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ClimEd

Competence-Based Approach to Curriculum Development for Climate Education ClimEd

Home-Work-Assignments № 2
Group № A4

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Training Development Plan

Module #1

WATER MANAGEMENT AND CLIMATE CHANGE ADAPTATION

(2 credits)

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Learning Outcomes

Knowledge (LO-1, LO-2)

- Explain the links between climatic, hydrological, environmental processes, society and economic.
- Specify the main criteria for assessing water and environmental threats and risks caused by climate change.

Application (LO - 3)

Calculate the main indicators of vulnerability of water-dependent economic activities to climate change (water use index, indicators of vulnerability of areas to flooding, drought indices, indicators of vulnerability to deterioration and reduction of drinking water, soil degradation, productivity of agrocenoses, hydrobiological indicators).

Comprehension (LO-4)

Identify water and environmental threats and risks posed by climate change and highlight the most vulnerable natural and socio-economic systems

Analysis (LO -5)

Analyze the dependence of water management systems on climate change in the areas of: drinking water use, water management and reclamation complex, operation of hydraulic structures, construction, water supply and sewerage in urban and rural areas, aquaculture, water transport, hydropower, health, recreation.

Synthesis (LO-6, LO-7)

- Develop (create) the recommendations for adaptation of the water management complex to the forecasted climate changes according to the basin principle.
- Justify the strategies for the use of water-saving technologies and effective practices for operation of water management systems to mitigate the effects of climate change.

Evaluation (LO-8)

Assess the water-saving environmental engineering solutions under different climate change scenarios based on technical and economic criteria.

	Verb	Type	Subject	Standard	Volume/Context
LO-1	Explain	Knowledge	Links between climatic, hydrological, environmental processes, society and economic	Describing by synthetic terms	Essay (up to 5 pages), abstract (up to 15 pages), glossary (30 terms and more)
LO-2	Specify (make a list)	Knowledge	Key criteria for assessing water and environmental threats and risks caused by climate change	Describing by synthetic terms and quantitative indicators	Essay (up to 5 pages), abstract (up to 10 pages), glossary (20 terms and more)
LO-3	Calculate	Skills	Main indicators of vulnerability of water-dependent economic activities to climate change	Describing by synthetic terms and quantitative indicators; analysis of the calculation results	Abstract (up to 10 pages), portfolio (3 practical works)
LO-4	Identify	Skills	Water and environmental threats and risks due to climate change; the most vulnerable to climate change water users	Describing in synthetic terms and quantitative indicators	Essay (up to 5 pages), project (up to 20 pages), portfolio (2 practical works)
LO-5	Analyze	Skills	Dependence of water management systems on climate change in the areas of: drinking water use, water management and reclamation complex, operation of hydraulic structures, construction, water supply and sewerage in urban and rural areas, aquaculture, water transport, hydropower, health, recreation	Analytical assessment (text), quantitative indicators (tables, graphs, charts)	Essay (up to 5 pages), abstract (up to 15 pages)
LO-6	Develop (create)	Skills	Recommendations for the adaptation of the water management complex to the forecasted climate changes according to the basin principle	Analytical assessment (text), quantitative indicators (tables, graphs, charts)	Project (up to 20 pages), portfolio (5 practical works)
LO-7	Justify	Skills	Strategies for the use of water-saving technologies and effective practices for operation of water management systems to mitigate the effects of climate change	Analytical assessment (text), quantitative indicators (tables, graphs, charts)	Project (up to 20 pages), portfolio (5 practical works)
LO-8	Assess	Skills	Water-saving environmental engineering solutions under different climate change scenarios based on technical and economic criteria	Analytical assessment (text), quantitative indicators (tables, graphs, charts)	Project (up to 20 pages), portfolio (5 practical works)

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Content Scope

Course purpose:

- formation of students' knowledge about the principles of integrated water resources management and climate change adaptation strategies;
- formation of students' ability to assess vulnerabilities and water-related climate risks and to create the adaptation options.

- ❖ Water resources. The impact of water resources on society and economy (health, food production and security, domestic water supply and sanitation, energy, industry, and the functioning of ecosystems). Water security and the sustainable development goals. Basic principles of Integrated Water Resources Management (IWRM): social equity, economic efficiency, ecological sustainability.
- ❖ Changes in hydrological cycle due to climate change. Water-related climate risks for people, assets, economies and ecosystems (including risks from heat stress; storms and extreme precipitation; inland and coastal flooding; landslides; air pollution; drought; water scarcity, especially drinking water; sea level rising; storm surges; surface and groundwater quality). Scenarios, models and criteria for assessment of water-related climate risks.
- ❖ Adaptation strategies and measures. Sectoral adaptation of water management systems to climate change (drinking water use, water management and reclamation complex, operation of hydraulic structures, construction, water supply and sewerage in urban and rural areas, aquaculture, water transport, hydropower, health, recreation).

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Teaching and learning methods

Teaching methods:
classroom learning, online learning, blended learning (lectures, lecture-discussions, practical tasks, group work, role plays, tasks for **self-study**)

Module – 2 credits	Lectures – 20 hours	practical lessons – 20 hours	Self-work – 20 hours

Learning outcomes	Learning methods
LO-1, LO-2, LO-4, LO-5	***Lectures:*** basic concepts and methodological bases of studying the impact of climate change on water resources and water use.
LO-3, LO-4, LO-6, LO-7, LO-8	***Practical works*** *(method of investigation):* calculation works on determine the main indicators of vulnerability of water management to climate change, modeling of indicators of the state of water resources in different climate change scenarios.
LO-6, LO-7	***The buzz group:*** development of a project for adaptation of the regional water management complex under different climate change scenarios
LO-8	***Discussion:*** discussion of specific examples of the use of water-saving technologies and effective practices of regional water management systems to mitigate the effects of climate change.
LO-6	***Role plays:*** by type "professional expert in assessing of the impact of climate change on the water industry" -"user of specialized information"
LO-1 – LO-8	***Self-study:*** problem-oriented elaboration of educational and reference literature and scientific publications.

Coach functions :
research and creative (creation of a knowledge base); expert, consultative, communicative-stimulating (conducting educational classes), analytical-evaluative (assessment of knowledge and skills)

Student functions :
educational and cognitive, the ability to think critically, the ability to self-control, the work in team, the ability to make decisions

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Learning Assessment

Methods of assessment: • Annotated bibliography • Glossary • Abstract (literature review) • Test• Written blitz survey • Essay • Practical work • Project • Portfolio • Written examination

Types of assessment:

- diagnostic,
- formative,
- summative;

- direct,
- indirect;

- qualitative,
- quantitative.

Assessment criteria

Excellent	Good	Satisfactorily
Fully knows educational material, freely independently and argumentatively speaks about it during oral presentations and written answers, deeply and comprehensively reveals the content of theoretical questions and practical tasks. • The annotated bibliography is completely informative and designed in accordance with the requirements of international standards. • The water glossary fully reflects the basic terminological apparatus. • The abstract contains an in-depth critical analysis of academic and other sources of information. • All test tasks are solved correctly. • All tasks of the written blitz survey were performed correctly. • The project (teamwork) contains an innovative result obtained independently. • All calculated practical works (portfolio) are performed correctly. • All tasks of the written examination were performed correctly.	Sufficiently fully knows the educational material, reasonably speaks about it during oral presentations and written answers, mainly reveals the content of theoretical questions and practical tasks. But in some questions there is a lack of sufficient argumentation, there are some minor inaccuracies and minor errors. • The annotated bibliography is quite informative and designed in accordance with the requirements of international standards. • The water glossary contains main terms. • The abstract contains a critical analysis of academic and other sources of information. • Most test tasks are solved correctly. • Most of the tasks of the written blitz survey were performed correctly. • The project (team work) contains a clearly defined personally obtained result (proportional to the volume of the project). • Most of calculated practical works (portfolio) are performed correctly. • Most of the tasks of the written examination were performed correctly.	In general knows educational material, speaks about it main content during oral presentations and written answers, but without in-depth comprehensive analysis, justification and argumentation, while making some significant inaccuracies and errors. • The annotated bibliography contains basic academic sources and is designed in accordance with the requirements of international standards. • The water glossary contains basic terms. • The abstract is an overview, without critical analysis of academic and other sources of information. • 50% of test tasks are solved correctly. • 50% of the tasks of the written blitz survey were performed correctly. • The project (teamwork) contains a clearly defined personally obtained result, the amount of which is less than planned. • 50% of calculated practical works (portfolio) are performed correctly. • 50% of the tasks of the written examination were performed correctly.

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Training Development Plan

Module #2

Climatic skepticism (critical thinking)

Learning Outcomes

After the training, participants will be able to:

- explain the main climatic terms and present certain topics in the form of presentations with clearly formulated conclusions and supported by a list of basic sources of information (Knowledge);
- apply methods of critical thinking for verification of climate information with the possibility of reasoned defense of its own position in different groups of stakeholders during discussion (Comprehension);
- use climate information in various aspects of personal life and for solving specific tasks in professional activities in the form of calculations, experiments, field research, projects (Application);
- interact in a team with effective responsibility distributing for information analysis, constructive discussions, brainstorms, project work, and hackathons in the field of climatology (Analysis);
- generalize climate data for abstracts, essays, scientific and popular articles, research planning and practical application (Synthesis);
- evaluate climate information to modeling of development directions and creation of adaptation strategies for different scenarios of climate change in certain sectors of the economy and social spheres (Evaluation).

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Learning Outcomes

Verb	Type	Subject	Standard	Volume/Context
Explain, present	knowledge	the main climatic terms and certain topics	in the form of presentations with clearly formulated conclusions	basic sources of information
Apply	comprehension	methods of critical thinking for verification of climate information	with the possibility of reasoned defense of its own position	in different groups of stakeholders during discussion
Use	application	climate information	in the form of calculations, experiments, field research, projects	in various aspects of personal life and for solving specific tasks in professional activities
Interact, analysis	analysis	in a team with effective responsibility distributing for information analysis	constructive discussions, brainstorms, project work, hackathons	in the field of climatology
Generalize	synthesis	climate data	abstracts, essays, scientific and popular articles, research planning	practical application
Evaluate	evaluation	climate information	modeling of development directions and creation of adaptation strategies for different scenarios of climate change	in certain sectors of the economy and social spheres

pass

good

excellent

Content Scope

Module – 2(4) credits	Lectures – 20(40) hours	practical lessons – 10(20) hours	Self-work – 10(20) hours

In conditions of information overload, it is necessary to learn to find reliable sources and critically process climate data in order to use them effectively for personal and professional development.

1. Introduction: What is the basis for students? What do they already know? How did they study in the past? What led them to study? What are their interests? What are their aspirations?
2. Pseudoscientific theories and the spread of misconceptions. Popularization and profanation. Climatic myths and "scientific fakes".
3. Methods of critical thinking. Popper's scientific method of empirical falsification. The Role of Occam's Razor in Knowledge Discovery. An analytical methods of acquiring knowledge . Effective communication and problem-solving abilities.
4. Basic climatic terms: climate, weather, climatic factors, climatology, climate classification, microclimate, macroclimate, climatic indicators, meteorological values, meteorological observations, climatic processes.

Content Scope

5. The role of climate information in personal life and professional activities. Examples of application of climatic information in various professional fields.
6. Calculating climatologies and anomalies. Calculation of average values of climatic indicators and probabilistic characteristics of their variability
7. Numerical climate models. Quantitative methods to simulate the interactions of the important drivers of climate, including atmosphere, oceans, land surface and ice. Box models. Zero-dimensional models. Radiative-convective models. Higher-dimension models. Earth-system models of intermediate complexity (EMICs). Global climate models or general circulation models (GCMs).
8. United Nations Framework Convention on Climate Change. Global climate change in different countries. Climate change scenarios. Climate prognosis for the future.
9. Adaptation strategies for different scenarios of climate change in certain sectors of the economy and social spheres.
10. Meetings with experts who have successfully applied climate knowledge in their professional activities. Presentation of achievements and summarizing.

Content Scope

Examples of climatic myths

- Climate change is a natural process and people can do nothing about it
- Climate change invented by “grant-eater” to appropriate money from international funds
- Fighting climate change is a waste of money
- The climate will change anyway and everyone will live well in temperate latitudes, without cold winters and hot summers
- Climate change doesn’t exist - it is just a worldwide conspiracy of secret organizations
- Climatology is a pseudoscience without a scientific basis, because even weather forecasts are not always accurate
- Climate change doesn’t concern personally me, because I don’t make any impact on it
- Future generations will live better than us, so why should I care about climate change for them?
- Climate activists are uneducated populists, they are only shouting and blame everyone, but don’t propose any constructive solutions
- Very dangerous chemical dihydrogen monoxide is the main agent of climate change

Content Scope

Examples of pseudoscience myths

Very dengerous Dihydrogen monoxide:

- contributes to the "greenhouse effect"
- the major component of acid rain
- may cause severe burns
- contributes to the erosion of our natural landscape
- accelerates corrosion and rusting of many metals
- may cause electrical failures and decreased effectiveness of automobile brakes
- has been found in excised tumors of terminal cancer patients

Despite the danger, dihydrogen monoxide is often used:

- as an industrial solvent and coolant
- in nuclear power plants
- in the production of styrofoam
- as a fire retardant
- in many forms of cruel animal research
- in the distribution of pesticides.
- even after washing, produce remains contaminated by this chemical
- as an additive in certain "junk-foods" and other food products

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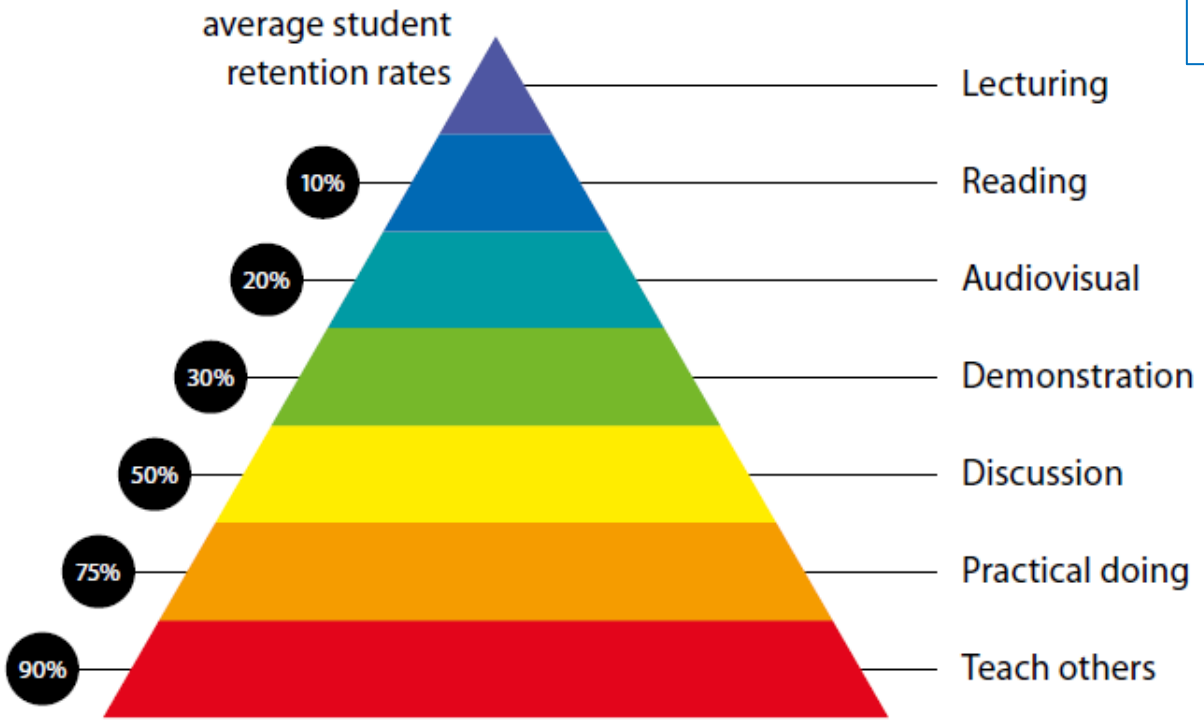
Teaching and learning methods

Learning Pyramid



Source: National Training Laboratories, Bethel, Maine

Talk to me … and I will forget
Show me … and I will remember
Involve me … and I will understand
Step back … and I will act

Confucius

Lecturing
Classroom lectures
Online lectures

Reading
Reading printing and electronic material
Rereading lecture material during testing

Audiovisual
Watching video
Listening to podcasts
Web-conferencing
Computer-assisted learning

Demonstration
Analytical presentations
Group presentations
Role play

Discussion
Team work
Debates
Buzz groups
Snowballing
Cross-overs

Practical doing
Field-trips
Practical work
Case method
Workshops
Problem-based approach
Resource-based learning
Independent projects

Teach others
Writing media articles
Writing reflections on learning
Peer mentoring of other students
Tutorial groups

Teaching and learning methods

The learning solutions (learning modes)

- **Learning in the classroom**
  - direct interaction, effective communication, creation of intellectual community for knowledge developing;
  - laboratory and practical work - acquiring practical skills, experimental research
- **Online learning** - convenience, unlimited information opportunities, save environment
- **Blended learning** is the most effective modern way of learning!
- **On-the-job training** - follow of the labor market needs, practical skills, good for CV, better chances for job applying
- **Internet resources for self- directed learning** – personified learning;
  - knowledge of whole world on your screen - just learn how to use it!
- **Coaching** - a motivational approach, invaluable expert opinion
- **Mentoring** – “teaching others I am developing myself”, support from colleagues, team interaction, friendship & collaboration

Teaching and learning methods

Learning strategies

Student-Centred Learning

- **Teach to learn**: modern world changing quickly, so you need to be able **lifelong learning**
- **Methods of critical thinking**: you absolutely need this in condition of permanent information overloading to make a correct choose, to understand reality, to resist of trash information
- **Fundamental approach**: to show you how use climate data in various aspects of personal life and for solving specific tasks in professional activities
- **Developing of communication skills**: effective interaction with people is the key to successful life, first of all employers choose candidates who can work in a team productively
- **Improve the ability to express thoughts**: help you to take leading positions at your work and maintain good relations in society
- **Using modern technologies**: grow on practical skills, good for CV
- **Feedback from the work market**: learn what is needed for successful career to get better chances for job applying

Teaching and learning methods

Major learning activities

- **Lectures**: classroom lectures, webinars, presentations of outstanding experts
- **Reading**: printed and electronic materials, re-reading of lecture material during for testing
- **Audiovisual**: video viewing, listening podcasts, web conferencing, digital teaching methods
- **Demonstration**: presentations, performances, physical models, excursions, exhibitions
- **Discussion:** teamwork, debate, brainstorming, role-playing games, hackathons
- **Practical classes**: practical and laboratory classes, case method, practice at enterprises, independent projects
- **Teach others:** informative messages on social networks;
  writing abstracts, essays, popular and scientific articles;
  ability to convincingly convey the idea to classmates, friends, relatives, colleagues

Teaching and learning methods

Roles of trainers *"guiding star"*	Roles of learners *"engine of progress"*
❑ Interest and inspire	✓ Curiosity
❑ Show directions of development	✓ Motivation
❑ Learn to assess the quality and reliability of information	✓ Persistence
❑ Provide modern methods	✓ Individuality
	✓ Teamwork

- ➢ Teachers must get rid of the "halo of the oracle" to avoid professional deformation
- ➢ Authoritarianism, arrogance, irrevocability are NOT effective methods
- ➢ Encouragement and interest are effective methods
- ✓ Teachers must help "to find right key to student's brain"
- ➢ Create an atmosphere and conditions for intellectual communication, exchange of ideas, scientific cooperation for developing
- ➢ Do not be ashamed to learn from students, because young people are better know modern world

Learning Assessment

Evaluation principle

based on defined learning outcomes (LO)

Pass (LO 1-2)

Present of a dictionary of basic climatic terms in electronic or writing form and know explanation of these terms. Prepare the individual list of basic information sources. Make the presentation about selected topic in climatology with clearly formulated conclusions. Show argued refutation of the climatic myth or pseudo-scientific statement.

Good (LO 3-4)

Give and examples of the use of climate information in personal life. Prepare calculations with using climatic data. Demonstrate some cases of field research. Show illustrations of climate change. Participation in joint student mini-projects on climate topic.

Excellent (LO 5-6)

Prepare conference abstracts, essays, scientific and popular articles about climate and critical thinking. Draw the intelligence map about critical thinking or climate myth. Demonstrate modeling for different scenarios of climate change. Developing recommendations or strategy for certain sectors of the economy or social spheres with using of climate information.

For grades "good" and "excellent" student can choose only some elements from the proposed list in agreement with the teacher.

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Group A4: Oksana Liuta, Alla Krukivska, Tetiana Kryvomaz, Maryna Goptsiy

Module #3

The economic sector transformation (water management): changes, challenges and governance

4 ECTS (120 hours): 45 hours – theoretical; 30 hours – practical; 15 hours - independent

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Learning Outcomes

Knowledge LO1-2

- Identify and define the main principles of sustainable development policies in the management of water resources, taking into account climate change, and show how to achieve them.

Verb	Type	Subject	Standard	Volume/Context
Identify define	Knowledge	Policy interventions in water resources management	Key principles of sustainable development policy in managing water resources under climate change	Analyse the policy principles of Water Resources Management in general. Outline their ways of adapting to climate change.

Comprehension LO3

- Classify and draw conclusions on the state of surface waters in order to choose the best measures to improve their condition in accordance with the EU WFD requirements.

Verb	Type	Subject	Standard	Volume/Context
Classify draw conclusions	knowledge (understandin, skills)	Quantity and quality of surface water	Activities to improve the quantity and quality of surface waters according to the EU WRD	Conclusions on the class of surface water moans and list of measures to improve their condition in accordance with the requirements EU WRD

Learning Outcomes

Application LO4-5

- Apply modern computational models and methodologies to determine hydrometeorological characteristics of run-off factors and assess possible changes in their values over climate scenarios.

Verb	Type	Subject	Standard	Volume/Context
Apply Assess	Ability to use modern computational methodologies and models	hydrometeorological characteristics of run-off factors	Identification and evaluation of possible changes in hydrometeorological characteristic values	Results of calculations by methods (models) in the form of quantitative indicators and graphical representation with critical analysis of the results are presented

Analysis LO6

- Analyse the characteristics of water-body run-off conditions taking into account local factors and investigate the relationship between climatic and run-off values.

Verb	Type	Subject	Standard	Volume/Context
Analyse Investigate	Analysis (understanding, skills)	Climatic and runoff values, local flow factors	Description and analysis of run-off conditions	List of local run-off factors, regional equation or graph of the relationship between climate and run-off values

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Learning Outcomes

Synthesis LO7

- Propose a plan of action for local governments to provide early warning of extreme forecast run-off values, thus minimizing negative effects on the population's livelihood.

Verb	Type	Subject	Standard	Volume/Context
Propose	Knowledge and skills (skills) prior to taking decisions on actions	Extreme flow projections	Actions of local governments to minimize negative effects on the livelihood of the population	Plan of proposed measures to minimize the effects of extreme runoff on the population

Evaluation LO8

- Design and / or plan for adaptation to increasing climate variability and change through better water resources management, namely, in policies, with the right investments to improve knowledge and information sharing on climate, water and adaptation, as well as investing in comprehensive and sustainable data collection and monitoring systems.

Verb	Type	Subject	Standard	Volume/Context
Design Plan	evaluation	Adaptation to increasing climate variability and change	Improving knowledge and information sharing on climate, water and adaptation	Policy adaptation project to invest in comprehensive and sustainable data collection and monitoring systems

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Content Scope

The objective of the course is to develop knowledge of the basic principles of sustainable development in the field of water resources management in the context of climate change, The ability to comprehensively assess the quantity and quality of water sources and introduce economic incentives for the environmental protection activities of economic entities and effective water resources planning.

- ✓ Policy framework for the protection and use of water resources aimed at implementing the principles of the European Water Framework Directive 2000/60 / of EU, which aims at protecting and improving the state of water resources and promoting their sustainable and balanced use. Adaptation to climate change in water resources management.
- ✓ Strategies for assessing the impact of climate change on river flows in the future. Analysis of the variability of the climatic factors of run-off formation, for which conclusions on water variability are being developed, and climate scenario data used in run-off formation models.
- ✓ Models for calculating and predicting changes in water resources for these global warming scenarios. Climate-flow model. Concept of «climatic» and «natural» flow of water objects. Changes of climatic factors of formation of annual flow of rivers. Water balances.
- ✓ Early warning and warning of hydrological hazards. A range of measures to prepare for floods and floods. Long-term territorial predictions of characteristics of spring flood (program complexes «Pripyat», «Seim», «Yuzhnaya Bug», «Katlabukh»). A modified version of the operator's method for determining the characteristics of spring floods. The concept of «climate correction» to the calculated values of maximum modules of spring flood runoff of a rare probability of exceedance.

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Content Scope

- ✓ The concept of «meteorological», «hydrological» and «agro-meteorological» droughts. The main factors of drought formation. Drought as a natural meteorological phenomenon and its consequences. Terms «operational drought», «threshold» value of water costs. Lack of water for consumers.
- ✓ Management of extreme events (floods and droughts) of water bodies, that is, rational redistribution of water resources and provision of them for various purposes of branches of the economy. National monitoring of water resources.
- ✓ Integrated principle of all management actions and activities in the process of using water resources for a greening. Introduction of a mechanism for the economic stimulation of environmental protection activities of economic entities, effective planning of the state of water resources and reduction of anthropogenic pressure on them, consolidation of efforts to overcome water-related disasters
- ✓ Framework for climate services at the national level with the participation of the national agencies responsible for hydrology, meteorology, water resources management, flood protection, irrigation, drought monitoring, river engineering, navigation, aquatic ecology and national climate centres.

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Teaching and learning methods

STUDENT – ORIENTED

Self-study through official Internet sources

these methods chosen will allow the creation of a theoretical knowledge base and an understanding of the main points of the module through self-control and self-verification

Mentoring

this method chosen is individualized training, in which theoretical subjects are studied independently and by means of lectures and consultations, and in case of practical tasks - in a mixed mode

Classroom learning and / or online learning and / or mixed learning, where activities include:

❖Thematic lectures, lecture-discussions, lectures-consultations, study videos, blitz-interviews, self-examination, self-control and self-testing, test controls;
❖Practical tasks, cases, individual tasks, essays, creative tasks, group work, independent practical tasks on the following topics:

Exercise 1

- 1) To define the problems of the water management of the region; to draw up a plan of measures for the integrated management of a given water body with a view to improving its condition; to evaluate qualitative and quantitative indicators of the state of the water source;
- 2) To provide a blueprint for solutions to strategies for sustainable development of the region in the face of climate change, with integrated water resources management;

Exercise 2

- 1) Calculation of climatic and natural annual run-off of surface waters; determination of extreme run-off into different phases of river water regime; calculation of water balance of natural and artificial water bodies;
- 2) Long-term spatial projection of water run-off (using software packages); modelling of river run-off from different climate scenario ensembles; determination of climate corrections in the modelling of spring run-off and inter-country;

Role of coaches:

creating a base of information and literary sources for successful assimilation of theoretical material, preparation of presentations and instructional videos, topics of discussion meetings, creation of self-testing and control tests, preparation of practical tasks, materials, briefcases, work assignments.

Role of pupils:

participation in all the activities envisaged, the ability to self-control, creative approaches to the tasks assigned, work in the team, the ability to make decisions.

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Learning Assessment

Satisfactorily

- On the basis of the results of control measures (2 tests and 2 test-cases), the listener showed a sufficient level (> 65% of correct answers in the tests) Assimilation of theoretical material and correct solution of all practical problems and cases without justification of the results (LO1-3)

Good

- Adoption of the theoretical basis at a good level (> 82% of correct answers) on the results of 2 tests (LO1-3), active participation in the oral blitz polls, correct solution of all practical problem-cases with analysis of the obtained results and valid conclusions (LO4-6).

Excellent

- The theoretical questions are fully absorbed at a sufficiently high level (> 95% of correct answers) on the results of the test control (LO1-3). The practical tasks were performed correctly with valid conclusions and proposals for implementation (LO4-6). Active participation in oral blitz polls, participation in discussions, leadership in group tasks (LO7). Materials for participation in the conference or publication in the periodical professional publications on the results of creative tasks (LO8) have been prepared.

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Thank you!

P.S. Every drop of water is priceless! Use consciously!