

Field of study	Specialization	The topic of a popular science essay
<b>10.04.01 INFORMATION SECURITY</b>	<b>INFORMATION TECHNOLOGIES IN DESIGN</b>	<ol style="list-style-type: none"> <li>1. 3D modeling in the modern world.</li> <li>2. Haptics: new multimedia possibilities.</li> <li>3. Big data multimedia.</li> <li>4. Functional programming in infographics.</li> <li>5. Generative design in bioinformatics.</li> <li>6. Method of holographic representation of information.</li> <li>7. Nonlinear screens in graphics projection technologies.</li> <li>8. Animation in voxel graphics.</li> </ol>
	<b>COMPUTER SYSTEM SECURITY</b>	<ol style="list-style-type: none"> <li>1. Methods of network steganography.</li> <li>2. Software copy protection.</li> <li>3. Software obfuscation Techniques.</li> <li>4. Implementation of the anti-debugger.</li> </ol>

		<p>5. Existing embedding programs.</p> <p>6. Digital watermark systems in photo and video cameras.</p> <p>7. Digital watermark systems in cell phone cameras.</p> <p>8. Web robots for inspecting nodes by searching for files with digital watermarks.</p> <p>9. Integrated security systems.</p> <p>10. Overview of the ways cybercriminals interact on the Internet.</p> <p>11. Comparative analysis of communication channels with respect to stegosystems based on signals with noise.</p> <p>12. Comparative analysis of steganography methods in audio files.</p> <p>13. The relevance of using steganography in video sequences.</p> <p>14. Analysis of formats using steganography in e-books.</p> <p>15. Linguistic steganography.</p> <p>16. SIEM systems in a corporate network organizations.</p> <p>17. Information security</p>
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		<p>threat models.</p> <p>18. Organization information security management systems.</p> <p>19. Secure virtual networks (VPNs) of an organization.</p> <p>20. Virus propagation models.</p> <p>21. Disadvantages of database security systems.</p> <p>22. Standard models of information security violators.</p> <p>23. Steganography method based on scanner noise.</p> <p>24. Statistical steganalysis of still images.</p> <p>25. Characteristics of audio messages for personal identification.</p> <p>26. Models and algorithms for detecting fake news on the Internet.</p> <p>27. Detection of abnormal traffic in IoT.</p> <p>28. System architecture development information security in social networks based methods storage and processing of Big Data.</p> <p>29. Comparative analysis of the security metrics of the</p>
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		<p>program code.</p> <p>30. Honeypot System for generating security data sets.</p> <p>31. MITREAtt@ck database analysis.</p> <p>32. Analysis of Windows OS event logs for digital forensics purposes.</p> <p>33. Investigation of the impact of SQL injection protection mechanisms on the performance of PHP/MySQL-based Web applications.</p> <p>34. Research of ways to improve the information security of Web applications using machine learning technologies.</p> <p>35. Investigation of mechanisms for protecting the authorization module of a PHP/MySQL-based Web application from Brute-force attacks.</p> <p>36. Comparison of modern JavaScript frameworks for secure Web applications.</p> <p>37. Research of the functionality of modern Wireless IPS systems for IEEE 802.11 family networks.</p> <p>38. Investigation of the</p>
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		<p>characteristics of modern network Honeypot solutions.</p> <p>39. Investigation of the time characteristics of L2VPN service recovery depending on the hardware configuration.</p> <p>40. Investigation of implemented information security mechanisms in the IEEE 802.3af standard.</p> <p>41. IBM Quantum Experience environment for exploring the possibilities of quantum computers.</p> <p>42. Building an organization's public key infrastructure based on an open blockchain.</p> <p>43. Quantum computers and programming languages for quantum computers.</p> <p>44. Quantum hashing.</p> <p>45. Methodology for counteracting malicious information in the information space of social networks.</p> <p>46. Models and algorithms for analyzing incidents in computer systems and networks.</p> <p>47. Models and algorithms for detecting abnormal</p>
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	<p>behavior of an account in social networks.</p> <p>48. Models and algorithms for colubine detection in social networks.</p> <p>49. Models and algorithms for detecting cyberbullying in social networks.</p> <p>50. Evaluation of statistical properties of pseudorandom sequences after complication.</p> <p>51. Estimation of the entropy of a sequence of random binary vectors.</p> <p>52. Comparison of complication nodes of pseudorandom sequence sensors by linear complexity profile.</p> <p>53. Using a strict avalanche criterion when choosing a nonlinear complication node in gambling encoders.</p> <p>54. Estimation of the proximity of balanced functions to the class of bent functions.</p> <p>55. Comparison of the Legendre and Chippola features in the construction of asymmetric cryptographic systems</p> <p>56. Enumeration of balanced</p>
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		<p>correlation-immune cryptographic functions in classes <math>P2(8)</math>, <math>P2(4)</math> of Boolean functions.</p> <p>57. Linear equivalence groups of Boolean functions in class <math>P2(4)</math>.</p> <p>58. Comprehensive information security in the implementation of the threat of attempts to access a remote system.</p> <p>59. A comprehensive approach to ensuring the protection of confidential information in the company.</p> <p>60. The concept of security policy and access control systems for local area networks.</p> <p>61. Risk analysis of the investigated systems, in respect of which the identified threats to information security are implemented.</p> <p>62. Risk assessment of the identified attacks on the system under study.</p> <p>63. Analysis of the threat database of the Federal Service for Technical and Export Control of Russia.</p>
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<p><b>11.04.02 INFOCOMMUNICATION TECHNOLOGIES AND COMMUNICATION SYSTEMS</b></p>	<p><b>INTERNET OF THINGS AND SELF- ORGANIZING NETWORKS</b></p>	<ol style="list-style-type: none"> <li>1. Application of virtualization technologies for resource management systems in 5G networks.</li> <li>2. Placement of controllers on the network, taking into account the delay and the required costs.</li> <li>3. Unloading traffic from the core network based on boundary calculations.</li> <li>4. Positioning of wireless sensor network nodes.</li> <li>5. Flashing the LED using Arduino on commands from the Internet. To ensure the interaction of two devices with each other</li> <li>6. Development of a software emulator of the two described devices that allows you to connect to the platform.</li> <li>7. The principle of operation of the HC-05 Bluetooth module in the scheme of the device for medicinal electrophoresis.</li> <li>8. Organization of data storage in the data processing center.</li> <li>9. Analysis of load balancing algorithms in a software-configured network.</li> <li>10. Development of the functional structure of the</li> </ol>
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	<p style="text-align: center;"><b>MEDIA TECHNOLOGIES AND BROADCASTING</b></p>	<p>Smart Home based on open source solutions.</p> <ol style="list-style-type: none"> <li>11. Applications of unmanned aerial vehicles in the concept of autonomous controlled transport.</li> <li>12. Artificial intelligence methods for the coordinated distribution of services over the network on the structures of boundary computing.</li> <li>13. Swarm intelligence algorithms for building and optimizing software defined networks.</li> <li>14. Resource allocation methods for a tiered cloud computing system.</li> <li>15. Edge computing for resource allocation in a smart city.</li> <li>16. SDN for building communication networks supporting self-driving car applications.</li> <li>17. Analysis of the main aspects of the application of IoT technologies and principles in agriculture.</li> </ol> <ol style="list-style-type: none"> <li>1. Artificial intelligence in the production of TV programs.</li> </ol>
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<p><b>41.04.01 FOREIGN REGIONAL STUDIES</b></p>	<p><b>INTERNATIONAL POLITICAL ANALYSIS OF THE REGIONS OF THE WORLD</b></p>	<p>electronic means at the current level of development of radio communications. Is there or not?</p> <ol style="list-style-type: none"> <li>1. The emergence of the Westphalian system of international relations.</li> <li>2. Transformation of the Westphalian system in the XVIII century .</li> <li>3. The crisis of the Westphalian system. Creation of the Tilsit system of international relations.</li> <li>4. Vienna system of international relations. International relations in Europe in the period from the Congress of Vienna to the Crimean War.</li> <li>5. The collapse of the Vienna system of international relations. The formation of a new European order based on the Union of the Three Emperors.</li> <li>6. International relations in Europe at the turn of the XIX - XX centuries. Formation of the block system.</li> <li>7. Colonial division of the world in the XIX - early</li> </ol>
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		<p>XX centuries.</p> <p>8. International relations during World War I.</p> <p>9. The formation of the Versailles-Washington system of international relations.</p> <p>10. The crisis of the Versailles-Washington system of international relations. International Relations in the 1930s.</p> <p>11. International relations during World War II: a brief description.</p> <p>12. The Yalta-Potsdam system of international relations: role and significance.</p> <p>13. The beginning and peak of the Cold War.</p> <p>14. Detente of international tension in the 1970s.</p> <p>15. International relations in the 1980s. The end of the Cold War.</p> <p>16. The current stage of development of international relations: current trends and problems.</p>
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