

Computer Studies

| Course Title: Computer Studies | |
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| Description | This course covers foundational and advanced topics in computer hardware, software, and programming. It begins with essential PC hardware concepts, including system architecture, microprocessors, memory, and the principles of Turing machines and Neumann architecture. The course then introduces software fundamentals, focusing on operating system tasks and advanced Excel skills. Students will learn Python programming, exploring input/output operations, and essential programming constructs like branching, loops, and library functions. Additionally, the course addresses basic algorithms, file management, computer viruses, and protection. |
| Semester | Autumn 2024 |
| Neptun code | GEIAK201-B2A |
| Instructor | Dr. Nasraldeen Khleel |
| Credit Hours | 4 |
| Attendance Requirement | Students are required to attend at least 60% of the scheduled classes to be eligible for the course signature. |
| Examination | The examination is written, and students will receive some theoretical questions and some practical tasks from the studied material. |

Topics and Schedule

| Lecture # | Topic |
|------------|--|
| Lecture 1 | Personal Computer (PC) Hardware Basic Concepts |
| Lecture 2 | Internal hardware devices |
| Lecture 3 | A functional system diagram of a computer, The microprocessor, The bus. Memory, libraries, Turing machine, Neumann principle |
| Lecture 4 | Software basic concepts, Tasks of the operating system |
| Lecture 5 | Introduction, Basic and Intermediate Excel Skills |
| Lecture 6 | Advanced Excel knowledge |
| Lecture 7 | Midterm Exam |
| Lecture 8 | The general structure of Python programs |
| Lecture 9 | Python Data Structures, In- and out |
| Lecture 10 | The concept of title, value, indicator, Python language instructions, Branch organization, cycle organization |
| Lecture 11 | Python library functions, basic algorithms interpreted on vectors |
| Lecture 12 | Structures and basic file management, computer viruses and protection |

- [Lecture notes](#)
- [Exercises](#)
- [Midterm Exam Questions](#)

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