

**COLLEGE OF INFORMATION TECHNOLOGY**

**DEPARTMENT OF INFORMATION TECHNOLOGY**

**COURSE SYLLABUS/SPECIFICATION**

|  |  |  |
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| **CODE & TITLE:** | **ITCS341 - System Administration I** | |
| **WEIGHT:** | **(2 - 2 - 3)** |  |
| **PREREQUISITE:** | **ITCS 214** |  |
| **DESCRIPTION:** | This course provides broad knowledge and experience for IT professional. Student will have the knowledge required to assemble components based on customer requirements, install, configure PCs and software for end users, and understand the basics of networking, properly and safely. | |
| **OBJECTIVES:** | 1. To explain PCs, Laptops, printers & network hardware standards.  2. To explain Professional conduct & professional communications with clients.  3. To explain assembling, dissembling and installing PCs, laptops, printers & network cards, and expansion cards. | |
| **SEMESTER:** |  | **ACADEMIC YEAR:** |
| **INSTRUCTOR :** | | |
| **OFFICE L TEL.:** | | |
| **EMAIL:** | | |

**Intended Learning Outcomes (ILOs):**

Upon successful completion of the course, students should be able to:

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| **A. Knowledge and Understanding** | |
| **A1** | Concepts and Theories: Demonstrate detailed knowledge and understanding of computer components,  peripheral devices and networking basic settings requirements. |
| **A2** | Contemporary Trends, Problems and Research: NA |
| **A3** | Professional Responsibility: Demonstrate advanced knowledge and understanding of the professional  conducts for IT professionals. |

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| **B. Subject-specific Skills** | |
| **B1** | Problem Solving: Show ability to install, configure and troubleshoot various hardware and device  components. |
| **B2** | Modeling and Design: NA |
| **B3** | Application of Methods and Tools: Install and expand devices by adding additional equipment  through the usage of different tools such as standard technician toolkit and maintenance kit. |

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| **C. Critical-Thinking Skills** | |
| **C1** | Analytic skills: Compare and Contrast various configurations and choose the most appropriate as per  user requirements as well as evaluate and select the appropriate component and operational procedures for a user configuration |
| **C2** | Synthetic: NA |
| **C3** | Creative Thinking and innovation: NA |

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| **D. General and Transferable Skills (other skills relevant to employability and personal development)** | |
| **D1** | Communication: Express and communicate ideas in written and oral form. |
| **D2** | Teamwork and Leadership: NA |
| **D3** | Organizational and Developmental Skills: Demonstrate ability to organize ideas and effectively  allocate time in given assignment. |
| **D4** | Ethics and Social Responsibility: NA |

**Week**

**Hours**

**Lec. Lab**

**Course Structures (Outline) ILOs Unit/Module or Topic Title**

- **Syllabus, Introduction**

- **Motherboards and expansion cards**

1. Differentiate between

**Teaching**

**Method**

Lecture/ Class

Discussion/

**Assessment**

**Method**

1-2 4 4 A1, B1, B3, C1

A1, B1, B3,

motherboard components

and their purposes.

2. Differentiate between expansion slots/ expansion cards and their properties

**CPUs and power supplies**

1. Differentiate among various CPU types and features and select the

In-Lab Supervised Work

Lecture/ Class

Discussion/

In-Lab

Exercises

In-Lab

3 2 2

C1 appropriate cooling method.

2.Power supply: know connector types, their voltages and properties

**Memory and physical**

In-Lab

Supervised

Work

Lecture/ Class

Discussion/

Exercises

4 2 2 A1, B1, B3, C1

5-6 4 4 A1, B1, B3, C1

7 2 2 A1, B1, B3, C1

**storage**

Compare and contrast RAM

types and features

**Connections**

Compare and contrast various connection interfaces and explain their purpose.

**Peripherals devices**

Install and configure various peripheral devices like: input devices, output

In-Lab Supervised Work

Lecture/ Class Discussion/ In-Lab Supervised Work

Lecture/ Class Discussion/ In-Lab Supervised Work

In-Lab

Exercises

In-Lab Exercises/ Quiz1(Week 6)

In-Lab

Exercises

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  | devices and multimedia devices |  |  |
| 8 | 2 | 2 | A1, B1, B3, C1, D1, D3 | **Printers**  1. perform printer maintenance  2. Install, and configure printers  3. Explain the differences between the various printer types and summarize the associated imaging process. | Lecture/ Class Discussion/ In-Lab Supervised Work | In-Lab Exercises/ Assignment 1 |
| 9 | 2 | 2 | A1, B1, B3, C1 | **Notebooks**  1. Compare and contrast laptop features.  2. Compare and contrast the components within the display of a laptop.  3. Install and configure laptop hardware and components. | Lecture/ Class Discussion/ In-Lab Supervised Work | In-Lab  Exercises |
| 10-11 | 4 | 4 | A1, B1, B3, C1 | **Networking Basics**  Identify various types of networks. | Lecture/ Class Discussion/ In-Lab Supervised Work | Major Test  (Week 11) |
| 12 | 2 | 2 | A1, B1, B3, C1 | **The Physical Network**  1. Identify types of network cables and connectors.  2. Categorize characteristics of connectors and cabling.  3. Compare and contrast network devices, their functions, and features. | Lecture/ Class Discussion/ In-Lab Supervised Work | In-Lab  Exercises |
| 13 | 2 | 2 | A1, B1, B3, C1 | **Networking Protocols**  1. Explain properties and characteristics of TCP/IP.  2. Explain common TCP and UDP ports, protocols, and their purpose. | Lecture/ Class Discussion/ In-Lab Supervised Work | In-Lab  Exercises |

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| 14 | 2 | 2 | A1, B1, B3, C1 | **Wireless Networking** Compare and contrast wireless networking standards and encryption types. | Lecture/ Class Discussion/ In-Lab Supervised Work | In-Lab Exercises/ Quiz2 |
| 15 | 2 | 2 | A1, B1, B3,  C1, D1, D3, A3 | **Professional Conducts** | Lecture/ Class  Discussion/ Debate | Assignment 2 |
| 16 | 2 | - | A1, B1, C1,  A3 | All Topics |  | Final Exam |

**TEACHING MATERIALS:**

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| **TEXTBOOK(S):** | CompTIA A+ Certification: Exam 220-801 |
| **HANDOUT(S):** | PowerPoint slides available on Moodle i.e. <http://www.ahlia.edu.bh/moodle> |
| **REFERENCE(S):** | <https://certification.comptia.org/getCertified/certifications/a.aspx> |

**ASSESSMENT**

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| **Type of**  **Assessment** | **Description** | **ILOs** | **Weighting** |
| In-Lab Exercises | Each of the In-Lab exercises consists of a set of  practical tasks to be carried by the students during lab time and that will help in evaluating hands-on capability of the students. | B1, B3, C1 | Formative |
| Quizzes | The purpose of the quiz is to assess the students’  knowledge and understanding of the topics covered in the course like computer components, its peripherals and networking concepts. Students will be given two quizzes, each one is 30 minutes, and the best one will be considered. | A1, B1, C1 | 10% |
| Major Test | The test will be an in-class 60 minutes exam that  will consist of multiple choice questions, fill in the blank, short-answer and few essay questions. It will cover the topics studied in the first 10 weeks. | A1, B1, C1 | 30% |
| Assignments | The students will be given 2 research based assignments each worth 15 marks and their average will be considered at the end. | A1, B1, C1, D1, D3 | 20% |
| Final Exam | The final exam is comprehensive and will be of two  hours duration. It will consist of multiple choice | A1, B1, C1, A3 | 40% |

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|  | questions, fill in the blank, short-answer and few  essay questions. |  |  |
| **Overall** |  |  | **100%** |

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