

«APPROVED»

Dean of the Faculty of
Information Technologies

L.N. Gumilyov ENU

Seilov Sh.Zh.

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**Topics of theses
on speciality 5B100200 - Information Security Systems
2020 -2021 academic years**

1. Methods for detecting and analyzing malware
2. Development of methods for organizing a secure data transmission channel in IP networks
3. Analyze the security of web applications using Penetration Testing Tools
4. Purple Team methodology
5. Attack vectors and automated process control system protection methods
6. Testing information systems for vulnerabilities using detection scanners in the Kali linux operating system
7. Analysis of malicious objects written in script languages
8. Organizational information leakage detection
9. Protocol analysis techniques for finding attacks in network traffic
10. Discrete mathematics-fundamentals of cryptography
11. Route Hijacking and the role of RPKI in Securing Internet Routing Infrastructure
12. Analysis of solutions for protect personal information
13. Automation of Computer Networks Administration Tasks Using Scripting Languages
14. Network monitoring and detection of abnormal network activity with Flowmon Networks solutions
15. Development of Information System for Enterprise Information Security Management Automation
16. The launch of the PGP application for protection of system
17. Analysis of methods of minimizing vulnerabilities in wireless computer networks
18. SOAR: automation of reactivation of actions against cybersecurity incidents. SOAR: Cybersecurity Incident Response Automation

19. Analysis of the mechanisms of the Spring Security Framework to ensure the safety of applications
20. Analysis of network traffic using the Kismet program
21. Development of web cross platform applications on the base of
22. Google Firebase
23. Security measures in cloud computing
24. Using Volatility to detect malicious software
25. Ways to detect unauthorized access in the Kali Linux operating system
26. Methods for assessing information risks in the process of handling service information
27. Google Firebase features for developing secure web applications
28. Research of methods of forming information security policy for electronic document management systems
29. Analysis of biometric authentication methods
30. Methods of vulnerability assessment and security auditing databases
31. To assess the effectiveness of methods for ensuring the security of information in open Internet net works
32. Detecting and eliminating vulnerabilities in web applications
33. Access control technologies for Big Data management systems
34. Organization of secure remote workplaces in corporate networks
35. Methods to eliminate vulnerability of C ++ programs
36. Red Team strategies
37. Analysis of methods of cryptographic information protection in open Internet networks
38. Research of malicious code on hacked legitimate web resources
39. Ensuring the security of electronic mail exchange
40. Using finite state machines to create asymmetric cryptosystems.
41. Database security model using access control mechanism
42. Analysis of methods for reducing vulnerabilities in wireless computer networks
43. Development of methods for assessing the security of web resources from cyber attacks
44. Persistence of the GOST algorithm
45. Methods for securing databases against injection attacks
46. Web Application Vulnerability Analysis
47. Using the Digital Forensics Framework to Investigate Computer Incidents
48. Analysis of the cryptographic capabilities of the Java programming language.
49. Dissection of malicious behaviors in Android applications
50. Predicting individuals' vulnerability to social engineering in social networks
51. Security of information on external media and methods of information recovery
52. Using and configuring a SIEM class system in cloud services and applications.
53. Authentication subsystem in corporate communication networks

54. Cloud Computing Standards on the Experience of Large Cloud Vendors Services
55. Methods of detecting and protecting against DDOS attacks
56. Providing information protection in local area networks of the organization
57. Research and development of the method of providing the information security of the service of data centers
58. Malicious objects accounting system
59. Using Sysmon to identify threats and respond to malware incidents
60. Efficiency evaluation of cryptographic protection of information when intercepting HTTPS traffic
61. Organizational and legal measures to protect confidential information in the company
62. Protection Methods for Web Application Databases
63. Organization of personal data protection at the enterprise
64. Analysis of methods for ensuring information security of corporate multiservice networks
65. Research of the technological environment of information technology cybersecurity in the era of digital transformation
66. Load testing methods for an automated information system using Jmeter
67. Analysis and improvement of enterprise information security
68. Assessment of Operating Systems and Software Vulnerabilities

**Topics of theses
on speciality 58060200- Computer Science
2020 -2021 academic years**

1. Development of a website for ordering goods and products
2. Using the library of the Python programming language to create a data analysis application
3. Website development for a recreation center
4. Website development for a furniture company
5. Methods of learning programming languages in general education schools
6. Development of a mobile application to raise awareness of enterprise employees for organizing remote work
7. Development of software for automating the workplace of a taxi dispatcher
8. Create three-dimensional animation in the Autodesk Maya environment
9. Using ontological analysis for semantic markup of information security standards
10. Development of a game on Unreal Engine
11. Software development for the incident response process
12. Development of a website on teaching video editing

- 13.Design and development of the website “Digital library”
- 14.Development of software for accounting of attendance by employees of a remote workplace
- 15.Development of the information system "The best teacher of the university"
- 16.Developing of information system "University platform" applying microservices approach
- 17.Development of educational content (tests, questionnaires, etc.) using iSpring Suit.
- 18.Development of a website for online store of sports products
- 19.Development of a web application: «undercast: Tutorials for programmers»
- 20.Development of a mobile application «undercast for mobile application developers»
- 21.Development of a distance course in the discipline «Web programming» using OLAT
- 22.Creating a site for teaching gestures to children with hearing impairments
- 23.Development of a website for an internet store of electronics and household appliances
- 24.Creating a mobile app rapid delivery services products from the supermarket network
- 25.Development of a mobile android application for an auto parts store
- 26.Development of a news website
- 27.Development of the educational app “Әліппе” for children on the Android platform
- 28.Creating an animated cartoon in the Blender environment
- 30.Mobile e-Commerce
- 31.application for building materials
- 32.Mobile app for e-Commerce
- 33.of confectionery products
- 34.Create a project for a chain restaurant «Dodopizza» via telegram bot
- 35.Development of a human face recognition system through the OpenCV cascade (Python)
- 36.Development of a website for learning a foreign language
- 37.Programming Languages in the Implementation of Parallel Algorithms
- 38.Game development in the Python
- 39.Development of a chat bot for a clothing store for Telegram
- 40.Developing an Android Application Using Unity

**Head of the
Information Security Department**



Satybaldina D.Zh.