**Department «Information Systems»**

### **CARD № 1**

On the course «Geoinformation systems»

Designed for students in the educational program 6В06103 – Information systems.

1. Explain the concept of Geospatial Enquiry and its role in GIS applications.
2. Explain the importance of feature selection in map design and how it affects the map’s purpose.
3. Which tools allow filtering or removing small features from a map.

Exam cards were approved at the meeting of the department of Information systems.

Protocol № 9 dated April «4», 2025

# **Developer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Israilova S.T.**

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# **Head of the Department \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Mukhanova A.A.**

**/sign/**

**Department «Information Systems»**

### **CARD № 2**

On the course «Geoinformation systems»

Designed for students in the educational program 6В06103 – Information systems.

1. What is the Geospatial Revolution, and how has it changed our understanding of geographic space.
2. Define geodesy and explain its significance in the field of GIS.
3. The key concepts behind GIS data storage, and how does it impact GIS

functionality

Exam cards were approved at the meeting of the department of Information systems.

Protocol № 9 dated April «4», 2025 г.

# **Developer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Israilova S.T.**

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# **Head of the Department \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Mukhanova A.A.**

**/sign/**

**Department «Information Systems»**

### **CARD № 3**

On the course «Geoinformation systems»

Designed for students in the educational program 6В06103 – Information systems.

1. The primary sources for constructing GIS datasets, and how do you ensure data accuracy and consistency.
2. Explain the process of data cleaning and why it is important for GIS analysis.
3. What are some common data formats used for storing geospatial datasets, and what are their advantages and limitations.

Exam cards were approved at the meeting of the department of Information systems.

Protocol № 9 dated April «4», 2025

# **Developer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Israilova S.T.**

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# **Head of the Department \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Mukhanova A.A.**

**/sign/**

**Department «Information Systems»**

### **CARD № 4**

On the course «Geoinformation systems»

Designed for students in the educational program 6В06103 – Information systems.

1. How do you convert raw data into a structured format suitable for analysis in GIS?
2. What challenges might arise when constructing datasets for geo-analysis, and how can these challenges be mitigated.
3. What are vector operations in GIS, and how do they differ from raster operations

Exam cards were approved at the meeting of the department of Information systems.

Protocol № 9 dated April «4», 2025

# **Developer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Israilova S.T.**

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# **Head of the Department \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Mukhanova A.A.**

**/sign/**

**Department «Information Systems»**

### **CARD № 5**

On the course «Geoinformation systems»

Designed for students in the educational program 6В06103 – Information systems.

1. What are the main sources of geospatial data for map creation.
2. Explain the difference between vector and raster data and how they are used in map design.
3. What factors must be considered when designing a map to ensure it communicates the intended message clearly.

Exam cards were approved at the meeting of the department of Information systems.

Protocol № 9 dated April «4», 2025

# **Developer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Israilova S.T.**

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# **Head of the Department \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Mukhanova A.A.**

**/sign/**

**Department «Information Systems»**

### **CARD № 6**

On the course «Geoinformation systems»

Designed for students in the educational program 6В06103 – Information systems.

1. What is data classification in cartography, and why is it essential for effective map visualization.
2. How do map characteristics such as scale, symbols, and color schemes influence a map's usability.
3. What are the key principles of layout design in cartography

Exam cards were approved at the meeting of the department of Information systems.

Protocol № 9 dated April «4», 2025

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**/sign/**

**Department «Information Systems»**

### **CARD № 7**

On the course «Geoinformation systems»

Designed for students in the educational program 6В06103 – Information systems.

1. How do fonts, colors, and symbols contribute to the overall effectiveness of a map.
2. What role does creativity play in map design, and how can it enhance the clarity of geospatial data.
3. Explain the importance of feature selection in map design and how it affects the map’s purpose.

Exam cards were approved at the meeting of the department of Information systems.

Protocol № 9 dated April «4», 2025

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**/sign/**

**Department «Information Systems»**

### **CARD № 8**

On the course «Geoinformation systems»

Designed for students in the educational program 6В06103 – Information systems.

1. What are the challenges and solutions for balancing aesthetics and functionality in map creation
2. What are the key concepts behind GIS data storage, and how does it impact GIS functionality.
3. Explain how interoperability between different GIS platforms can enhance data sharing and integration.

Exam cards were approved at the meeting of the department of Information systems.

Protocol № 9 dated April «4», 2025

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# **Head of the Department \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Mukhanova A.A.**

**/sign/**

**Department «Information Systems»**

### **CARD № 9**

On the course «Geoinformation systems»

Designed for students in the educational program 6В06103 – Information systems.

1. What role does remote sensing play in GIS, and how is it integrated with other geospatial data sources.
2. Describe the common file formats used in GIS for data storage.
3. How does remote sensing data contribute to geospatial analysis in areas like environmental monitoring and disaster management.

Exam cards were approved at the meeting of the department of Information systems.

Protocol № 9 dated April «4», 2025

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**/sign/**

**Department «Information Systems»**

### **CARD № 10**

On the course «Geoinformation systems»

Designed for students in the educational program 6В06103 – Information systems.

1. What are the basic steps involved in conducting a geospatial analysis using GIS.
2. Describe the difference between single-layer and multi-layer geospatial analysis.
3. What is a buffer analysis in GIS, and how is it applied in real-world scenarios.

Exam cards were approved at the meeting of the department of Information systems.

Protocol № 9 dated April «4», 2025

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**/sign/**

**Department «Information Systems»**

### **CARD № 11**

On the course «Geoinformation systems»

Designed for students in the educational program 6В06103 – Information systems.

1. How can overlay analysis be used to combine different layers of spatial data for decision-making.
2. What are some challenges in applying geospatial analysis techniques to real-world data, and how can they be addressed.
3. What are the primary sources for constructing GIS datasets, and how do you ensure data accuracy and consistency.

Exam cards were approved at the meeting of the department of Information systems.

Protocol № 9 dated April «4», 2025

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**/sign/**

**Department «Information Systems»**

### **CARD № 12**

On the course «Geoinformation systems»

Designed for students in the educational program 6В06103 – Information systems.

1. Explain the process of data cleaning and why it is important for GIS analysis.
2. What are some common data formats used for storing geospatial datasets, and what are their advantages and limitations.
3. How do you convert raw data into a structured format suitable for analysis in GIS.

Exam cards were approved at the meeting of the department of Information systems.

Protocol № 9 dated April «4», 2025

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**Department «Information Systems»**

### **CARD № 13**

On the course «Geoinformation systems»

Designed for students in the educational program 6В06103 – Information systems.

1. How can single-layer analysis be applied to vector data, and what insights can it provide.
2. What are the basic types of raster data used in geospatial analysis.
3. How can raster-based operations like reclassification and map algebra be used to manipulate data for analysis.

Exam cards were approved at the meeting of the department of Information systems.

Protocol № 9 dated April «4», 2025

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**/sign/**

**Department «Information Systems»**

### **CARD № 14**

On the course «Geoinformation systems»

Designed for students in the educational program 6В06103 – Information systems.

1. What challenges might arise when constructing datasets for geo-analysis, and how can these challenges be mitigated.
2. What are vector operations in GIS, and how do they differ from raster operations.
3. Explain how spatial queries work in vector analysis.

Exam cards were approved at the meeting of the department of Information systems.

Protocol № 9 dated April «4», 2025

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**/sign/**

**Department «Information Systems»**

### **CARD № 15**

On the course «Geoinformation systems»

Designed for students in the educational program 6В06103 – Information systems.

1. What is spatial estimation, and how is it used in GIS to predict values at unmeasured locations.
2. Describe at least two interpolation methods used in GIS.
3. How do you decide which interpolation method to use for a given set of data.

Exam cards were approved at the meeting of the department of Information systems.

Protocol № 9 dated April «4», 2025

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**/sign/**

**Department «Information Systems»**

### **CARD № 16**

On the course «Geoinformation systems»

Designed for students in the educational program 6В06103 – Information systems.

1. What are the advantages and limitations of using Kriging for spatial interpolation.
2. Explain how interpolation techniques are applied in environmental monitoring and natural resource management.
3. What are the primary methods of geospatial data acquisition, and how are they integrated into GIS

Exam cards were approved at the meeting of the department of Information systems.

Protocol № 9 dated April «4», 2025

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**/sign/**

**Department «Information Systems»**

### **CARD № 17**

On the course «Geoinformation systems»

Designed for students in the educational program 6В06103 – Information systems.

1. How do GPS and remote sensing technologies contribute to data acquisition in GIS.
2. What is the importance of metadata in geospatial data management.
3. How do you ensure the quality and integrity of geospatial data during the acquisition process.

Exam cards were approved at the meeting of the department of Information systems.

Protocol № 9 dated April «4», 2025

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# **Head of the Department \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Mukhanova A.A.**

**/sign/**

**Department «Information Systems»**

### **CARD № 18**

On the course «Geoinformation systems»

Designed for students in the educational program 6В06103 – Information systems.

1. What are the best practices for managing large geospatial datasets to ensure efficient use and accessibility.
2. How can GIS be applied to assess and manage risk in the (Re)Insurance industry.
3. What role does GIS play in addressing climate change through Earth observation and data analysis.

Exam cards were approved at the meeting of the department of Information systems.

Protocol № 9 dated April «4», 2025

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**/sign/**

**Department «Information Systems»**

### **CARD № 19**

On the course «Geoinformation systems»

Designed for students in the educational program 6В06103 – Information systems.

1. Explain how GIS is used in disaster management to optimize usage and prevent over-extraction.
2. How does GIS help us analyze and visualize the changing nature of places.
3. What are some real-world examples of GIS in action that have significantly impacted decision-making.

Exam cards were approved at the meeting of the department of Information systems.

Protocol № 9 dated April «4», 2025

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**/sign/**

**Department «Information Systems»**

### **CARD № 20**

On the course «Geoinformation systems»

Designed for students in the educational program 6В06103 – Information systems.

1. What factors must be considered when designing a map to ensure it communicates the intended message clearly.
2. What is data classification in cartography, and why is it essential for effective map visualization.
3. Explain how interoperability between different GIS platforms can enhance data sharing and integration.

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**/sign/**

**Department «Information Systems»**

### **CARD № 21**

On the course «Geoinformation systems»

Designed for students in the educational program 6В06103 – Information systems.

1. What role does remote sensing play in GIS, and how is it integrated with other geospatial data sources?
2. Describe the common file formats used in GIS for data storage.
3. How does remote sensing data contribute to geospatial analysis in areas like environmental monitoring and disaster management.

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# **Head of the Department \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Mukhanova A.A.**

**/sign/**

**Department «Information Systems»**

### **CARD № 22**

On the course «Geoinformation systems»

Designed for students in the educational program 6В06103 – Information systems.

1. Describe the difference between single-layer and multi-layer geospatial analysis.
2. What is a buffer analysis in GIS, and how is it applied in real-world scenarios.
3. How can overlay analysis be used to combine different layers of spatial data for decision-making.

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