

ENVIRONMENT SCIENCES 2		
Enrollment year	2018/2019	
Academic year	2019/2020	
Regulations	DM270	
Department	DEPARTMENT OF PUBLIC HEALTH, NEUROSCIENCE, EXPERIMENTAL AND FORENSIC MEDICINE	
Course	ENVIRONMENT AND WORKPLACE PREVENTION TECHNIQUES	
Curriculum	PERCORSO COMUNE	
Year of study	2°	
Period	1st semester (01/10/2019 - 17/01/2020)	
ECTS	6	
Language	Italian	

The activity is split

503524 - ENVIRONMENT AND CULTURAL GOODS CHEMISTRY

503523 - ECOLOGY 2

503525 - HEALTH ENGINEERING AND ENVIRONMENTAL DETECTION



ENVIR	ONMENT AND CULTURAL GOODS CHEMISTRY
Enrollment year	2018/2019
Academic year	2019/2020
Regulations	DM270
Academic discipline	CHIM/12 (ENVIRONMENTAL CHEMISTRY AND CHEMISTRY FOR CULTURAL HERITAGE)
Department	DEPARTMENT OF PUBLIC HEALTH, NEUROSCIENCE, EXPERIMENTAL AND FORENSIC MEDICINE
Course	ENVIRONMENT AND WORKPLACE PREVENTION TECHNIQUES
Curriculum	PERCORSO COMUNE
Year of study	2°
Period	1st semester (01/10/2019 - 17/01/2020)
ECTS	2
Lesson hours	16 lesson hours
Language	Italian
Activity type	WRITTEN TEST
Teacher	COLLI MAURIZIO - 2 ECTS
Prerequisites	basic chemistry inorganic and organic
Learning outcomes	The course aims to learn the chemical-environmental processes to understand anthropological interferences, chemical-environmental equilibria and the ability to self-purify environmental matrices. Furthermore, knowledge of environmental chemistry explains the various interferences with cultural heritage and its conservation.
Course contents	Water: water distribution in the hydrosphere Water classification Lentiche Lotiche Transitional-marine water Chemical characteristics Relations between BOD-COD-TOC Water quality according to use Water pollution. . Soil: formation-pedogenic processes Main chemical properties of the

soil and their measurement Atmospheric inputs Self-purifying capacity Treatment and recovery of polluted soils.

Teaching methods

The course is organized lectures. In the second year, at the end of the lectures, a visit to the Synlab A & S Industrial Hygiene Laboratory (Mer) is scheduled to examine the analytical techniques and the equipment used for environmental analyzes.

Reccomended or required readings

The course is organized lectures. In the second year, at the end of the lectures, a visit to the Synlab A & S Industrial Hygiene Laboratory (Mer) is scheduled to examine the analytical techniques and the equipment used for environmental analyzes.

Material for exam preparation will be provided as slides or notes. Recommended texts

Applied ecology Renato Vismara Ed. Hoepli

Organic micropollutants Silvana Galassi Ed. Hoepli

The air
Beat Meyer Ed. New Techniques

Clean chemistry
Hermann Fischer Ed. New Techniques

Environmental Chemistry Ed. Wiley

Soils and ecosystems Romano Rasio Ed. Cappelli

Assessment methods

The exam will be in written form, with open answers, to 10 questions that cover the entire program of the course.

The adequacy and completeness of the answer will be the indicators to assess the student's degree of learning and the relative attribution of the exam score.

Further information

Sustainable development goals - Agenda 2030

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ECOLOGY 2			
Enrollment year	2018/2019		
Academic year	2019/2020		
Regulations	DM270		
Academic discipline	BIO/07 (ECOLOGY)		
Department	DEPARTMENT OF PUBLIC HEALTH, NEUROSCIENCE, EXPERIMENTAL AND FORENSIC MEDICINE		
Course	ENVIRONMENT AND WORKPLACE PREVENTION TECHNIQUES		
Curriculum	PERCORSO COMUNE		
Year of study	2°		
Period	1st semester (01/10/2019 - 17/01/2020)		
ECTS	2		
Lesson hours	16 lesson hours		
Language	Italian		
Activity type	ORAL TEST		
Teacher	PAVAN GIANNI (titolare) - 2 ECTS		
Prerequisites			
Learning outcomes			
Course contents			
Teaching methods			
Reccomended or required readings			
Assessment methods			
Further information			
Sustainable development			



Anno Accademico 2019/2020			
HEALTH ENGINEERING AND ENVIRONMENTAL DETECTION			
Enrollment year	2018/2019		
Academic year	2019/2020		
Regulations	DM270		
Academic discipline	ICAR/03 (ENVIRONMENTAL AND HEALTH ENGINEERING)		
Department	DEPARTMENT OF PUBLIC HEALTH, NEUROSCIENCE, EXPERIMENTAL AND FORENSIC MEDICINE		
Course	ENVIRONMENT AND WORKPLACE PREVENTION TECHNIQUES		
Curriculum	PERCORSO COMUNE		
Year of study	2°		
Period	(01/10/2019 - 17/01/2020)		
ECTS	2		
Lesson hours	16 lesson hours		
Language	Italian		
Activity type	WRITTEN AND ORAL TEST		
Teacher	CALLEGARI ARIANNA - 2 ECTS		
Prerequisites			
Learning outcomes	To learn methods on microbiological, chemical and physical characteriztion of water and waste water. To understand the effects of pollutants immission in the environment (origin and type), diffusion, persistence To be aware about water legislation and risk analysis To understand biodegradation phenomena of organic matter To understand activated sludge wastewater treatment plants working		

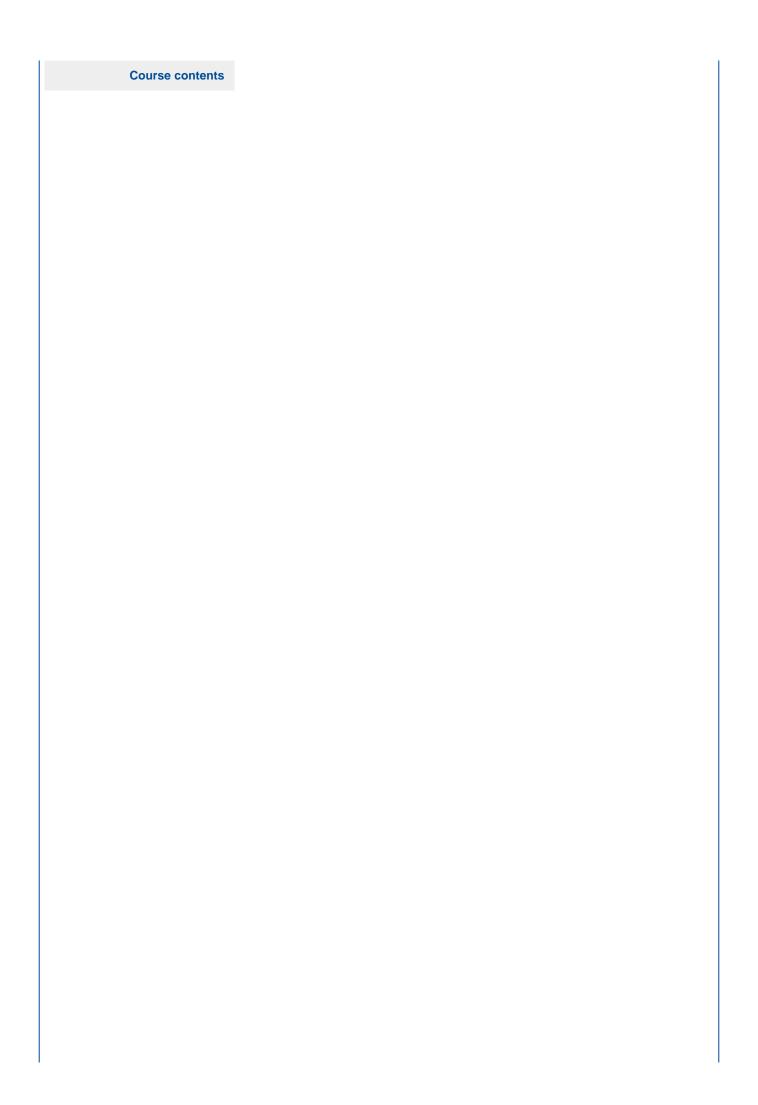
principles - in both water and sludge compartments

related legislation

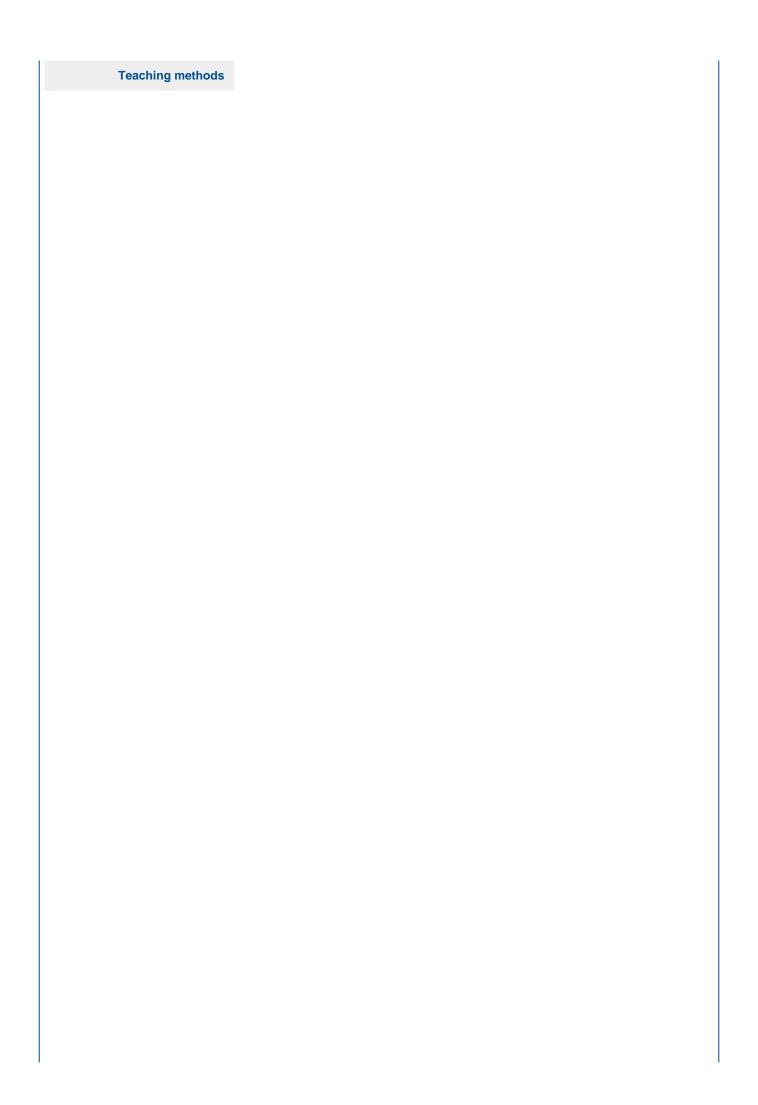
sludge and organic waste.

Learn basic concepts of waste analysis, treatment, and disposal, and

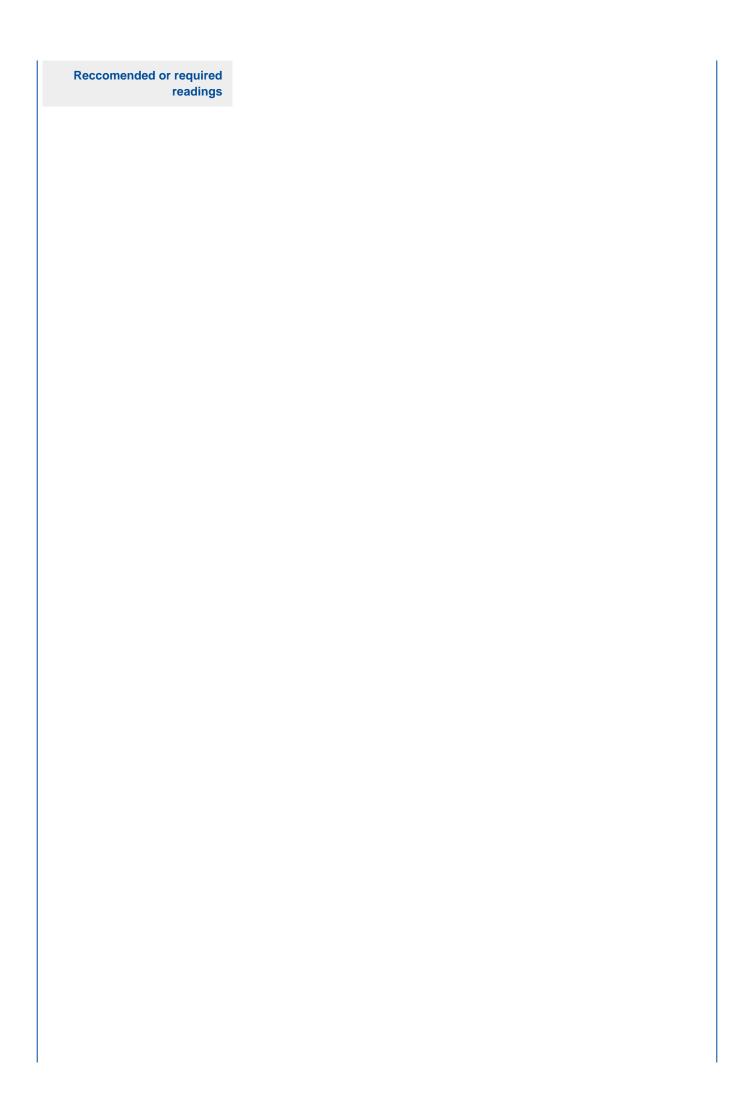
Understand basic primciples of disposal of leachates, wastewater



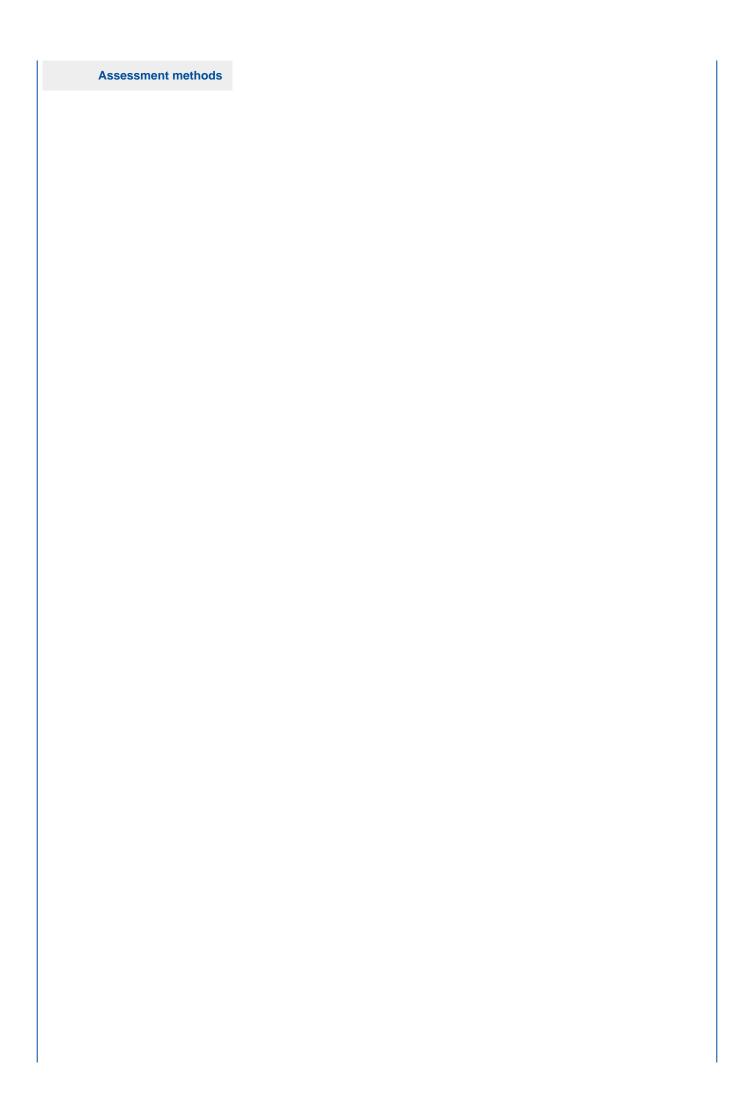
- 1) Microbiological, chemical and physical characterization of water and waste water;
- 2) effects of pollutants immission in the environment (origin and type), diffusion, persistence;
- 3) water legislation and risk analysis;
- 4) biodegradation of organic matter;
- 5) activated sludge wastewater treatment plants water and sludge compartments;
- 6) waste analysis, treatment, and disposal, and related legislation;
- 7) disposal of leachates, wastewater sludge and organic waste.



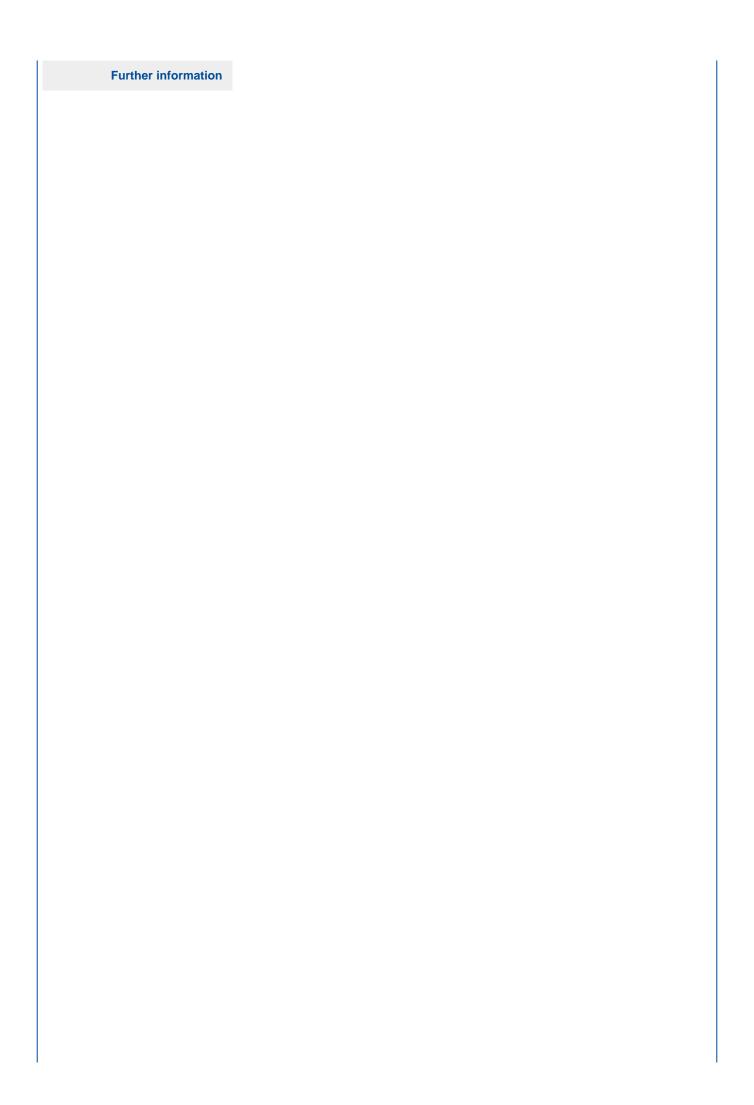
Frontal led	ctures. On-si	ite visit.		



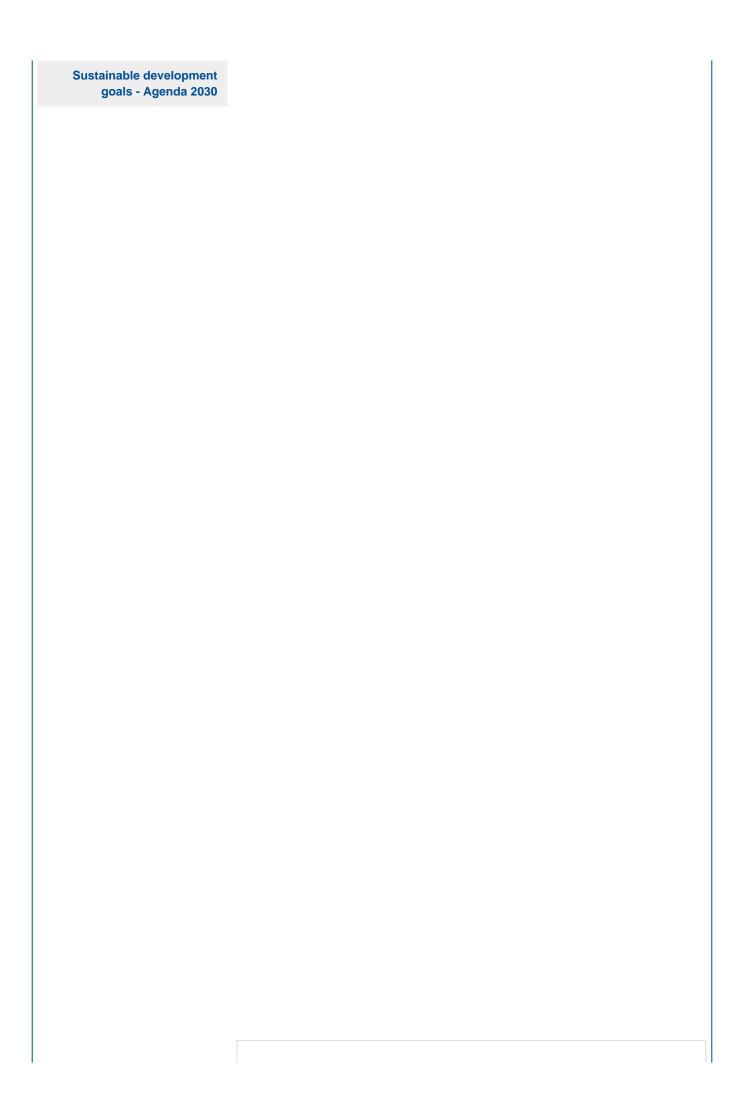
cturers' notes.	



Final written examination.



f a site visit to an urban wastewater treatment plant will be arragned.



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