



## 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



## ENVIRONMENT 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	<p>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.</p>
Course contents	<p>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.</p> <p>. Soil: formation-pedogenic processes Main chemical properties of the</p>

	soil and their measurement Atmospheric inputs Self-purifying capacity Treatment and recovery of polluted soils.
<b>Teaching methods</b>	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.
<b>Reccomended or required readings</b>	<p>The course is organized lectures. In the second year, at the end of the lectures, a visit to the Synlab A &amp; S Industrial Hygiene Laboratory (Mer) is scheduled to examine the analytical techniques and the equipment used for environmental analyzes.</p> <p>Material for exam preparation will be provided as slides or notes.</p> <p>Recommended texts</p> <p>Applied ecology Renato Vismara Ed. Hoepli</p> <p>Organic micropollutants Silvana Galassi Ed. Hoepli</p> <p>The air Beat Meyer Ed. New Techniques</p> <p>Clean chemistry Hermann Fischer Ed. New Techniques</p> <p>Environmental Chemistry Ed. Wiley</p> <p>Soils and ecosystems Romano Rasio Ed. Cappelli</p>
<b>Assessment methods</b>	<p>The exam will be in written form, with open answers, to 10 questions that cover the entire program of the course.</p> <p>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.</p>
<b>Further information</b>	
<b>Sustainable development goals - Agenda 2030</b>	<a href="#">\$lbl legenda sviluppo sostenibile</a>



## 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	





## 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	<p>To learn methods on microbiological, chemical and physical characterization of water and waste water.</p> <p>To understand the effects of pollutants immission in the environment (origin and type), diffusion, persistence</p> <p>To be aware about water legislation and risk analysis</p> <p>To understand biodegradation phenomena of organic matter</p> <p>To understand activated sludge wastewater treatment plants working principles - in both water and sludge compartments</p> <p>Learn basic concepts of waste analysis, treatment, and disposal, and related legislation</p> <p>Understand basic principles of disposal of leachates, wastewater sludge and organic waste.</p>



- 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 lectures. On-site visit.

**Recommeneded or required  
readings**

Lecturers' notes.



Final written examination.



If a site visit to an urban wastewater treatment plant will be arranged.





