

DRINK PURIFIED H₂O!

Occupational Qualifications

Learning Pathways

Competencies Acquired

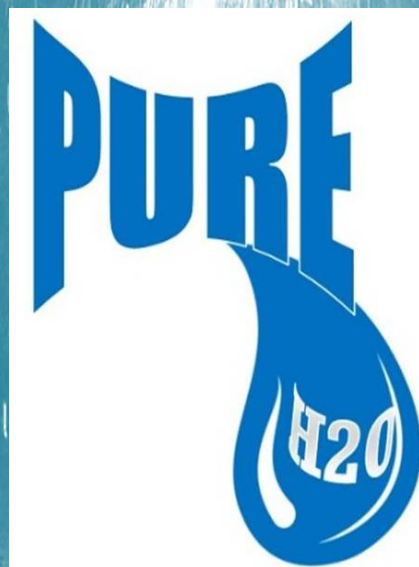




Table of Contents

Trainer in Chemical engineering.....	4
Occupational qualification ISCO (ESCO) 2145	4
Learning pathway.....	4
Competencies acquired	5
Trainer in Chemistry	7
Occupational qualification ISCO (ESCO) 2113	7
Learning pathway	7
Competencies acquired	8
Trainer in Civil engineering.....	10
Occupational qualification ISCO (ESCO) 2142	10
Learning pathway.....	10
Competencies acquired	11
Electrical technicians	13
Occupational qualification ISCO (ESCO) 3113	13
Learning pathway.....	13
Competencies acquired	14
Trainer in Environmental engineering	15
Occupational qualification ISCO (ESCO) 2143	15
Learning pathway.....	15
Competencies acquired	17
Incinerator and WTP operators.....	19
Occupational qualification ISCO (ESCO) 1223	19
Learning pathway.....	19
Competencies acquired	20
Trainer in Mechanical engineering.....	21
Occupational qualification ISCO (ESCO) 2144	21
Learning pathway.....	21



DRINK PURIFIED PURE-H2O!

Competencies acquired	22
Trainer in Microbiology	24
Occupational qualification ISCO (ESCO) 2131	24
Learning pathway.....	24
Competencies acquired	25
R & D Managers	27
Occupational qualification ISCO (ESCO) 1223	27
Learning pathway.....	27
Competencies acquired	28
School counselor	30
Occupational qualification ISCO (ESCO) 2359	30
Learning pathway.....	30
Competencies acquired	31
Town and traffic planners	32
Occupational qualification ISCO (ESCO) 2164	32
Learning pathway.....	32
Competencies acquired	33
Training and staff development professionals	35
Occupational qualification ISCO (ESCO) 2424	35
Learning pathway.....	35
Competencies acquired	36



DRINK PURIFIED PURE-H₂O!

Trainer in Chemical engineering

Occupational qualification ISCO (ESCO) 2145

Learning pathway

The objective of this Learning Pathway (LP) is to present knowledge about the main characteristics of DWTP, the needs from and evolution of water treatment technologies and EU legislation on drinking water. Basic facts about the water supply in terms of water distribution lines and their engineering structures are presented. Selected good practices in partners' countries on DWTP operation are revealed. Trainees are acquainted with the main categories of waterborne diseases as well as the chemical, physical and microbiological contamination of drinking water. Water sanitary risk analysis, assessment and management topics are discussed. The main characteristics of pure water with corresponding qualitative indicators and standards for water disinfection are presented. Special attention is given on innovative concepts and methodologies for training engineers and technical staff working in the drinking water supply sector.

The learning goals are achieved through presentation of training material within the following Learning Outcomes (LOs):

- Introduction of drinking water treatment;
- Basic facts about water supply;
- Best practices / Case studies;
- Water contamination risks;
- Quality standards for drinking water treatment plants;
- Disinfection.
- One countries' relationship with water;
- Technology-enhanced learning & innovative education and training for drinking water treatment plants.



DRINK PURIFIED PURE-H₂O!

Learning Pathway structure

Unit of LOs No 1	Credit Points (CP)
LO1	5.5
LO6	
LO13	
Unit of LOs No 2	CP
LO2	7.5
LO3	
LO5	
Unit of LOs No 4	CP
LO9	2.0
LO10	
TOTAL	15.0

The LP is designed for specialists working as VET Trainers in Chemical engineering with the purpose to help their training, to upgrade their knowledge and to broaden their wider competence in the subject, thus facilitating their realization on the labour market.

Competencies acquired

- Knowledge (about)
 - Fundamentals of drinking water supply and application of Microbiology;
 - Main aspects of drinking water supply systems;
 - Introduction to the European legislation in the drinking water supply area;
 - Specific characteristics in DWT processes in Bulgaria, Netherlands and Turkey;
 - Key elements of water contamination risks;
 - Basic concepts in establishment and application of DWTP quality standards;
 - Characteristics of pure water;
 - Fundamentals of water disinfection;



DRINK PURIFIED PURE-H₂O!

- Main standards and approaches for application of water disinfection; New approaches and methodologies in VET training for engineers and technical staff working in DWTP;
- EU VET principles for adoption and implementation of LO/Certification Units principles and ECVET assessment.
- Skills (to)
 - Perform quality control tests;
 - Conduct Water Chemistry/Engineering training programmes;
 - Evaluate and monitor technical risks for generation of drinking water pollution.
 - Apply chemical engineering techniques in DWTP;
 - Define the impact of water on the engineering elements of DWTP system and how these other elements affect the quality of the water;
 - Execute techniques for chemical treatment of drinking water
 - Prepare and maintain required records and logs;
 - Use statistical techniques in the treatment of data, and interpret and apply findings;
 - Apply EU VET principles (EQF/NQF) and training strategies;
 - Prepare and describe LOs;
 - Evaluate training effects through applying ECVET;
 - Keep up-to-date technical and scientific knowledge.
- Competence (in)
 - Expressing and interpreting concepts and ideas in both oral and written form;
 - Developing and applying logical thinking in solving different problems in everyday practice;
 - Using contemporary information and communication technologies;
 - Contributing to social and working life in an effective and beneficial way;
 - Applying creativity and innovation in planning and managing everyday work and in achieving objectives.



DRINK PURIFIED PURE-H₂O!

Trainer in Chemistry

Occupational qualification ISCO (ESCO) 2113

Learning pathway

The objective of this Learning Pathway (LP) is to deliver basic facts about drinking water unit operations with all physical, chemical, biological and mechanical processes comprehensively described. How to perform feasibility analysis of drinking water supply is defined. The fundamentals of residual management – categories of residuals, the regulatory requirements for their management, technical details on basic treatment and disposal options are presented as well. Special attention is given on innovative concepts and methodologies for training engineers and technical staff working in the drinking water supply sector.

The learning objectives of the LP cover the listed below Learning Outcomes (LOs):

- Unit operations for producing clean drinking water;
- Selection of water treatment process;
- Residual management;
- One countries' relationship with water;
- Technology-enhanced learning & innovative education and training for drinking water treatment plants.

Learning Pathway structure

Unit of LOs No 3	Credit Points (CP)
LO4	9.0
LO7	
LO8	
Unit of LOs No 4	CP
LO9	2.0



DRINK PURIFIED PURE-H₂O!

LO10	
TOTAL	11.0

It is designed for specialists working as VET Trainers in Chemistry and aims to upgrade their knowledge and improve their skills through introducing competence-based blended-model training.

Competencies acquired

- Knowledge (about)
 - Fundamentals of chemical composition, structure, and properties of substances applied in drinking water;
 - Use of chemicals and their interactions, danger signs, production techniques;
 - Main aspects of DWT technologies and unit operations;
 - Basic processes involved in clean drinking water delivery;
 - Introduction to the water distribution lines;
 - Key elements of residual management;
 - Principles for selection of drinking water treatment processes;
 - New approaches and methodologies in VET training for engineers and technical staff working in DWTP;
 - EU VET principles for adoption and implementation of LO/Certification Units principles and ECVET assessment.
- Skills (to)
 - Perform quality control tests;
 - Conduct Water Chemistry training programmes;
 - Analyze organic or inorganic compounds
 - Determine chemical or physical properties, composition, structure, relationships, or reactions;
 - Define the impact of water on other elements of the water treatment system and how these other elements affect the quality of the water;
 - Prepare and maintain required records and logs;
 - Use statistical techniques in the treatment of data, and interpret and apply findings;
 - Apply EU VET principles (EQF/NQF) and training strategies;



DRINK PURIFIED PURE-H2O!

- Preparation and description of LOs;
 - Evaluate training effects through applying ECVET;
 - Keep up-to-date technical and scientific knowledge.
-
- Competence (in)
 - Expressing and interpreting concepts and ideas in both oral and written form;
 - Developing and applying logical thinking in solving different problems in everyday practice;
 - Using contemporary information and communication technologies;
 - Contributing to social and working life in an effective and beneficial way;
 - Applying creativity and innovation in planning and managing everyday work and in achieving objectives.



Trainer in Civil engineering

Occupational qualification ISCO (ESCO) 2142

Learning pathway

The objective of this Learning Pathway (LP) is to offer comprehensive knowledge on the main types of waterborne diseases, their causative agents, the chemical, physical and microbiological contamination of drinking water. Water sanitary risk analysis, assessment and management are discussed. The main characteristics of pure water and its qualitative indicators and standards for water disinfection are presented. Knowledge about the understanding of key concepts and theories used in water economics is offered with emphasis on demand and supply of water used for domestic purposes, formation of water price and key issues related to the economic efficiency of water market. The evolution of economic and financial aspects of drinking water and water treatment plants is outlined. Special attention is given on innovative concepts and methodologies for training engineers and technical staff working in the drinking water supply sector.

The learning goals are achieved through presentation of training material within the following Learning Outcomes (LPs):

- Water contamination risks;
- Quality standards for drinking water treatment plants;
- Disinfection;
- Economics of drinking water;
- Economic and financial aspects of drinking water and water treatment plants;
- One countries' relationship with water;
- Technology-enhanced learning & innovative education and training for drinking water treatment plants.



DRINK PURIFIED PURE-H₂O!

Learning Pathway structure

Unit of LOs No 2	Credit Points (CP)
LO2	7.5
LO3	
LO5	
Unit of LOs No 5	CP
LO11	6.0
LO12	
Unit of LOs No 4	CP
LO9	2.0
LO10	
TOTAL	15.5

The LP is designed for specialists working as VET Trainers in Civil Engineering with the purpose to help their training, to upgrade their knowledge and to broaden their wider competence in the subject, thus facilitating their realization on the labour market.

Competencies acquired

- Knowledge (about)
 - Main aspects of water contamination risks;
 - Basic concepts in establishment and application of DWTP quality standards;
 - Key characteristics of pure water;
 - Fundamentals of water disinfection;
 - Main standards and approaches for application of water disinfection;
 - Key concepts and theories used in water economics;
 - Core issues related to the economic efficiency of water market;
 - Evolution of economic and financial aspects of drinking water and DWTP;



DRINK PURIFIED PURE-H2O!

- New approaches and methodologies in VET training for engineers and technical staff working in DWTP;
- EU VET principles for adoption and implementation of LO/Certification Units principles and ECVET assessment.
- Skills (to)
 - Work in compliance with Environmental, Health & Safety principles;
 - Design water supply and distribution systems;
 - Perform assessment of excessive water use on local and regional level;
 - Calculate the movement of waters in pipes, channels and underground;
 - Implement various drinking water management techniques;
 - Operate and maintain specialized equipment;
 - Prepare and maintain required records and logs;
 - Use statistical techniques in the treatment of data, and interpret and apply findings;
 - Apply EU VET principles (EQF/NQF) and training strategies;
 - Prepare and describe LOs;
 - Evaluate training effects through applying ECVET;
 - Keep up-to-date technical and scientific knowledge.
- Competence (in)
 - Expressing and interpreting concepts and ideas in both oral and written form;
 - Developing and applying logical thinking in solving different problems in everyday practice;
 - Using contemporary information and communication technologies;
 - Contributing to social and working life in an effective and beneficial way;
 - Applying creativity and innovation in planning and managing everyday work and in achieving objectives.



DRINK PURIFIED PURE-H₂O!

Electrical technicians

Occupational qualification ISCO (ESCO) 3113

Learning pathway

The objective of this Learning Pathway (LP) is to provide some specific knowledge and skills about the basic facts about the water supply and DWTP characteristics, evolution of water treatment technology and EU legislation. Trainees are acquainted with the basic facts about water supply, as well as with achievements and shortcomings in project partner countries.

The learning goals are achieved through presentation of training material within the following Learning Outcomes (LOs):

- Introduction of drinking water treatment;
- Basic facts about water supply;
- Best practices / Case studies.

Learning Pathway structure

Unit of LOs No 1	Credit Points (CP)
LO1	5.5
LO6	
LO13	
TOTAL	5.5

The LP is designed for specialists working as Electrical technicians with the purpose to help their training, to upgrade their knowledge and to broaden their wider competence in the subject, thus facilitating their realization on the labour market.



DRINK PURIFIED PURE-H₂O!

Competencies acquired

- Knowledge (about)
 - Fundamentals of drinking water treatment;
 - Water treatment technologies development;
 - Basic aspects of drinking water supply systems;
 - Main characteristics of DWTP
 - Introduction to the European legislation in the drinking water supply area;
 - Specific characteristics in DWT processes in Bulgaria, Netherlands and Turkey.
- Skills (to)
 - Work in compliance with Environmental, Health & Safety principles;
 - Perform electrical testing and providing technical assistance;
 - Install, repair and replace, maintain and operate specific equipment in electrical supply of water distribution systems;
 - Read and interpret blueprints and schematics.
 - Evaluate electrical and operational problems;
 - Prepare and maintain checking/control data;
 - Use statistical techniques in the treatment of data.
- Competence (in)
 - Expressing and interpreting concepts and ideas in both oral and written form;
 - Developing and applying logical thinking in solving different problems in everyday practice;
 - Using contemporary information and communication technologies;
 - Contributing to social and working life in an effective and beneficial way;
 - Applying creativity and innovation in planning and managing everyday work and in achieving objectives;



DRINK PURIFIED PURE-H₂O!

Trainer in Environmental engineering

Occupational qualification ISCO (ESCO) 2143

Learning pathway

The objective of this Learning Pathway (LP) is to provide information about the main types of waterborne diseases, their causative agents, the chemical, physical and microbiological contamination of drinking water. Water sanitary risk analysis, assessment and management are discussed. The main characteristics of pure water and its qualitative indicators and standards for water disinfection are presented. Trainees are acquainted with the basic facts about water supply. Introduction to drinking water unit operations is made and all physical, chemical, biological and mechanical processes are comprehensively described. How to perform feasibility analysis of drinking water supply is defined. The fundamentals of residual management – categories of residuals, the regulatory requirements for their management, technical details on basic treatment and disposal options are presented as well. Special attention is given on innovative concepts and methodologies for training engineers and technical staff working in the drinking water supply sector.

The learning goals of the LP cover the presentation of training material within the following Learning Outcomes (LOs):

- Introduction of drinking water treatment;
- Basic facts about water supply;
- Residual management;
- Best practices / Case studies;
- Water contamination risks;
- Quality standards for drinking water treatment plants;
- Disinfection;
- Unit operations for producing clean drinking water;
- Selection of water treatment processes;
- Residual Management;



DRINK PURIFIED PURE-H₂O!

- One countries' relationship with water;
- Technology-enhanced learning & innovative education and training for drinking water treatment plants.
- Economics of drinking water;
- Economic and financial aspects of drinking water and water treatment plants;

Learning Pathway structure

Unit of LOs No 1	Credit Points (CP)
LO1	5.5
LO6	
LO13	
Unit of LOs No 2	CP
LO2	7.5
LO3	
LO5	
Unit of LOs No 3	CP
LO4	9.0
LO7	
LO8	
Unit of LOs No 4	CP
LO9	2.0
LO10	
Unit of LOs No 5	CP
LO11	6.0
LO12	
TOTAL	30.0

The LP is designed for specialists working as VET Trainers in Environmental Engineering with the purpose to help their training, to upgrade their knowledge and to broaden their wider competence in the subject, thus facilitating their realization on the labour market.



DRINK PURIFIED PURE-H₂O!

Competencies acquired

- Knowledge (about)
 - Fundamentals of drinking water supply and application of Environmental Engineering;
 - Main aspects of drinking water supply systems;
 - Basic concepts in DWTP operation;
 - Main aspects of water contamination risks;
 - Main elements of residual management;
 - Introduction to the European legislation in the drinking water supply area;
 - Specific characteristics in DWT processes in Bulgaria, Netherlands and Turkey;
 - Basic concepts in establishment and application of DWTP quality standards;
 - Key characteristics of pure water;
 - Fundamentals of water disinfection;
 - Leading standards and approaches for application of water disinfection;
 - Main aspects of DWT technologies and unit operations;
 - Basic processes involved in clean drinking water delivery;
 - Introduction to the water distribution lines;
 - Key elements of residual management;
 - Evolution of economic and financial aspects of drinking water and DWTP;
 - Key concepts and theories used in water economics;
 - Core issues related to the economic efficiency of water market;
 - New approaches and methodologies in VET training for engineers and technical staff working in DWTP;
 - EU VET principles for adoption and implementation of LO/Certification Units principles and ECVET assessment.
- Skills (to)
 - Work in compliance with Environmental, Health & Safety principles;
 - Design water supply and distribution systems;
 - Calculate the movement of waters in pipes, channels and underground;
 - Perform water quality parameters analysis and evaluation;
 - Implement various drinking water management techniques;



DRINK PURIFIED PURE-H2O!

- Operate and maintain specialized equipment;
 - Apply river basin management and flood protection;
 - Sample, measure and monitor drinking water;
 - Design reuse of treated drinking water;
 - Apply integrated drinking water resources projects;
 - Prepare and maintain required records and logs;
 - Use statistical techniques in the treatment of data, and interpret and apply findings;
 - Apply EU VET principles (EQF/NQF) and training strategies;
 - Prepare and describe LOs;
 - Evaluate training effects through applying ECVET;
 - Keep up-to-date technical and scientific knowledge.
-
- Competence (in)
 - Expressing and interpreting concepts and ideas in both oral and written form;
 - Developing and applying logical thinking in solving different problems in everyday practice;
 - Using contemporary information and communication technologies;
 - Contributing to social and working life in an effective and beneficial way;
 - Applying creativity and innovation in planning and managing everyday work and in achieving objectives.



DRINK PURIFIED PURE-H₂O!

Incinerator and WTP operators

Occupational qualification ISCO (ESCO) 1223

Learning pathway

The objective of this Learning Pathway (LP) is revealed through Units of Learning Outcomes that deliver trainees with basic facts about drinking water unit operations. They overview all physical, chemical, biological, and mechanical processes that are comprehensively described. The feasibility analysis of drinking water supply is defined. The fundamental issues of residual management are focused on: the type of residuals, the regulatory requirements for their management, technical details of basic treatment and disposal options.

The learning goals are achieved through presentation of training material within the following Learning Outcomes (LOs):

- Unit operations for producing clean drinking water;
- Selection of water treatment process;
- Residual management.

Learning Pathway structure

Unit of LOs No 3	Credit Points (CP)
LO4	9.0
LO7	
LO8	
TOTAL	9.0

The LP is designed for specialists working as incinerators and WTP operators with the purpose to help their training, to upgrade their knowledge and to broaden their wider competence in the subject, thus facilitating their realization on the labor market.



DRINK PURIFIED PURE-H₂O!

Competencies acquired

- Knowledge (about)
 - Use of chemicals and their interactions, danger signs, production techniques;
 - Main aspects of DWT technologies and unit operations;
 - Basic processes involved in clean drinking water delivery;
 - Introduction to the water distribution lines;
 - Key elements of residual management;
 - Principles for selection of drinking water treatment processes.
- Skills (to)
 - Operate and monitor various types of plant, such as incinerators, water treatment plant, air and gas compressors, pumping stations, refrigeration or heating and ventilation systems Perform quality control tests;
 - Evaluate and monitor technical risks for generation of drinking water pollution.
 - Apply incineration techniques in DWTP;
 - Execute techniques for chemical treatment of drinking water
 - Prepare and maintain required records and logs;
- Competence (in)
 - Expressing and interpreting concepts and ideas in both oral and written form;
 - Developing and applying logical thinking in solving different problems in everyday practice;
 - Using contemporary information and communication technologies;
 - Contributing to social and working life in an effective and beneficial way;
 - Applying creativity and innovation in planning and managing everyday work and in achieving objectives.



DRINK PURIFIED PURE-H₂O!

Trainer in Mechanical engineering

Occupational qualification ISCO (ESCO) 2144

Learning pathway

The objective of this Learning Pathway (LP) is to give an overview on the main types of waterborne diseases, their causative agents, the chemical, physical and microbiological contamination of drinking water. Emphasis is given to the illnesses due to drinking and recreational waters, and the phenomenon of biocorrosion. Water sanitary risk analysis, assessment and management are discussed. The main characteristics of pure water and its qualitative indicators and standards for water disinfection are presented. Special attention is given on innovative concepts and methodologies for training engineers and technical staff working in the drinking water supply sector.

The learning goals are achieved through presentation of training material within the following Learning Outcomes (LOs):

- Water contamination risks;
- Quality standards for drinking water treatment plants;
- Disinfection;
- One countries' relationship with water;
- Technology-enhanced learning & innovative education and training for drinking water treatment plants.

Learning Pathway structure

Unit of LOs No 2	Credit Points (CP)
LO2	7.5
LO3	
LO5	

Unit of LOs No 4	CP
LO9	2.0
LO10	
TOTAL	9.5

The LP is designed for specialists working as VET Trainers in Mechanical engineering with the purpose to help their training, to upgrade their knowledge and to broaden their wider competence in the subject, thus facilitating their realization on the labour market.

Competencies acquired

- Knowledge (about)
 - Main aspects of water contamination risks;
 - Major categories of water contamination agents;
 - Basic concepts in establishment and application of DWTP quality standards;
 - Key characteristics of pure water;
 - Fundamentals of water disinfection;
 - Main standards and approaches for application of water disinfection;
 - New approaches and methodologies in VET training for engineers and technical staff working in DWTP;
 - EU VET principles for adoption and implementation of LO/Certification Units principles and ECVET assessment.
- Skills (to)
 - Work in compliance with Environmental, Health & Safety principles;
 - Maintain basic water supply and distribution systems;
 - Perform technical control on DWTP operation;
 - Execute technical testing on scale up, production and daily DWTP checks and monitoring;
 - Maintain laboratory supplies and equipment;
 - Prepare and maintain required records and logs;
 - Use statistical techniques in the treatment of data, to interpret and apply findings;
 - Apply EU VET principles (EQF/NQF) and training strategies;



DRINK PURIFIED PURE-H₂O!

- Prepare and describe LOs;
 - Evaluate training effects through applying ECVET;
 - Keep up-to-date technical and scientific knowledge.
-
- Competence (in)
 - Expressing and interpreting concepts and ideas in both oral and written form;
 - Developing and applying logical thinking in solving different problems in everyday practice;
 - Using contemporary information and communication technologies;
 - Contributing to social and working life in an effective and beneficial way;
 - Applying creativity and innovation in planning and managing everyday work and in achieving objectives.



Trainer in Microbiology

Occupational qualification ISCO (ESCO) 2131

Learning pathway

The objective of this Learning Pathway (LP) is to provide some specific knowledge and skills about the basic facts about the water supply and DWTP characteristics, evolution of water treatment technology and EU legislation. Trainees are acquainted with the basic facts about water supply, as well as with achievements and shortcomings in project partner countries. Introduction to drinking water unit operations is made and all physical, chemical, biological and mechanical processes are comprehensively described. How to perform feasibility analysis of drinking water supply is defined. The fundamentals of residual management – categories of residuals, the regulatory requirements for their management, technical details on basic treatment and disposal options are presented as well. Best practices applicable in project partner countries are described. Special attention is given on innovative concepts and methodologies for training engineers and technical staff working in the drinking water supply sector.

The learning goals are achieved through presentation of training material within the following Learning Outcomes (LOs):

- Introduction of drinking water treatment;
- Basic facts about water supply;
- Residual management;
- Best practices / Case studies;
- Training for engineers and technical staff;
- Technology enhanced learning & innovative education and training for drinking water treatment;



DRINK PURIFIED PURE-H₂O!

Learning Pathway structure

Unit of LOs No 1	Credit Points (CP)
L01	5.5
L06	
L013	
Unit of LOs No 3	CP
L04	9.0
L07	
L08	
Unit of LOs No 4	CP
L09	2.0
L010	
TOTAL	16.5

The LP is designed for specialists working as VET Trainers in Microbiology with the purpose to help their training, to upgrade their knowledge and to broaden their wider competence in the subject, thus facilitating their realization on the labour market.

Competencies acquired

- Knowledge (about)
 - Fundamentals of drinking water supply and application of Microbiology;
 - Main aspects of drinking water supply systems;
 - Basic concepts in DWTP operation;
 - Main elements of residual management;
 - Introduction to the European legislation in the drinking water supply area;
 - Specific characteristics in DWT processes in Bulgaria, Netherlands and Turkey;
 - New approaches and methodologies in VET training for engineers and technical staff working in DWTP;



DRINK PURIFIED PURE-H₂O!

- EU VET principles for adoption and implementation of LO/Certification Units principles and ECVET assessment;
- Skills (to)
 - Work in compliance with Environmental, Health & Safety principals;;
 - Conduct Water microbiology training programmes;
 - Perform microbiological testing and culturing;
 - Perform sterility and environmental testing on scale up, production and daily environmental checks and facility monitoring;
 - Maintain and order laboratory supplies/media and equipment;
 - Prepare and maintain required records and logs;
 - Use statistical techniques in the treatment of data, and interpret and apply findings;
 - Apply EU VET principles (EQF/NQF) and training strategies;
 - Prepare and describe LOs;
 - Evaluate training effects through applying ECVET;
 - Keep up-to-date technical and scientific knowledge;
- Competence (in)
 - Expressing and interpreting concepts and ideas in both oral and written form;
 - Developing and applying logical thinking in solving different problems in everyday practice;
 - Using contemporary information and communication technologies;
 - Contributing to social and working life in an effective and beneficial way;
 - Applying creativity and innovation in planning and managing everyday work and in achieving objectives.



DRINK PURIFIED PURE-H₂O!

R & D Managers

Occupational qualification ISCO (ESCO) 1223

Learning pathway

The objective of this Learning Pathway (LP) is to offer information about the main characteristics of drinking water unit operations and all physical, chemical, biological and mechanical processes - comprehensively described. Performance of feasibility analysis of drinking water supply is defined. Also, the fundamentals of residual management i.e. categories of residuals, the regulations, the technical details on basic treatment and disposal options are presented. Trainees are given information helping them to understand the key concepts and theories used in water economics. Special focus on demand and supply of water used for domestic purposes, formation of water price and key issues related to the economic efficiency of water market is given. The evolution of economic and financial aspects of drinking water and water treatment plants is discussed as well.

The learning goals are achieved through presentation of training material within the following Learning Outcomes (LOs):

- Unit operations for producing clean drinking water;
- Selection of water treatment process;
- Residual management;
- Economics of drinking water;
- Economic and financial aspects of drinking water and water treatment plants.

Learning Pathway structure

Unit of LOs No 3	Credit Points (CP)
LO4	9.0
LO7	



DRINK PURIFIED PURE-H₂O!

LO8	
Unit of LOs No 5	CP
LO11	6.0
LO12	
TOTAL	15.0

The LP is designed for specialists working as R & D Managers with the purpose to help their training, to upgrade their knowledge and to broaden their wider competence in the subject, thus facilitating their realization on the labor market.

Competencies acquired

- Knowledge (about)
 - Use of chemicals and their interactions, danger signs, production techniques;
 - Main aspects of DWT technologies and unit operations;
 - Basic processes involved in clean drinking water delivery;
 - Introduction to the water distribution lines;
 - Key elements of residual management;
 - Principles for selection of drinking water treatment processes;
 - Key concepts and theories used in water economics;
 - Core issues related to the economic efficiency of water market;
 - Evolution of economic and financial aspects of drinking water and DWTP.
- Skills (to)
 - Plan, direct and coordinate the research and development activities of the enterprise or organization, under the broad guidance of the directors and chief executives, and in consultation with managers of other departments or sections;
 - Evaluate and monitor economic risks for generation of drinking water pollution;
 - Perform various water management techniques;
 - Work in compliance with Environmental, Health & Safety principles;
 - Apply drinking water management systems available for the building sites and traffic systems;
 - Keep up-to-date technical and scientific knowledge;
 - Prepare and maintain required records and logs.



DRINK PURIFIED PURE-H₂O!

- Competence (in)
- Expressing and interpreting concepts and ideas in both oral and written form;
- Developing and applying logical thinking in solving different problems in everyday practice;
- Using contemporary information and communication technologies;
- Contributing to social and working life in an effective and beneficial way;
- Applying creativity and innovation in planning and managing everyday work and in achieving objectives.



DRINK PURIFIED PURE-H₂O!

School counselor

Occupational qualification ISCO (ESCO) 2359

Learning pathway

The objective of this Learning Pathway (LP) is to offer knowledge about the key concepts and theories applied in water economics. The emphasis is made on demand and supply of water used for domestic purposes, formation of water price and key issues related to the economic efficiency of water market. The evolution of economic and financial aspects of drinking water and water treatment plants is outlined. Special attention is given on innovative concepts and methodologies for training engineers and technical staff working in the drinking water supply sector.

The learning goals are achieved through presentation of training material within the following Learning Outcomes (LOs):

- Economics of drinking water;
- Economic and financial aspects of drinking water and water treatment plants;
- One countries' relationship with water;
- Technology-enhanced learning & innovative education and training for drinking water treatment plants.

Learning Pathway structure

Unit of LOs No 5	Credit Points (CP)
LO9	6.0
LO10	
Unit of LOs No 4	CP
LO11	2.0
LO12	
TOTAL	8.0



DRINK PURIFIED PURE-H2O!

The LP is designed for specialists working as School counselors with the purpose to help their training, to upgrade their knowledge and to broaden their wider competence in the subject, thus facilitating their realization on the labor market.

Competencies acquired

- Knowledge (about)
 - Key concepts and theories applied in water economics;
 - Core issues related to the economic efficiency of water market;
 - Evolution of economic and financial aspects of drinking water and DWTP;
 - New approaches and methodologies in VET training for engineers and technical staff working in DWTP;
 - EU VET principles for adoption and implementation of LO/Certification Units principles and use of ECVET credit points for assessment.
- Skills (to)
 - Evaluate and monitor economic risks for generation of drinking water pollution.
 - Perform various water management techniques
 - Work in compliance with Environmental, Health & Safety principles;
 - Use statistical techniques in the treatment of data, and interpret and apply findings;
 - Keep up-to-date technical and scientific knowledge;
 - Prepare and maintain required records and logs;
 - Apply EU VET principles (EQF/NQF) and training strategies;
 - Prepare and describe LOs;
 - Evaluate training effects through applying ECVET principle.
- Competence (in)
 - Expressing and interpreting concepts and ideas in both oral and written form;
 - Developing and applying logical thinking in solving different problems in everyday practice;
 - Using contemporary information and communication technologies;
 - Contributing to social and working life in an effective and beneficial way;
 - Applying creativity and innovation in planning and managing everyday work and in achieving objectives.



Town and traffic planners

Occupational qualification ISCO (ESCO) 2164

Learning pathway

The objective of this Learning Pathway (LP) is to offer information about the main characteristics of DWTP, the evolution of water treatment technologies and EU legal framework on drinking water. Trainees are given information helping them to understand the key concepts and theories used in water economics with special focus on demand and supply of water used for domestic purposes, formation of water price and key issues related to the economic efficiency of water market. The evolution of economic and financial aspects of drinking water and water treatment plants is discussed as well.

The learning goals are achieved through presentation of training material within the following Learning Outcomes (LOs):

- Introduction of drinking water treatment;
- Basic facts about water supply;
- Best practices / Case studies;
- Economics of drinking water;
- Economic and financial aspects of drinking water and water treatment plants.

Learning Pathway structure

Unit of LOs No 1	Credit Points (CP)
LO1	5.5
LO6	
LO13	
Unit of LOs No 5	CP
LO11	6.0



DRINK PURIFIED PURE-H₂O!

LO12	
TOTAL	11.5

The LP is designed for specialists working as Town and traffic planners with the purpose to help their training, to upgrade their knowledge and to broaden their wider competence in the subject, thus facilitating their realization on the labour market.

Competencies acquired

- Knowledge (about)
 - Fundamentals of drinking water treatment;
 - Main aspects of drinking water supply systems;
 - Introduction to the European legislation in the drinking water supply area;
 - Specific characteristics in DWT processes in Bulgaria, Netherlands and Turkey;
 - New approaches and methodologies in VET training for engineers and technical staff working in DWTP;
 - EU VET principles for adoption and implementation of LO/Certification Units principles and ECVET assessment;
- Skills (to)
 - Work in compliance with Environmental, Health & Safety principles;
 - Develop plans for water systems implementation in urban and rural land and traffic systems;
 - Perform various water management techniques;
 - Apply drinking water management systems available for the building sites and traffic systems;
 - Design and develop drinking water usage reduction plan appropriate for the building and traffic requirements;
 - Maintain specific technical devices and equipment;
 - Prepare and maintain required records and logs;
 - Use statistical techniques in the treatment of data, and interpret and apply findings.



DRINK PURIFIED PURE-H₂O!

- Competence (in)
 - Expressing and interpreting concepts and ideas in both oral and written form;
 - Developing and applying logical thinking in solving different problems in everyday practice;
 - Using contemporary information and communication technologies;
 - Contributing to social and working life in an effective and beneficial way;
 - Applying creativity and innovation in planning and managing everyday work and in achieving objectives.



DRINK PURIFIED PURE-H₂O!

Training and staff development professionals

Occupational qualification ISCO (ESCO) 2424

Learning pathway

The objective of this Learning Pathway (LP) is to present knowledge about the main characteristics of DWTP, the needs from and evolution of water treatment technologies and EU legislation on drinking water. Basic facts about the water supply in terms of water distribution lines and their engineering structures are presented. Trainees are acquainted with the innovative concepts and methodologies for training engineers and technical staff working in the drinking water supply sector.

The learning goals are achieved through presentation of training material within the following Learning Outcomes (LOs):

- Introduction of drinking water treatment;
- Basic facts about water supply;
- Best practices / Case studies;
- One countries' relationship with water;
- Technology-enhanced learning & innovative education and training for drinking water treatment plants.

Learning Pathway structure

Unit of LOs No 1	Credit Points (CP)
LO1	5.5
LO6	
LO13	
Unit of LOs No 4	CP
LO9	2.0

LO10	
TOTAL	7.5

The LP is designed for specialists working as Training and Staff Development Professionals with the purpose to help their training, to upgrade their knowledge and to broaden their wider competence in the subject, thus facilitating their realization on the labour market.

Competencies acquired

- Knowledge (about)
 - Fundamentals of drinking water treatment;
 - Water treatment technologies development;
 - Basic aspects of drinking water supply systems;
 - Main characteristics of DWTP
 - Introduction to the European legislation in the drinking water supply area;
 - Specific characteristics in DWT processes in Bulgaria, Netherlands and Turkey;
 - New approaches and methodologies in VET training for engineers and technical staff working in DWTP;
 - EU VET principles for adoption and implementation of LO/Certification Units principles and ECVET assessment.
- Skills (to)
 - Identify training and development needs within an organization;
 - Design and expand training and development programmes based on the needs of the organisation and the individual;
 - Managing the delivery of training and development programmes
 - Apply EU VET principles (EQF/NQF) and training strategies;
 - Preparation and description of LOs;
 - Evaluate training effects through applying ECVET;
 - Keep up-to-date technical and scientific knowledge.
- Competence (in)
 - Expressing and interpreting concepts and ideas in both oral and written form;
 - Developing and applying logical thinking in solving different problems in everyday practice;



DRINK PURIFIED PURE-H2O!

- Using contemporary information and communication technologies;
- Contributing to social and working life in an effective and beneficial way;
- Applying creativity and innovation in planning and managing everyday work and in achieving objectives.