

# Study programmes 2024-2025

## **Faculty of Sciences**

Master in environmental sciences and management, professional focus

# Block view of the study programme

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## Core curriculum compulsory courses

Socio-ecological issues: regulated sectors of the environment	)-ecological issues: regulated sectors of t	the environmen
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Socio-ecologica	l issues: regulated sectors of the environment					
ENVT0892-1	Integrated energy management, particularly in the construction industry - Philippe Andre, Maxime Habran	Q1	28	12	-	4
ENVT3040-2	Integrated and participative management of water resources - Johan Derouane, Joost Wellens	Q1	24	16	-	4
ENVT3127-1	Biodiversity and societies - Dorothée DENAYER	Q1	30	10	-	4
ENVT0893-1	Air quality: Pressure - State - Response - AnneClaude ROMAIN, Bernard TYCHON	Q1	34	4	-	4
ENVT0894-1	Environment (soil) - Bernard TYCHON	Q1	25	15	-	4
Cross-cutting a	approaches to environmental issues					
ENVT0010-1	Seminar - Integrated approach to environmental issues - Moussa EL JARROUDI, Claudia FALZONE, Koufanou HIEN, Eleonore KIRSCH, Marie LANG, N, Nathalie SEMAL - Suppl : Corentin HECQUET - [30h SEM, 30h Mon. WS]	Q2	3	-	[+]	4
ENVT0846-2	Introduction to the Anthropocene - Pierre M. STASSART - [6h FW, 4h SEM]	Q1	20	-	[+]	2
ENVT0049-1	System analysis applied to environment - Philippe ANDRE	Q1	14	6	-	2
ENVT3124-1	Environmental data processing - Part 1: Univariate and bivariate statistics in the environment - Laurent LOOSVELDT	Q2	8	8	-	4
	- Part 2: Introduction to R - AnneClaude ROMAIN - Part 3: Statistical arguments - Nathalie SEMAL - [6h Cl. inv.]		6 4	12	- [+]	
ENVT3045-1	Ecosystems: conditions, anthropic impacts and management - Dorothée DENAYER, Célia JOAQUIMJUSTO - [16h Cl. inv.]	Q2	4	20	[+]	4
ECON0945-1	Economy, energy and environment - Nadia DE ZOTTI, HenryJean GATHON, Axel GAUTIER	Q1	16	-	-	2
SPOL0382-2	Foundations of environmental politicies/law - Sylviane LEPRINCE	Q1	30	-	-	3
ENVT2027-3	Application of teledetection and geographical information systems for environmental management - Antoine Denis, Bernard Tychon	Q2	14	26	-	4
ENVT3054-2	Methodological Approach to Environmental Science - Marjorie BARDIAU, Léna CAUCHIE, Antoine DENIS - [4h Mon. WS]	Q2	16	10	[+]	3

#### **Common core courses**

#### **Specialised courses**

With the jury¿s agreement and depending on the student¿s course, choose three courses from:

## Please note:

- courses only take place if at least 5 students are registered.
- ENVT0155-1 cannot be taken at the same time as ENVT0867-1 and ENVT0895-1 (time incompatibility).

Notice: Courses only take place if at least five students are registered.

GEOG0664-1	Land use planning and mobility - Christophe Breuer, JeanMarie HALLEUX - [2d FW]	Q2	15	15	[+]	4
ENVT0895-1	Environment and development: social, economic, cultural, institutional, legal and political aspects - Fabio BERTI, Olivier DUPONT - [16h Mon. WS]	Q2	32	-	[+]	4
ENVT0867-1	Environmental performance of buildings (english language) -	Q2	20	20	-	4

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ENVT3026-1	Social study of science and technology - François MELARD - [24h SEM]	Q1	12	-	[+]	4
ENVT0155-1	Methodology, sampling, indicators - AnneClaude ROMAIN, Nathalie SEMAL	Q2	36	4	-	4
ENVT3046-1	Pressures on the underground - Part 1: geological map - N Part 2: groundwater - Philippe Orban	Q2	4 12	4 12	- -	4
ENVT3016-1	Environmental toxicology and health - Part 1: Ecotoxicology and quantification of ecotoxicological risk - Célia JoaquimJusto - Part 2: Environmental toxicology and health impacts - Corinne CHARLIER	Q2	16 8	8	-	4

*Notice*: Students who wish to choose the renewable energy and sustainable construction programme in the second year will follow, in the second term, 30 credits from term 2 of the Master of Sustainable Development (Energy and Environmental track) at the University of Luxembourg, as set out in the joint-degree agreement between the two universities. The 30 course credits to be followed at ULiège during the first term will be decided, with the agreement of the Jury, on the basis of the compulsory classes in the first year.

With the jury is agreement and for duly substantiated reasons, courses in the specialised Masters in Environmental Sciences and Management may be replaced by courses chosen from programmes in other parts of the Faculty of Sciences, other faculties, or other universities.

#### Block 2

#### Focus compulsory courses

#### Cross-cutting approaches to environmental issues

ENVT0040-2	Transitions theory and management ecological transitions - N, Pierre M. STASSART - [15h SEM]	Q1	30	30	[+]	5
ENVT0897-1	Introduction to environmental and health risks - HenryMichel CAUCHIE, Pierre OZER - [6h SEM, 2d FW]	Q1	24	12	[+]	5

#### Focus optional courses

## In agreement with the jury, choose one of the 5 modules below:

*Notice*: A module may not be organised if fewer than 3 students are registered for each of the 3 courses in that module.

#### Monitoring polluted atmospheres module

(Coordinator: Anne-Claude ROMAIN)

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ENVT0170-1	Environmental impact of buildings - AnneSophie CARNOY, AnneClaude ROMAIN	Q1	32	8	-	4
ENVT0898-1	Sensory pollution (smell, noise, light, etc.) - Xavier Kaiser, Thierry Kervyn, AnneClaude Romain, Francis Venter	Q1	32	10	-	4
ENVT0899-1	Metrology of atmospheric pollutants - AnneClaude ROMAIN - [6h Vis.]  Prerequisite: ENVT0893-1 - Qualité de l'air: Pression - Etat - Réponse	Q1	30	4	[+]	4

#### Mediations and transitions module

(Coordinator: D	Porothée DENAYER)					
ENVT3028-1	Civic participation - Dorothée Denayer, Pierre M. Stassart	Q1	36	-	-	4

ENVT3030-2 Qualitative investigation techniques - Dorothée DENAYER, Q1 12 - [+] **4**Nathalie SEMAL - Suppl : Corentin HECQUET - [30h Cl. inv.]

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ENVT0021-3	Field training: case studies - Pierre M. STASSART - [12h SEM, 48h Mon. WS]	Q2	9	-	[+]	4
Developing cou	intries module					
(Coordinator: B	Gernard TYCHON)					
ENVT3035-2	Wastewater treatment, production of drinking water and recovery of wastewater for irrigation - Hugues Jupsin - [10h FT]	Q1	24	6	[+]	4
ENVT0073-1	Agricultural production systems and food security - Antoine DENIS, Pierre OZER, Bernard TYCHON	Q1	20	20	-	4
ENVT0736-3	Development projects management and communication - Part 1: Development projects management - Cécile CAVALADE, Bernard TYCHON - Part 2: Communication - N	Q1	12 8	12 8	-	4
Integrated wat	er resource management module					
(Coordinator: Jo	oost WELLENS)					
ENVT3035-2	Wastewater treatment, production of drinking water and recovery of wastewater for irrigation - Hugues Jupsin - [10h FT]	Q1	24	6	[+]	4
ENVT0900-1	Socio-economy of water - Joost Wellens	Q1	20	20	-	4
ENVT0056-2	Irrigation and water management - Joost Wellens	Q1	30	8	-	4
Renewable ene	ergy and sustainable construction module					
(Coordinator: P	hilippe ANDRE)					
ENVT0068-2	Exploitation of renewable energy - Philippe ANDRE, Manfred GREGER, Vincent HANUS - [0,5d FT]	Q1	37	3	[+]	4
ENVT0072-2	Technical and economic analysis of energy systems and project methodology - Philippe Andre, Vincent Hanus, Abdelhamid Kheiri	Q1	28	12	-	4
ENVT0904-1	Simulation and optimisation of building energy systems - Philippe ANDRE	Q1	16	24	-	4
In agreement with	the jury and depending on your background, choose two of the 7 courses below	ow:				
	<ul><li>Notice: - Courses only take place if at least 3 students are registered.</li><li>- If the ENVT0905-1 course is selected, the ENVT0069-2 course must also</li></ul>	be se	lected	1.		
ENVT0069-2	Decentralised production and storage of energy - Vincent HANUS, Olivier LOTTIN, Sébastien THOMAS	Q1	30	10	-	4
ENVT0905-1	Energy communities - Philippe ANDRE	Q1	20	20	-	4
ELEC0080-1	(pas organisé en 2024-2025) <i>Energy networks</i> - <i>Part 1: Electrical energy systems</i> - Damien ERNST - <i>Part 2: Heat networks</i> - Pierre DEWALLEF - [4h Vis.]	Q1	20 6	10	- [+]	4
GEOL1031-2	Management of groundwater quantity and quality - Serge Brouyère, Philippe Orban - [1d FW]	Q1	25	15	[+]	4
ENVT3041-1	Analytical and decision-making tools for integrated management of water resources - JeanFrançois Deliège	Q1	22	16	-	4
ENVT3029-1	Public policy and action - Sébastien BRUNET, Patrick STEYAERT	Q1	27	-	-	4
ENVT0902-1	Modelling atmospheric dispersion - AnneClaude ROMAIN  Prerequisite:  ENVT0893-1 - Qualité de l'air: Pression - Etat - Réponse	Q1	20	20	_	4

*Notice*: Students who wish to choose the renewable energy and sustainable construction programme must have followed, in the first year (second term), the 30 credits in the second term of the Master of Sustainable Development (Energy and Environment track) at the University of Luxembourg, as set out in the joint-degree agreement between the two universities. The list of courses in Block 2 which form part of this curriculum is

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available from the Jury or from the student affairs office within the Faculty of Science.

With the jury is agreement and for duly substantiated reasons, courses in Block 2 of the specialised Masters in Environmental Sciences and Management may be replaced by courses from Block 1 or by courses chosen from programmes from other parts of the Faculty of Sciences, other faculties, or other universities.

*Notice*: The list of refresher courses aimed at students who have direct access to the 2nd year of the Masters with a possible addition to the programme is available from the Jury or from the student services of the Faculty of Sciences.

#### Core curriculum compulsory courses

SMEM0042-1	Dissertation - Collégialité	TA 2	25
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#### **Common core courses**

#### **Specialised courses**

With the jury is agreement, choose one or more courses to support the dissertation for a total of 5 credits from:

ENVT0154-1 Internship or civic service - COLLÉGIALITÉ TA - 60 - 5

- [...] by means of reinforcing specific skills, courses in the Masters in Environmental Sciences and Management
- [...] or the courses from another programme

Bloc d'aménagement du programme de l'année

# Bridging courses Master in environmental science and management - organized in Arlon (120 credits)

#### **Optional courses**

Depending on the student's previous training and with the agreement of the jury, choose courses for a maximum of 14 credits among the following:

ENVT0060-1	Introduction to environmental sociology, Part 1: Approaches in environmental sociology - François MELARD	Q1	8	8	-	2
ECON0944-1	Elements of economy for environmental sciences - Pierre COPÉE	Q1	20	2	-	2
ENVT0048-2	Statistics applied to the environment: introduction to the statistical approach and aspects of univariate statistics - Laurent LOOSVELDT	Q1	15	15	-	3
LANG2972-1	English 1 - Level 1 (english language) - Véronique DOPPAGNE, Kevin NOIROUX - [10h Mon. Read.]	Q1	10	10	[+]	2
LANG2973-1	English 2 - Level 1 (english language) - Véronique DOPPAGNE, Kevin NOIROUX - [10h Mon. Read.]	Q2	10	10	[+]	2
ENVT0062-1	Introduction to chemistry and environmental biology - Armélinda Agnello, Célia JoaquimJusto, AnneClaude Romain	Q1	26	4	-	4
ENVT0896-1	Introduction to environmental physics and thermodynamics - Philippe Andre	Q1	28	12	-	4

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