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

**Syllabus**for the course  
**« Information Communication Technologies (ICT)»**Academic Year 2020-2021

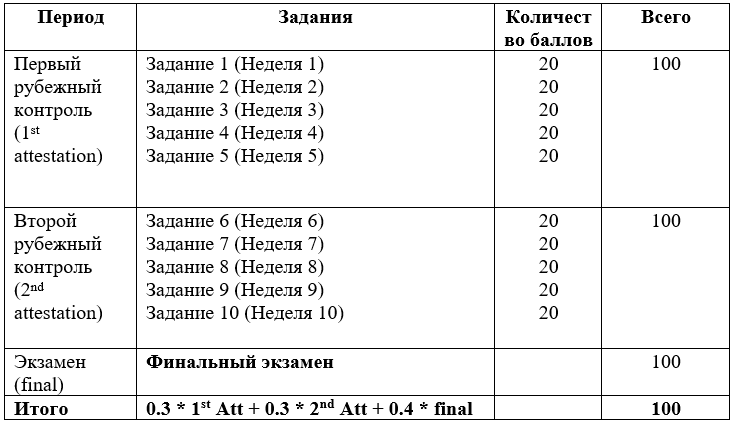
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| **1. General information** | |
| Major code and title | Information and Communication Technologies |
| Subject category | Basic |
| Number of Credits | 5 |
| Language of delivery | English |
| Prerequisites | ICT |
| Postrequisites | ICT |
| Instructors | 1. Elvira Aitmukhanbetova, Master of Science in Computer Science, elvira.aitmukhanbetova@astanait.edu.kz, C1 block, 2nd floor, room #67.  2. Sholpan Saimassayeva, PhD candidate in Computer Science. sholpan.saimassayeva@astanait.edu.kz, C1 block, 2nd floor, room #68.  3. Assel Smaiyl. PhD candidate in Computer Science. assel.smaiyl@astanait.edu.kz, C1 block, 2nd floor, room #68.  4. Ulan Auyelbekov, Master of Science in Information Systems, ulan.auyelbekov@astanait.edu.kz  5. Yerasyl Amanbek, Master of Science in Electrical and Computer Engineering, yerasyl.amanbek@astanait.edu.kz, C1 block, 2nd floor, room #67  6. Gulnara Abitova, PhD in Automation and Control, gulnara.abitova@astanait.edu.kz, C1 block, 2nd floor, room #67  7. Ruslan Omirgaliyev, Master of Science in Electrical and Computer Engineering, ruslan.omirgaliyev@astanait.edu.kz, C1 block, 2nd floor, room #67  8. Sarsenova Zhibek. PhD candidate in Computer Science, zhibek.sarsenova@astanait.edu.kz, C1 block, 2nd floor, room #68  9. Saitenov Altynbek, Master of Science in Computational Finance, altynbek.seitenov@astanait.edu.kz, C1 block, 2nd floor, room #68  10. Gulnur Smagulova, Master of Science in Automation and Control. gulnur.smagulova@astanait.edu.kz, C2 block, 1st floor, room #55.  11. Aivar Sakhipov, Master of Science in Computer Science, aivar.sakhipov@astanait.edu.kz, C1 block, 2nd floor, room #68 |
| **2. Goals, objectives and learning outcomes of the course** | |
| **Course goal(s):**  To familiarize students with the world of computer systems and information technology;   to provide them with understanding the basic principles of database technology and its roles,   and master students with database design and SQL programming. And to improve creative research   and teamwork skills by performing the individual or group project(s). | |
| **Course objectives:**  - To explain the principles of information and communication technologies (ICT);  - To learn how to lead an independent creative search;  - To explore the possibilities of modern information technology and its development trends;  - To explain the relational and nonrelational database concepts;  - To understand and acquire the SQL DDL & DML statements;  - To design and implement SQL database. | |
| **Learning outcomes:**  By the end of this course the students will be able to:  - To understand the roles of ICT, and to differentiate the computer systems and its subsystems;  - To understand the fundamental roles of DBMS that play in organization;  - To understand and utilize the SQL queries in depth;  - To normalize the database tables properly so that your design and implementation of database are logically created;  - To create the final individual project that covers all aspects of database design and the SQL requests that run the DB. | |
| **3. Course description:**  This course is developed to learn the introduction to ICT and the idea of computer systems; to obtain understanding of database technology, database design and the basics of database programming as well. Students acquire the concepts of relational databases, design & implement SQL databases, and gain extensive practical experience working on practice tasks and a project. In addition to the practical purpose, this course provides academic and educational purposes, helping to expand the horizons of students, improve their general culture and education. | |
| **4. Course policy:**  Attendance: should be regular. In case the student is not able to attend the lessons for some reason, he/she will be responsible for learning all materials which were learned during unattended lessons. If the student did not attend more than 30% (for classes which are delivering online) of the lessons without reasonable excuse, the teacher has a right to mark him as “not graded”, and the student wouldn’t be admitted to the exam.  Class work: Duration of lectures and practical lessons is 50 minutes offline and 40 minutes online. Students will be expected to complete readings and assignments, attend class regularly and participate in class discussions. In case of systemic student’s misconduct, the student would be dispensed from the classes.  Mobile phones are strongly prohibited during regular and exam hours.   Home work: The assignments are designed to acquaint you with the theoretical knowledge and practical skills in DBMS. The textbook readings will be supplemented with material collected from recent professional journals.   - All work must be properly cited. Failure to cite work will result in a 0 and may be subject to additional disciplinary measures.  - Assignments are due by 9:00 a.m. on the dates identified in the class syllabus.  - In the event of some extraordinary event, students should notify the professor and request an extension of the deadline. If approved, a new date will be given to the student depending upon the circumstances.  - Failure to pass assignments in on time will result in 0. All grading is based on a 0% – 100% grading scale.  Control work: It is the student’s obligation to follow the deadlines on the blackboard.  Final project: An individual or group project and presentation -- At the completion of this course each student will submit an online project version conforming to the project outline, as well as to prepare and present a slide presentation that follows the presentation outline.   Academic Conduct Policy  For the full text of the academic conduct code, please go to the students’ online board (http://platonus.astanait.edu.kz). The university’s policy on plagiarism and other forms of cheating are clear and described in the bulletin. The university takes this issue quite seriously and both the policy and consequences will be enforced. | |
| **5. Literature:**  Basic Literature:   1. Lecture notes (available on http://moodle.astanait.edu.kz)  2. Database Systems: Design, Implementation, & Management 11th Edition, 2014, Carlos Coronel, Steven Morris   Supplementary literature:  1. Database Systems - A Practical Approach to Design, Implementation, and Management, Connolly & Begg (6th edition)  2. Fundamentals of Database Systems, Elmasri & Navathe  3. Information Communication Technologies (ISBN-978-601-7911-03-4, published by IITU, Almaty 2017).  4. June J. Parsons, New Perspectives on Computer Concepts 18th Edition—Comprehensive, Thomson Course Technology, a division of Thomson Learning, Inc Cambridge, MA, 2016.  5. Reema Thareja Fundamentals of Computers. – Oxford University press: Oxford, 2014.   6. Online journals and articles | |

**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 | ICT introduction. a. Definition of ICT b. Technology c. ICT in educationd. Standards | [1],[4],[5] | 0 | 5 | 0 | 1 | 9 |
| 2 | ICT introduction. a. Definition of ICT b. Technology c. ICT in educationd. Standards | [1],[4],[5] | 0 | 5 | 0 | 1 | 9 |
| 3 | ICT introduction. a. Definition of ICT b. Technology c. ICT in educationd. Standards | [1],[4],[5] | 0 | 5 | 0 | 1 | 9 |
| 4 | ICT introduction. a. Definition of ICT b. Technology c. ICT in educationd. Standards | [1],[4],[5] | 0 | 5 | 0 | 1 | 9 |
| 5 | ICT introduction. a. Definition of ICT b. Technology c. ICT in educationd. Standards | [1],[4],[5] | 0 | 5 | 0 | 1 | 9 |
| 6 | ICT introduction. a. Definition of ICT b. Technology c. ICT in educationd. Standards | [1],[4],[5] | 0 | 5 | 0 | 1 | 9 |
| 7 | ICT introduction. a. Definition of ICT b. Technology c. ICT in educationd. Standards | [1],[4],[5] | 0 | 5 | 0 | 1 | 9 |
| 8 | ICT introduction. a. Definition of ICT b. Technology c. ICT in educationd. Standards | [1],[4],[5] | 0 | 5 | 0 | 1 | 9 |
| 9 | ICT introduction. a. Definition of ICT b. Technology c. ICT in educationd. Standards | [1],[4],[5] | 0 | 5 | 0 | 1 | 9 |
| 10 | ICT introduction. a. Definition of ICT b. Technology c. ICT in educationd. Standards | [1],[4],[5] | 0 | 5 | 0 | 1 | 9 |
|  | Total hours | 150 | 0 | 50 | 0 | 10 | 90 |

**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**

Assessment is administered continuously throughout the course. The students are rated against their performance in continuous rating administered throughout the trimester (credited 60%) and summative rating done during the examination session (credited 40%), total 100%. Continuous rating is students’ on-going performance in class and independent work. Class work is assessed for attendance, laboratory works' defense and in- class assessments.   
 • TSIS (Teacher Supervised Student Independent Study) -comprises presentation to be done by students independently and checked by instructor.   
 • Mid-term and End-term is a review of the topics covered and assessment of each student's knowledge. The form of the exam is complex.   
 • Final assessment is a combination of both individual project and oral presentation to evaluate the students’ academic performance and professional skills.