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**Quality Assurance and Curriculum Development**

**Course Book**

**2024 - 2025**

**Department: Computer Science and Information Technology**

**College:Science**

**Academic year:2924-2025**

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**Course Description**

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| **Module** | **Language** |
| Principles of IT | English |
| **Academic Year** | **Semester:** |
| 2024-2025 | Fall |
| **ECTS** | **Prerequisite:** |
| 6 | - |
| **Course Objective** | |
| This course aims to provide students with a comprehensive understanding of the fundamental components of computer systems, including hardware, software, and data, and their roles in modern computing. Students will explore the history, structure, and functionality of the Internet and the Web, gaining insights into their societal and commercial impact. Additionally, the course covers essential concepts related to application and system software, including operating systems and utility programs, and their importance in managing computer resources. Emphasis is placed on ethical computing practices, cybersecurity awareness, and analyzing the evolution of technology to understand its influence on industries and lifestyles.  The practical component equips students with hands-on experience in using Windows 10 for system navigation, file management, and troubleshooting tasks. Students will also gain proficiency in Microsoft Word 2019, learning to create, format, and share professional documents efficiently. Through guided exercises, they will apply computing concepts to solve real-world problems and enhance productivity in personal and professional tasks. By combining theory and practice, the course fosters critical thinking and practical skills for effectively using computing technologies. | |
| **Learning Outcomes** | |
|  Explain the fundamental components of a computer system and their roles in processing and managing data.   Demonstrate effective use of the Internet and web technologies, including search engines and e-commerce platforms, in practical scenarios.   Utilize application software such as Microsoft Word 2019 to create, format, and manage professional documents.   Navigate Windows 10 to perform file management, system customization, and basic troubleshooting tasks.   Analyze and address ethical and cybersecurity issues in computing while adhering to best practices for digital safety.   Apply theoretical knowledge and practical computing skills to solve real-world problems in academic, professional, and personal contexts | |
| **References: \*** | |
| **Primary resources:**   1. **Timothy J. O'Leary, Linda I. O'Leary, and Daniel A. O'Leary,** ”. Computing Essentials 2019”, McGraw-Hill Education.,2020. 2. **Linda Foulkes,** Learn Microsoft Office 2019: A comprehensive guide to getting started with Word, PowerPoint, Excel, Access, and Outlook Illustrated Edition, Packt Publishing; Illustrated edition., 2020. | |
| **Type of Teaching: \*** | |
| Lessons are conducted for 4 hours per week, incorporating both theoretical instruction and practical activities. Teaching methods include the use of datasheets, PowerPoint presentations, and interactive approaches such as open discussions and group work. Practical exercises are emphasized to reinforce learning, while key points are highlighted on the whiteboard for clarity. Additionally, lesson summaries and key takeaways are made available on the teacher's academic profile for student reference. | |
| **Requirements For Credit Points: \*** | |
| 1. Student attendance in class is important. 2. Discussion in class is necessary. 3. Assignments for each lesson 4. Mid-term examination 5. Lab exams 6. Quiz | |
| **Grade Distribution: \*** | |
| **Assessment Breakdown and Structure**  **Effort Component (50%),** in the first round of assessment, students will engage in a comprehensive blend of practical and theoretical evaluations. The breakdown is as follows:  **Practical Exams**: All practical exams will be conducted in the classroom to assess students' applied skills.  **Attend and daily activities (5 marks):** This includes active classroom participation, selecting and engaging in debate topics, and collaborative group work.  **Theoretical Exam (Quiz)**: A single written exam, worth (**5 marks**), will evaluate students' understanding of theoretical concepts.  **Mid-Term Exam (10 marks):** Students are required to submit a detailed report that demonstrates their analytical and writing skills.  **Weekly Lab exam (20 marks):** Recreate the samedocumentdemonstrated in class with the modification and additional features and Create a presentation based on the demonstrated in class with the modification and additional features  In addition to **Searching for sources (6 marks), Use of technology (4 marks).** These activities collectively account for **50%** of the total effort mark, emphasizing continuous learning and participation.  **Final Examination (50%),** the final exam will test students' ability to synthesize and present information in various formats. The structure includes: | |

**Weekly Plan**

|  |  |
| --- | --- |
| **Detail** | |
| **Week** | **Detail** |
| **1** | **Introduction To Computing**  1. **Theory**: Overview of computing, types of computers, and their roles in society. 2. **Practical**:    * Familiarizing students with Windows 10 interface: Start menu, taskbar, and desktop.    * Basic file management: Creating, renaming, moving, and deleting files/folders. |
| **2** | **Components of an Information System**  1. **Theory**: Data, hardware, software, people, and processes. 2. **Practical**:    * Explore system information in Windows 10 (e.g., Task Manager, System Properties).    * Create a folder structure representing the components of an information system |
| **3** | **Evolution of Computing Technology**   * **Theory**: History of computing, generations of computers, and key innovations. * **Practical**:   + Use Windows 10 search to find historical information on computing.   + Create a timeline in MS Word 2019 with images and text summarizing computing milestones. |
| **4** | **Hardware Basics**  * **Theory**: Input, output, processing, and storage devices. * **Practical**:   + Identify hardware components using Device Manager in Windows 10.   + Use MS Word 2019 to create a table listing types of hardware and their functions. |
| **5** | **Processing Data**   * **Theory**: The CPU, motherboard, and data flow in computers. * **Practical**:   + Create a process diagram in MS Word 2019 to illustrate how data flows through the CPU.   + Use Windows 10 to monitor CPU and RAM usage via Task Manager. |
| **6** | **Memory and Storage Devices**  **Theory**: Types of memory (RAM, ROM) and storage devices.   **Practical**:   * Compare storage devices by viewing properties of drives in Windows 10. * Use MS Word 2019 to draft a comparison table of storage technologies. |
| **7** | **Midterm Exam**   * **Activities**:   + Comprehensive review of Weeks 1–6 (theory and practical).   + Practice quizzes on theory.   + Practical tasks: Creating a summary document in MS Word 2019 using styles and formatting. |
| **8** | **The Internet and the Web**   * **Theory**: History of the Internet, web browsers, and search engines. * **Practical**:   + Use Windows 10 to manage browser settings (default browser, bookmarks).   + Write a short report in MS Word 2019 on search engine optimization basics. |
| **9** | **Networking Basics**   * **Theory: LAN, WAN, network topologies, and protocols.** * **Practical:**   + **View network settings in Windows 10 (Wi-Fi, Ethernet, and IP configurations).**   + **Create a diagram of a simple network topology using MS Word 2019.** |
| **10** | **Software Overview**   **Theory**: System software, application software, and development tools.   **Practical**:   * Install a basic application and view its properties in Windows 10. * Write instructions in MS Word 2019 on how to install and uninstall software. |
| **11** | **Operating Systems**   * **Theory**: Functions of operating systems, examples (Windows, macOS, Linux). * **Practical**:   + Perform basic administrative tasks in Windows 10 (user account management).   + Use MS Word 2019 to create a formatted document explaining Windows 10 features. |
| **12** | **Security and Ethics**   * **Theory**: Cybersecurity basics, ethical issues in computing, and privacy concerns. * **Practical**:   + Enable Windows Defender and check system security settings in Windows 10.   + Create a document in MS Word 2019 summarizing best practices for cybersecurity. |
| **13** | **Emerging Technologies**   * **Theory**: AI, IoT, cloud computing, and trends in technology. * **Practical**:   + Explore Microsoft OneDrive in Windows 10 and sync files.   + Write a report in MS Word 2019 on a selected emerging technology. |
| **14** | **Final Review and Assessment**   * **Activities**:   + Theory review: Key concepts from Chapters 1–4.   + Practical assessment: Complete a task combining Windows 10 and MS Word 2019 skills (e.g., write a formatted essay on a computing topic, save it, and organize it in a folder). |

**Workload**

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| **Module\*** | | | |
| **Prerequisite:** | | | |
| **Detail** | | | |
| **Type** | **Number** | **Time Factor** | **Total** |
| **Attendance** | **14** | **4hr** | **14 \*4= 56** |
| **Quiz** | **1** | **10hr** | **1\*10 = 10** |
| **Searching in google** | **1** | **6hr** | **1\*6 = 6** |
| **Small project/team activity** | **1** | **12hr** | **1\*16 = 12** |
| **Theoretical Exam** | **1** | **18hr** | **1\*18 = 18** |
| **Practical Exam** | **1** | **12hr** | **1\*12 = 12** |
| **Lab Activity/HW** | **6** | **8hr** | **6\*8 = 48** |
|  |  |  | **162 hr.** |