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|  | УТВЕРЖДЕНО |
|  | Решение заседания кафедры |
|  | географической экологии |
|  | Протокол № 8 от 20. 03. 2025 г. |

# Вопросы для проведения зачета

по учебной дисциплине «Web-design and Visualization of Environmental Information»

# специальность 7-06-0532-02 «Hydrometeorology»

# Форма проведения - устная

1. Subject and types of design. Definition of Web-design.

2. History of the development of Web-design. Concept and features of Web 1.0, 2.0, 3.0. Models of user interaction with the resource.

3. Basic principles of information visualization.

4. The role and significance of visualization in research work, practice and education. Types and areas of application of computer visualization in ecology and environmental management.

5. The concept of computer graphics. Objects and connections in the subject area of computer graphics: information models, software, hardware.

6. Classification of computer graphics.

7. Computer raster and vector graphics: distinctive features, advantages and disadvantages of use, areas of application.

8. Raster and vector graphics editors. Possibilities of using modern software tools for working with raster and vector graphics for visualizing environmental information.

9. Visual variables: shape, size, orientation, color, color saturation (lightness), texture.

10. Layout, choice of images, choice of font, color design and texture solution.

11. Basics of typography. Purpose of fonts. Font and perception. Basic characteristics of the font. Categories of fonts and areas of their application.

12. The meaning of color in information visualization. Basic characteristics of color: hue, saturation and brightness.

13. Color models (RGB, CMYK, HSB, etc.).

14. Patterns of color harmonies and their types. Visual and psychological properties of color.

15. Site structure. Types of structure and page types.

16. Standard website elements: header, menu area, content block, footer. Navigation and composition rules.

17. Basic principles of graphic design. Contrast. Repetition.

18. Basic principles of graphic design. Alignment. Proximity.

19. Basic web styles and their characteristic features: classic style, American business style, minimalism, retro, natural style, high-tech, promotional style.

20. Modern trends and areas of Web-design.

21. Data sources and main stages of environmental information analysis.

22. Main types of static display of environmental information. Tabular form of information presentation.

23. Main types of static display of environmental information. Сharts and graphs.

24. Computer visualization of spatial data in ecology.

25. Computer animation: concept and basic principles. Modern technologies for creating computer animation.

26. Internet resources and the possibilities of their use for visualizing environmental information.

27. Marketing in social networks (Social Media Marketing, SMM) and the possibilities of its use by organizations and institutions in the field of ecology and environmental management.

28. Promising directions in the field of visualization of environmental information. Possibilities of using computer graphics for environmental education of the population.

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