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| **ISHIK UNIVERSITY FACULTY OF SCIENCE Department of INFORMATION TECHNOLOGY,2017-2018 Spring Course Information for** **IT 232 COMPUTER HARDWARE** |

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| --- | --- |
| **Course Name:** | COMPUTER HARDWARE |
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| --- | --- | --- | --- | --- | --- | --- |
| **Code** | **Course type** | **Regular Semester** | **Theoretical** | **Practical** | **Credits** | **ECTS** |
| IT 232 | 2 | 4 | 3 | - | 3 |  |

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| **Name of Lecturer(s)-Academic Title:** | Bilal Ahmed - |
| **Teaching Assistant:** | - |
| **Course Language:** | English |
| **Course Type:** | Non-area Elective |
| **Office Hours** | Sunday- 14:00-16:00 |
| **Contact:** | Email:bilal.ahmed@ishik.edu.iq Tel:+9647714442612  |
| **Teacher's academic profile:** | BSc/Msc in Computer Engineering  |
| **Course Objectives:** | This course provides a comprehensive understanding of computer systems and the essential components and peripherals associated with computers. Topics include history of computer systems, motherboard components, I/O systems and methods of communication, processors, memory, graphics and sound adapters, storage media, and relevant peripherals. Also addresses recent advances in computer architectures and computer hardware and how they affect computer performance. Presentations of actual hardware are included so that students can gain experience in identifying the various internal and external components of a PC. Relevant software are also used. It provides basic knowledge of computer organization and architecture, operating systems, and networking architecture, technology and operation. |
| **Course Description (Course overview):** | This course provides a comprehensive understanding of computer systems and the essential components and peripherals associated with computers. Topics include history of computer systems, motherboard components, I/O systems and methods of communication, processors, memory, graphics and sound adapters, storage media, and relevant peripherals. Also addresses recent advances in computer architectures and computer hardware and how they affect computer performance. Presentations of actual hardware are included so that students can gain experience in identifying the various internal and external components of a PC |
| **COURSE CONTENT**

|  |  |  |  |
| --- | --- | --- | --- |
| **Week** | **Hour** |               **Date**               | **Topic** |
| **1** | 3 | 4-8/2/2018 | Introduction to Computer Hardware |
| **2** | 3 | 11-15/2/2018 | Typical PC In-of-case Out-of-case |
|  |  |  |  |
| **3** | 3 | 18-22/2/2018 | Motherboards - Identification of components by utility programs |
| **4** | 3 | 25/2-1/3/2018 | Central Processing Unit (CPU) |
|  |  |  |  |
| **5** | 3 | 4-8/3/2018 | Power Supplies - OS relevancy to MBoard, CPU, Power management |
| **6** | 3 | 25-29/3/2018 | Memory |
|  |  |  |  |
| **7** | 3 | 1-5/4/2018 | Midterm Exam |
| **8** | 3 | 8-12/4/2018 | Video and Audio Systems |
|  |  |  |  |
| **9** | 3 | 15-19/4/2018 | Storage Devices |
| **10** | 3 | 22-26/4/2018 | Printers |
|  |  |  |  |
| **11** | 3 | 29/4-3/5/2018 | Mobile Devices - Wireless Connections - Security |
| **12** | 3 | 6-10/5/2018 | Communication Network - Modems and Transceivers |
|  |  |  |  |
| **13** | 3 | 13-17/5/2018 | Presentation |
| **14** | 3 | 20-24/5/2018 | Review |
|  |  |  |  |
| **15** | 3 | 27-31/5/2015 | Final Exam |
| **16** | 3 | 3-7/6/2018 | Final Exam |
|  |  |  |  |
| **17** | 3 | 10-14/6/2018 |  |

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| **COURSE/STUDENT LEARNING OUTCOMES**

|  |  |
| --- | --- |
|  |  |
| **1** | explain the internals of a basic computer structure and its operations; |
| **2** | describe the internal operation of the CPU and explain how it is used to execute instructions; |
| **3** | identify factors that affect computer performance; |
| **4** | explain the basics of operating systems, system software and networking concepts and apply them in simple programs; |
| **5** | ability to analyze a problem, and identify and define the computing requirements appropriate to its solution |

 |
| **COURSE'S CONTRIBUTION TO PROGRAM OUTCOMES**(Blank : no contribution, I: Introduction, P: Profecient, A: Advanced )

|  |  |  |
| --- | --- | --- |
|  | **Program Learning Outcomes** | **Cont.** |
| **1** | An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution | P |
| **2** | An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs | P |
| **3** | An ability to function effectively on teams to accomplish a common goal | I |
| **4** | An understanding of professional, ethical, legal, security, social, and economic issues and responsibilities |  |
| **5** | An ability to analyze the local and global impact of computing on individuals, organizations, and society | I |
| **6** | An ability to use current techniques, skills, and tools necessary for computing practice | I |
| **7** | An ability to use and apply current technical concepts and practices in the core information technologies of human computer interaction, information management, programming, networking, web systems and technologies |  |
| **8** | An ability to identify and analyze user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems | I |
| **9** | An ability to effectively integrate IT-based solutions into the user environment |  |
| **10** | An ability apply problem solving skills, core IT concepts, best practices and standards to information technologies |  |
| **11** | An ability to identify and evaluate organizational requirements and current and emerging technologies |  |
| **12** | An ability to select, design, integrate and administer IT-based solutions into the organizational environment |  |

 |
| **Prerequisites (Course Reading List and References):** | Good background in information Technology is required. Students should have passed Introduction to Information Technology I & II courses. basic Knowledge in Digital Logic Design is a plus. |
| **Student's obligation (Special Requirements):** | Students are required to follow up the course on a regular basis by attending and participating in the lectures and reading the course text book to be prepared for discussion when coming to the lectures. |
| **Course Book/Textbook:** | Upgrading and Repairing PCs (20th Edition) by Scott Mueller |
| **Other Course Materials/References:** | Computer Service and Repair, 4th Edition by Richard M. Roberts |
| **Teaching Methods (Forms of Teaching):** | Lectures, Presentation, Seminar, Project, Assignments |
| **COURSE EVALUATION CRITERIA**

|  |  |  |
| --- | --- | --- |
| **Method** | **Quantity** | **Percentage (%)** |
| Participation | 1 | 10 |
| Quiz | 2 | 5 |
| Midterm Exam(s) | 1 | 30 |
| Presentation | 1 | 10 |
| Final Exam | 1 | 40 |
| **Total** | **100** |
| **Examinations:**True-False, Fill in the Blanks, Multiple Choices, Short Answers, Matching |  |  |

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| **Extra Notes:** |
| **ECTS (ALLOCATED BASED ON STUDENT) WORKLOAD**

|  |  |  |  |
| --- | --- | --- | --- |
| **Activities** | **Quantity** | **Duration (Hour)** | **Total Work Load** |
| Course Duration (Including the exam week: 16x Total course hours) |  |  | 0 |
| Hours for off-the-classroom study (Pre-study, practice) |  |  | 0 |
| Assignments Mid-terms |  |  | 0 |
| Final examination |  |  | 0 |
| Other |  |  | 0 |
| **Total Workload** | **0** |
| **ECTS Credit (Total workload/25)** | **0** |

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**Peer review**

|  |  |  |
| --- | --- | --- |
| Signature: | Signature: | Signature: |
| Name: | Name: | Name: |
| Lecturer                                                                       | Head of Department                                                         | Dean |

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