**MINISTRY OF EDUCATION OF THE REPUBLIC OF AZERBAIJAN FORM 1**

\_\_\_\_\_\_\_\_\_\_NAKHCHIVAN STATE UNIVERSITY \_\_\_\_\_\_\_\_\_\_

**I confirm:** **Code and name of specialization (specialization):**

**Rector of Nakhchivan State University,** 050620 – Computer engineering specialty

**E. Isayev** Study period 4 years (8 semesters) Full-time – 240 credits

“\_\_\_” “\_\_\_\_\_\_\_\_\_\_\_\_” 2023 year

Curriculum

(for undergraduate level)

I GRAPHIC OF THE EDUCATIONAL PROCESS

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Academic years | September | | | | 29.lХ - 5.Х | October | | | 27.Х - 2.Хl | November | | | | December | | | | 29.Хll- 4.l | January | | | 26.l- 1.ll | February | | | 23. ll- 1.lll | March | | | | 30.lll - 5.lV | April | | | 27.lV - 3.V | May | | | | June | | | | 29.Vl - 5.Vll | July | | | 27. -1.Vlll | August | | | |  | Courses | Theoretical training | Works practice | İindustrial experience | Holiday | Before the state exam | sum |
| 1  7 | 8  14 | 15  21 | 22  28 | 6  12 | 13  19 | 20  26 | 3  9 | 10  16 | 17  23 | 24  30 | 1  7 | 8  14 | 15  21 | 22  28 | 5  11 | 12  18 | 19  25 | 2  8 | 9  15 | 16  22 | 2  8 | 9  15 | 16  22 | 23  29 | 6  12 | 13  19 | 20  26 | 4  10 | 11  17 | 18  24 | 25  31 | 1  7 | 8  14 | 15  21 | 22  28 | 6  12 | 13  19 | 20  26 | 2  8 | 9  15 | 16  22 | 23  31 |
| **I** | **.** | **.** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | **..**  **..** | **..**  **..** | **..**  **..** | **..**  **..** | **..**  **..** | **=** | **=** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | **..**  **..** | **..**  **..** | **..**  **..** | **..**  **..** | **..**  **..** | **=** | **=** | **=** | **=** | **=** | **=** | **=** | **=** | I | ***30*** | ***10*** |  | ***10*** |  | ***50*** |
| **II** | **=** | **=** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | **..**  **..** | **..**  **..** | **..**  **..** | **..**  **..** | **..**  **..** | **=** | **=** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | **..**  **..** | **..**  **..** | **..**  **..** | **..**  **..** | **..**  **..** | **=** | **=** | **=** | **=** | **=** | **=** | **=** | **=** | II | ***30*** | ***10*** |  | ***12*** |  | ***52*** |
| **III** | **=** | **=** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | **..**  **..** | **..**  **..** | **..**  **..** | **..**  **..** | **..**  **..** | **=** | **=** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | **..**  **..** | **..**  **..** | **..**  **..** | **..**  **..** | **..**  **..** | **=** | **=** | **=** | **=** | **=** | **=** | **=** | **=** | III | ***30*** | ***10*** |  | ***12*** |  | ***52*** |
| **IV** | **=** | **=** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | **..**  **..** | **..**  **..** | **..**  **..** | **..**  **..** | **..**  **..** | **=** | **=** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** |  |  |  |  |  |  |  |  | IV | ***15*** | ***5*** | ***20*** | ***4*** |  | ***44*** |
| CƏM  Жя | ***105*** | ***35*** | ***20*** | ***38*** |  | ***198*** |

CONVENTIONAL MARKS: THEORETICAL TRAINING EXAMINATION SESSION PRACTICE FINAL STATE CERTIFICATION HOLIDAY

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**II. PLAN OF THE EDUCATIONAL PROCESS**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Row № | Password of the subject | Name of subjects | Credit number | Total hours | Hours outside the auditorium | Auditorium hours | Including | | | Code of prerequisite subjects | Code of co-requisite (parallel teaching) subjects | Semester in which the subject is taught (fall or spring) | Weekly course load |
| Lecture | Seminar exercise | Laboratory |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|  | GS-00 | **General subjects** | **30** | **900** | **544** | **356** | **94** | **262** |  |  |  |  |  |
| 1 | GS -01 | History of Azerbaijan | 5 | 150 | 82 | 68 | 34 | 34 |  |  |  | Spring I | 4 |
| 2 | GS -02 | Business and academic communication in the Azerbaijani language | 4 | 120 | 74 | 46 | 24 | 22 |  |  |  | Spring I | 3 |
| 3 | GS -03-01 | Business and academic communication in a foreign language (English, German, French, Russian) 01 | 7 | 210 | 128 | 82 | - | 82 |  |  |  | Autumn -I | 5 |
|  | GS -03-02 | Business and academic communication in a foreign language (English, German, French, Russian) 02 | 8 | 240 | 148 | 92 | - | 92 |  | GS-03-01 |  | Spring -I | 6 |
| 4 | GSES-04-00 | **Selective subjects** |  |  |  |  |  |  |  |  |  |  |  |
| 4.1 | GSES -04-01 | a) Introduction to multiculturalism  b) Philosophy  c)Sociology  d) Constitution of the Republic of Azerbaijan and fundamentals of law  e) Logic  f) Ethics and aesthetics | 3 | 90 | 56 | 34 | 18 | 16 |  |  |  | Autumn II | 2 |
| 4.2 | GSES -04-02 | a) Information management  b) Information technologies (specialization)  c) Fundamentals of entrepreneurship and introduction to business  d) Political science | 3 | 90 | 56 | 34 | 18 | 16 |  |  |  | Spring I | 2 |
|  | **SS-00** | **Specialization subjects** | **120** | **3600** | **2216** | **1384** | **706** | **604** | **74** |  |  |  |  |
| 1 | SS-01 | Linear algebra and analytic geometry | 3 | 90 | 56 | 34 | 18 | 16 |  |  |  | Autumn -I | 2 |
| 2 | SS-02 | Mathematical analysis | 7 | 210 | 128 | 82 | 42 | 40 |  |  |  | Autumn -I | 5 |
| 3 | SS-03 | Differential equations | 3 | 90 | 56 | 34 | 18 | 16 |  |  |  | Autumn II | 2 |
| 4 | SS-04 | Discrete mathematics | 3 | 90 | 56 | 34 | 18 | 16 |  |  |  | Spring II | 2 |
| 5 | SS-05 | Probability theory and mathematical statistics | 3 | 90 | 56 | 34 | 18 | 16 |  |  |  | Autumn III | 2 |
| 6 | SS-06 | Physics | 5 | 150 | 92 | 58 | 30 |  | 28 |  |  | Autumn II | 4 |
| 7 | SS-07 | Fundamentals of computer engineering | 8 | 240 | 148 | 92 | 46 | 46 |  |  |  | Autumn -I | 6 |
| 8 | SS-08 | Fundamentals of programming | 8 | 240 | 148 | 92 | 46 |  | 46 |  |  | Autumn II | 6 |
| 9 | SS-09 | Data structure and algorithms | 6 | 180 | 112 | 68 | 34 | 34 |  |  |  | Spring II | 4 |
| 10 | SS-10 | Database systems | 7 | 210 | 128 | 82 | 42 | 40 |  |  |  | Autumn III | 5 |
| 11 | SS-11 | Operating systems | 8 | 240 | 148 | 92 | 46 | 46 |  |  |  | Autumn II | 6 |
| 12 | SS-12 | Computer networks | 8 | 240 | 148 | 92 | 46 | 46 |  |  |  | Spring III (coursework) | 6 |
| 13 | SS-13-01 | Computer architecture 01 | 5 | 150 | 92 | 58 | 30 | 28 |  |  |  | Autumn -I | 4 |
|  | SS-13-02 | Computer architecture 02 | 3 | 90 | 56 | 34 | 18 | 16 |  | SS-13-01 |  | Spring I (coursework) | 2 |
| 14 | SS-14 | Theory of periods | 7 | 210 | 128 | 82 | 42 | 40 |  |  |  | Autumn III | 5 |
| 15 | SS-15 | Basics of electronics | 6 | 180 | 112 | 68 | 34 | 34 |  |  |  | Spring II | 4 |
| 16 | SS-16 | Digital systems | 7 | 210 | 128 | 82 | 42 | 40 |  |  |  | Spring II | 5 |
| 17 | SS-17 | Security of computer systems | 8 | 240 | 148 | 92 | 46 | 46 |  |  |  | Spring III | 6 |
| 18 | SS-18 | Computer graphic | 5 | 150 | 92 | 58 | 30 | 28 |  |  |  | Autumn III | 4 |
| 19 | SS-19 | Computer modeling | 7 | 210 | 128 | 82 | 42 | 40 |  |  |  | Autumn IV | 5 |
| 20 | SS-20 | Civil defense | 3 | 90 | 56 | 34 | 18 | 16 |  |  |  | Spring II | 2 |
|  | SDHE-00 | **Subjects determined by the institution of higher education** | **60** | **1800** | **1112** | **688** | **352** | **336** |  |  |  |  |  |
| 1 | SDHE--01 | a) Computer service programs  b) Internet technologies | 7 | 210 | 128 | 82 | 42 | 40 |  |  |  | Spring I | 5 |
| 2 | SDHE--02 | a) Applied programs  b) Computer graphics | 4 | 120 | 74 | 46 | 24 | 22 |  |  |  | Autumn III | 3 |
| 3 | SDHE--03 | a) Fuzzy logic theory  b) Measuring technique | 3 | 90 | 56 | 34 | 18 | 16 |  |  |  | Spring III | 2 |
| 4 | SDHE--04 | a) Fundamentals of robotics  b) Telecommunications | 5 | 150 | 92 | 58 | 30 | 28 |  |  |  | Spring II | 4 |
| 5 | SDHE--05 | a) Internet technologies  b) Cables | 5 | 150 | 92 | 58 | 30 | 28 |  |  |  | Autumn IV | 4 |
| 6 | SDHE--06 | a) MS Office  b) Fundamentals of optoelectronics | 3 | 90 | 56 | 34 | 18 | 16 |  |  |  | Autumn II | 2 |
| 7 | SDHE--07 | a) Web programming  b) Technical informatics | 4 | 120 | 74 | 46 | 24 | 22 |  |  |  | Autumn III | 3 |
| 8 | SDHE--08 | a) System engineering  b) Intellectual analysis of data | 6 | 180 | 112 | 68 | 34 | 34 |  |  |  | Spring III | 4 |
| 9 | SDHE--09 | a) Artificial intelligence  b) Radio engineering | 5 | 150 | 92 | 58 | 30 | 28 |  |  |  | Spring III | 4 |
| 10 | SDHE--10 | a) Corporate information systems  b) Cyber security | 6 | 180 | 112 | 68 | 34 | 34 |  |  |  | Autumn IV | 4 |
| 11 | SDHE--11 | a) Basics of optical communication  b) Cryptography | 6 | 180 | 112 | 68 | 34 | 34 |  |  |  | Autumn IV | 4 |
| 12 | SDHE--12 | a) Cloud technology and virtualization b) Legal and organizational guarantee of information security | 6 | 180 | 112 | 68 | 34 | 34 |  |  |  | Autumn IV | 4 |
|  |  | **Total** | **210** | **6300** | **3872** | **2428** | **1152** | **1202** | **74** |  |  |  |  |
| 1 |  | Practice | 30 |  |  |  |  |  |  |  |  | Spring IV |  |
|  |  | **Total sum** | **240** |  |  |  |  |  |  |  |  |  |  |

**The duration of the internship is 1.5 credits**

**III TRAINING INFORMATION**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Academic year** | **Theoretical training** | **Exam session** | **Practice** | **The final state certification** | **Holiday** |
| **I** | 30 weeks | 10 weeks |  |  | 10 weeks |
| **II** | 30 weeks | 10 weeks |  |  | 12 weeks |
| **III** | 30 weeks | 10 weeks |  |  | 12 weeks |
| **IV** | 15 weeks | 5 weeks | 20 weeks (30 credits) |  | 4 weeks |
| **Total:** | 105 weeks | 35 weeks | 20 weeks (30 credits) |  | 38 weeks |

**Offers:**

**Vice-rector for education and training: R. Rahimov**

**Dean of the Faculty of Architecture and Engineering: J. Zeynalov**

**Head of the Chair Electronics and information technologies: J. Zeynalov**