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|  | Approved: Coordinator: ЕДИЛХАН ДИДАР Dean: АЙДАРХАНОВ АЛИХАН 25.04.2022 |

**Syllabus**for the course  
**«Computer Organisation and Architecture»**Academic Year 2022-2023

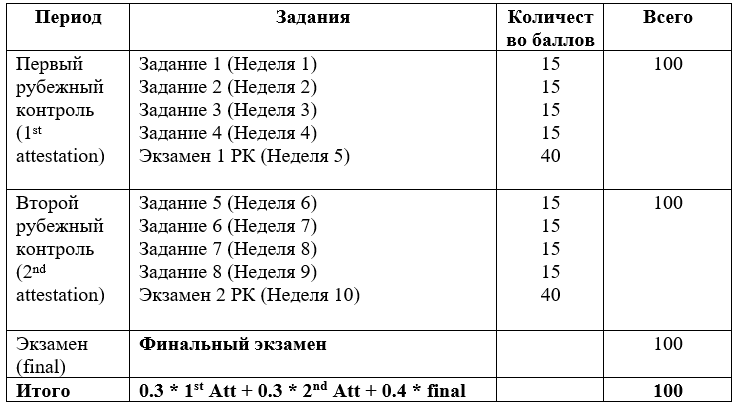
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| **1. General information** | |
| Major code and title | Computer Organisation and Architecture |
| Subject category | Basic |
| Number of Credits | 5 |
| Language of delivery | Английский |
| Prerequisites | Information and Communication Technologies |
| Postrequisites | Cloud Computing Applications |
| Instructors | АЙДАРХАНОВ АЛИХАН, ЕЛЬВИРА АЙТМУХАНБЕТОВА, АЛШЫНОВ ШЫНГЫС, АСАНОВА НУРГУЛЬ, ЕДИЛХАН ДИДАР |
| **2. Goals, objectives and learning outcomes of the course** | |
| **Course goal(s):**  Course goal is to introduce you to hardware and software, as well as operating systems, networking concepts, IT security and troubleshooting. These course materials will assist you in developing the skills necessary to work as a technician in the field of IT. | |
| **Course objectives:**  The primary objective of this course is to prepare students for entry-level positions in the IT field within several different working environments.   Job titles include enterprise technician, IT administrator, field service technician, and PC technician.  A remote-based work environment where client training, operating systems, and connectivity issues are emphasized. Job titles include remote support technician, help desk technician, call center technician, IT specialist.   In addition, students will gain confidence with the components of desktop and laptop computers by learning the proper procedures for hardware and software installations, upgrades, and troubleshooting. | |
| **Learning outcomes:**  By the end of this course students will be able to:  • To define information technology (IT) and describe personal computer components.  • To describe how to protect people, equipment and the environment from accidents, damage and pollution.  • Perform a step by step assembly of a desktop computer tower.  • Explain the purpose of preventive maintenance and identify the elements of the troubleshooting process.  • Explain, install, and navigate an operating system; upgrade components based on customer needs and perform preventive maintenance and advanced troubleshooting.  • To configure computers for connecting to an existing network.  • To deploy basic security hardware and software. | |
| **3. Course description:**  “Computer Organization and Architecture” is a 10-week course. This course covers the fundamentals of computer hardware and software as well as advanced concepts. Students who complete this course will be able to describe the internal components of a computer, assemble a computer system, install an operating system, and troubleshoot using system tools and diagnostic software. Students will also be able to connect to the Internet and share resources in a network environment. | |
| **4. Course policy:**  Course and university policies include:  Attendance: Students are expected to attend all scheduled class sessions with all required reading and supplementary materials. Readings are to be completed prior to class.   The student won’t obtain additional points for course attendance, but the attendance is important to pass the course. In case the student is not able to attend the classes for some reasons, he/she must inform the dean’s office in advance and the student itself is responsible for learning all materials, which were given during unattended lessons.   In case if the student did not attend more than 30% of the online classes without any reasonable excuses, the teacher has a right to mark him as “not graded”, and the student wouldn’t be admitted to the exam. In other words, students must participate in at least 70% of all class time, otherwise he/she fails the course.  Preparation for Class: Class participation is a very important part of the learning process in this course. Although not explicitly grade, students will be evaluated on the QUALITY of their contributions and insights. Quality comments possess one or more of the following properties:   • Offers a different and unique, but relevant, perspective;  • Contributes to moving the discussion and analysis forward;  • Builds on other comments.   Class work: The duration of each lecture and practical lesson is 50 minutes. Students are expected to complete all readings and assignments ahead of time, attend class regularly and participate in class discussions. In case of systemic student’s misconduct, the student would be dispensed from the classes.   Being late on class: When students come to class late, it can disrupt the flow of a lecture or discussion, distract other students, impede learning, and generally erode class morale. Moreover, if left unchecked, lateness can become chronic and spread throughout the class. By the policy of this course, students who come late to class for more than 5 minutes are not allowed to get in to class and consequently, they will be marked as “absent” for the specific hour.   Home work / Assignments: The assignments are designed to acquaint students with the theoretical knowledge and practical skills required for the course. The textbook readings will be supplemented with materials collected from recent professional articles and journals. In case of using someone’s work (papers, articles, any publications), all works must be properly cited. Failure to cite work will be resulted as a cheating from the students and may be a subject of additional disciplinary measures.  Late assignments: Most assignments will be discussed in class on the due date, therefore late assignments will not receive credit. It is expected that all work will be submitted on time. Failure to pass assignments in on time will result in 0% for the assignment. In other words, no late submissions are allowed. All gradings are based using a percentage grading scale.  In the event of some extraordinary event, students should notify the teacher and request an extension of the deadline. If approved, a new date will be given to the student depending upon the circumstances.   Final exam: The final exam for the course “Computer Organization and Architecture 1” is a multiple-choice test for one hour which covers the most theoretical and practical parts of the course. The MCQ test will take place in the Moodle Learning Management System (moodle.astanait.edu.kz).   Laptops and mobile devices can only be used for classroom purposes when directed by the teacher. Misuse of laptops or handheld devices will be considered a breach of discipline and appropriate action will be initiated by the teacher.   Cheating and plagiarism are defined in the Academic conduct policies of the university and include:  1. Submitting work that is not your own papers, assignments, or exams;  2. Copying ideas, words, or graphics from a published or unpublished source without appropriate citation;  3. Submitting or using falsified data;  4. Submitting the same work for credit in two courses without prior consent of both instructors.   Any student who is found cheating or plagiarizing on any work for this course will receive 0 (zero) for that work and further actions will also be taken regarding academic conduct policies of the university.   Academic Conduct Policies of the university: The full texts of all the academic conduct code will be posted to the students using the learning management system (moodle.astanait.edu.kz).  Contacting the Instructor (Teacher): The easiest and the most reliable way to get in touch with the teacher is by email. Students must feel free to send emails if they have a question related to the course. The teacher will respond as soon as he can but not always instantaneously. Besides that, students are also welcome to arrange one-to-one meeting with the teacher during office hours to discuss the class. | |
| **5. Literature:**  • The Practice of System and Network Administration, Thomas A. Limoncelli, Christina J. Hogan and Strata R. Chalup  • Upgrading and Repairing PCs. Scott Mueller  • Computer Hardware and Software: Computer organization and design, Hing Lown.  • Сomputer organization and architecture designing for performance eighth edition, William Stallings. | |

**6. Course calendar**

**6.1 Lecture, practical/seminar/laboratory session plans**

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| № | Abbreviation | Meaning |
| 1 | TSIS | Teacher-supervised independent work (СРСП) |
| 2 | SIS | Students’ independent work (СРС) |
| 3 | IP/GP | Individual or group project |
| 4 | LW | Laboratory Work |
| 5 | Q | Quiz |

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| W № | Topic | References | L | P | LAB | SIS | TSIS |
| 1 | Chapter 1. Introduction to the Personal Computer System: |  | 0.0 | 5.0 | 0 | 9.0 | 1.0 |
| 2 | Chapter 2 Introduction to Lab Procedures and Tool Use |  | 0.0 | 5.0 | 0 | 9.0 | 1.0 |
| 3 | Chapter 3 Computer Assembly |  | 0.0 | 5.0 | 0 | 9.0 | 1.0 |
| 4 | Chapter 4 Overview of Preventive Maintenance |  | 0.0 | 5.0 | 0 | 9.0 | 1.0 |
| 5 | Chapter 5. Windows Installation Modern Operating Systems |  | 0.0 | 5.0 | 0 | 9.0 | 1.0 |
| 6 | Chapter 6. Windows Configuration and Management. |  | 0.0 | 5.0 | 0 | 9.0 | 1.0 |
| 7 | Chapter 6. Windows Configuration and Management. |  | 0.0 | 5.0 | 0 | 9.0 | 1.0 |
| 8 | Chapter 6. Windows Configuration and Management. |  | 0.0 | 5.0 | 0 | 9.0 | 1.0 |
| 9 | Chapter 6. Windows Configuration and Management. |  | 0.0 | 5.0 | 0 | 9.0 | 1.0 |
| 10 | Chapter 6. Windows Configuration and Management. |  | 0.0 | 5.0 | 0 | 9.0 | 1.0 |
|  | Total hours: | 150 | 0 | 50 | 0 | 90 | 10 |

**7. Student performance evaluation system for the course**

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| Letter | Numerical | Percentage | Traditional |
| A | 4.0 | 95-100 | Excellent |
| A- | 3.67 | 90-94 | Excellent |
| B+ | 3.33 | 85-89 | Good |
| B | 3.0 | 80-84 | Good |
| B- | 2.67 | 75-79 | Good |
| C+ | 2.33 | 70-74 | Satisfactory |
| C | 2.0 | 65-69 | Satisfactory |
| C- | 1.67 | 60-64 | Satisfactory |
| D+ | 1.33 | 55-59 | Satisfactory |
| D | 1.0 | 50-54 | Satisfactory |
| F | 0 | 0-49 | Fail |

**8. Methodological Guidelines**

- Weekly quizzes;  
- Theoretical and practical assessments.