

MINISTRY OF SCIENCE AND EDUCATION OF THE AZERBAIJAN REPUBLIC  
 "AZERBAIJAN STATE OIL AND INDUSTRY UNIVERSITY" PUBLIC LEGAL ENTITY

"Approved"  
 acting rector

*[Signature]*  
 Assoc. prof. Vazeh Askarov  
 "21" September 2023



Specialty : 050615 - Information security  
 Duration of study is 4 year (8 semesters)

**CURRICULUM**  
 (for bachelor's level)

**I. SCHEDULE OF THE EDUCATIONAL PROCESS**

Courses	September				October				November				December				January				February				March				April				May				June				July				August			
	1	8	15	22	6	13	20	27	3	10	17	24	1	8	15	22	5	12	19	26	2	9	16	23	2	9	16	23	6	13	20	27	4	11	18	25	1	8	15	22	6	13	20	27	2	9	16	23
I																																																
II																																																
III																																																
IV																																																

Conventional symbols      Theoretical training      Examination Session      Experience      Vacation

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**II. EDUCATIONAL PROCESS PLAN**

Row №	Subject code	Subject Name	Credits number	Total hours	Out-of-class hours	Total hours for classroom	Auditorium hours			Course Work / Course Project	Prerequisite (the disciplines that are required to be taught)	Corequisite (the disciplines with parallel learning)	Semester where the subject is taught	Weekly Workload
							Including the type of training							
							Lecture	Seminar	Laboratory					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	<b>HS-BOO</b>	<b>Humanitarian subjects</b>	<b>30</b>	<b>900</b>	<b>495</b>	<b>405</b>	<b>105</b>	<b>300</b>						
1	HS-B01	History of Azerbaijan	5	150	105	45	30	15					2	3
2	HS-B02.1	Foreign Language: General English and Speech Practice	8	240	120	120		120					1	8
3	HS-B02.2	Foreign Language: Academic vocabulary and reading. Social communication skills	7	210	105	105		105					2	7
4	HS-B03	Business and academic communication in Azerbaijani	4	120	75	45	15	30					1	3
		<b>Elective subjects</b>	<b>6</b>	<b>180</b>	<b>90</b>	<b>90</b>	<b>60</b>	<b>30</b>						
5	HES-B04	Block I: 1) Philosophy 2) Sociology; 3) Consultation of the Republic of Azerbaijan and foundations of law; 4) Ethics and aesthetics; 5) Logics; 6) Introduction to multiculturalism	3	90	45	45	30	15					4	3
6	HES-B05	Block II: 1) Information technology (by specialty); 2) Information management; 3) Fundamentals of Entrepreneurship and Introduction to Business; 4) Political science	3	90	45	45	30	15					4	3
	<b>VSS-BOO</b>	<b>Vocational training subjects by specialty</b>	<b>180</b>	<b>5400</b>	<b>3540</b>	<b>1860</b>	<b>975</b>	<b>615</b>	<b>270</b>					
			120	3600	2355	1245	675	435	135					
7	VSS-B01	Calculus	6	180	105	75	45	30					1	5
8	VSS-B02	Linear algebra	6	180	135	45	30	15					2	3
9	VSS-B03	Probability theory	5	150	105	45	30	15					3	3
10	VSS-B04	Discrete mathematics	5	150	105	45	30	15					4	3
11	VSS-B05	Basics of information security	6	180	120	60	30	30					1	4
12	VSS-B06	Basics of programming	6	180	120	60	30		30				1	4
13	VSS-B07	Basics of networks	6	180	120	60	30	30					2	4
14	VSS-B08	Basics of cyber security	6	180	120	60	30	30					2	4
15	VSS-B09	Operating systems	5	150	90	60	30	30					3	3
16	VSS-B10	Security of networks	5	150	105	45	30	15					3	3
17	VSS-B11	Web security	5	150	90	60	30	30					4	4
18	VSS-B12	Legal basis of information security and cyber security	5	150	105	45	30	15					4	3
19	VSS-B13	Information security management systems	5	150	90	60	30	30					5	4
20	VSS-B14	Database security	5	150	90	60	30	30					5	4

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
21	VSS-B15	Cloud security	5	150	105	45	30	15					5	3
22	VSS-B16	Basics of cryptography	5	150	90	60	30		30				5	4
23	VSS-B17	Basics of intrusion signals	8	240	165	75	30	30	15				6	5
24	VSS-B18	Basics of electronics and IoT security	5	150	90	60	30	30					6	4
25	VSS-B19	Safe programming	5	150	90	60	30		30				7	4
26	VSS-B20	Basics of Digital Forensics	8	240	180	60	30	30					7	4
27	VSS-B21	Security of industrial control systems	5	150	90	60	30		30				7	4
28	VSS-B22	Civil defense	3	90	45	45	30	15					5	3
	<b>SPEE-BOO</b>	<b>Elective subjects (Vocational education)</b>	<b>60</b>	<b>1800</b>	<b>1185</b>	<b>615</b>	<b>300</b>	<b>180</b>	<b>135</b>					
29	SPEE-B01	Block I: 1) Web programming; 2) Programming for mobile devices; 3) PHP programming	8	240	165	75	30	15	30				3	5
30	SPEE-B02	Block II: 1) Basics of databases; 2) Intellectual analysis of data; 3) Big data processing technologies	8	240	165	75	30	15	30	C/W			3	5
31	SPEE-B03	Block III: 1) Cloud technologies; 2) Parallel and distributed computing; 3) Blockchain technologies	8	240	165	75	30	30	15				4	5
32	SPEE-B04	Block IV: 1) Digital transformation; 2) Digital communication; 3) Fundamentals of digital imaging and video processing	6	180	120	60	30	30					6	4
33	SPEE-B05	Block V: 1) Artificial intelligence; 2) Machine learning; 3) Neural networks	6	180	120	60	30		30	C/W			6	4
34	SPEE-B06	Block VI: 1) Hacker tools and methods; 2) Cyber attack, cyber crimes and digital forensics; 3) Malware analysis; 4) Investigating and hunting cyber threats	5	150	90	60	30		30				7	4
35	SPEE-B07	Block VII: 1) Security of mobile and wireless equipment; 2) security of VoIP systems; 3) Investigations on mobile devices	7	210	150	60	30	30					5	4
36	SPEE-B08	Block VIII: 1) Basics of data center operations; 2) Security of the corporate network (information) system; 3) Big Data security; 4) Management of security incidents and events	4	120	75	45	30	15					7	3
37	SPEE-B09	Block IX: 1) Technical foreign language; 2) Classical and fuzzy-logic; 3) IT Audit	3	90	60	30		30					6	2
38	SPEE-B10	Block X: HOSEP (Health, occupational safety and environmental protection)	2	60	30	30	30						6	2
39	SPEE-B10	Block XI: Project management	3	90	45	45	30	15					7	3
	<b>Total</b>		<b>210</b>	<b>6300</b>	<b>4035</b>	<b>2265</b>	<b>1080</b>	<b>915</b>	<b>270</b>					

### III. DURATION OF TRAINING (IN WEEKS)

Education year	Theoretical training	Examination session	Practice	Vacation	Total
I	30	10	-	12	52
II	30	10	-	12	52
III	30	10	-	12	52
IV	15	5	20	2	42
Total	105	35	20	38	198

### IV. INDICATORS OF EDUCATION PROCESS

Semester	1	2	3	4	5	6	7	8	Total
	Experience								
Credits number	30	30	31	29	30	30	30	30	240
Examinations number	5	5	5	6	6	6	6		39
Hours per week	24	21	20	21	22	21	22		

Presented by:

Vice Rector for Academic Affairs

Dean of the Information Technology and Control Faculty

Head of "Computer Engineering" department

*Mammadov*  
*F.H.*  
*M.A.*

associate professor G.A. Mammadov

associate professor F.H. Agayev

associate professor N.A. Rahimova