(depending on the nature of the specialty) | <b>Desktop Computers for Disassembly /Assembly training</b><br><b>Basic Computer maintenance tools&gt;</b> |

## F. Assessment of Course Quality

| Assessment Areas/Issues                     | Assessor   | Assessment Methods  |
|---|--|---|
| Effectiveness of teaching                   | Students   | <b>Questionnaire</b> of course quality(Indirect)                        |
| Effectiveness of Students' assessment       | Peer reviewers                                     | Random grading <b>report</b> (Direct)                                   |
| Quality of learning resources               | Students   | <b>Questionnaire</b> of sufficiency of learning resources (Indirect)    |
| The extent to which CLOs have been achieved | Instructor, Program leaders and Course coordinator | <b>Check</b> the results of quizzes, mid-term and final exams. (Direct) |
| Other                                       |  |   |

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

**Assessment Methods** (Direct, Indirect)

## G. Specification Approval

|                           |                                |
|---------------------------|--------------------------------|
| <b>COUNCIL /COMMITTEE</b> | Umm Al-Qura University Council |
| <b>REFERENCE NO.</b>      | 851141114462/190365            |
| <b>DATE</b>               | 1446/11/22                     |

