

Study programmes 2023-2024

Faculty of Sciences

Advanced Master in the Water-Energy-Food Nexus

Cycle view of the study programme

Module 1: Introduction and basic concepts

Bl Or Th Pr Au Cr

Compulsory courses (B1 : 45Cr)		

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Opening seminars of the water-energy-food Nexus ¿ Charles BIELDERS, Gilles COLINET, Bernard TYCHON

HULG0559-1 Challenges of sustainable development, transition and development of B1 Q1

the EEA Nexus dimension

- Challenges of sustainable development and transition - 22,5 - Philippe Baret, Nathalie Delzenne, Valérie Swaen

- Development of the EEA Nexus dimension - Charles Bielders, 6 3 -

Gilles COLINET, Bernard TYCHON

Module 2: The 3 components of the NEXUS EEA

Water security component

ENVT3040-2 Integrated and participative management of water resources - B1 Q1 32 16 - 4
Johan Derouane, Joost Wellens

Energy security component

ENVT0892-1 Integrated energy management, particularly in the construction B1 Q1 32 16 - 4 industry - Philippe ANDRE, Maxime HABRAN

Food security component

ENVT0073-1 Agricultural production systems and food security - Antoine DENIS, B1 Q1 20 20 - 4
Pierre OZER, Bernard TYCHON

Module 3: Interconnections of the 3 components of the EEA Nexus and case studies

ENVT0074-1 Nexus Water-Energy-Food seminars: case studies of interconnections - B1 TA - - [+] 4
Charles BIELDERS, Gilles COLINET, Antoine DENIS, Bernard TYCHON [38h SEM, 10h Vis.]

HULG0560-1 Natural resources: appropriation and resistance - An ANSOMS B1 Q2 30 - - 3
HULG0561-1 Water-Food Nexus: modelling and analysis tools - Mathieu JAVAUX, B1 Q2 22,5 22,5 - 4

Marnik VANCLOOSTER

ENVT2027-4 Application of teledetection and geographical information systems for B1 Q1 12 24 - 3 environmental management - Antoine DENIS, Bernard TYCHON

Module 5: Personal work in the form of an internship

STFE0035-1 *Personal work in the form of an internship* - COLLÉGIALITÉ - [1,5mois B1 Q2 - - [+] **15** Internship]

Optional courses (B1:15Cr)

Module 4: Technical tools

Module 2: The 3 components of the NEXUS EEA

In agreement with the Jury, choose courses for a total of 8 credits, including a maximum of 1 course among the 3 courses ENVT3035-2, ENVT0068-2, GEST3019-2 (Note: for an annual programme of more than 60 credits, contact the Beadle's office): (B1: 8Cr)

Water security component

HULG0562-1	Irrigation and drainage - Mathieu JAVAUX	B1	Q2	22,5	22,5	-	4
ENVT3035-2	Wastewater treatment, production of drinking water and recovery of wastewater for irrigation - Hugues Jupsin - [6h FT]	B1	Q1	24	12	[+]	4

Energy security component

ELEC0080-1 Energy networks B1 Q1 4



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	- Part 1: Electrical energy systems - Damien ERNST - Part 2: Heat networks - Pierre DEWALLEF - [1d FW]		24 6	12 6	- [+]				
ENVT0068-2	Exploitation of renewable energy - Philippe ANDRE, Manfred GREGER, Vincent HANUS	B1	Q1	32	16	-	4		
Food security	component								
HULG0487-1	Soil management and development in warm region - Charles BIELDERS, Bruno DELVAUX	B1	Q2	22	8	-	3		
GEST3019-2	Food policies and strategies (english language) - Hossein AZADI - [3h FT]	B1	Q1	9	15	[+]	3		
Module 3: Interconnections of the 3 components of the EEA Nexus and case studies									
In agreement with the Jury, choose courses for a total of 5 credits from: (Note: for an annual programme of more than 60 credits, contact the Beadle's office): (B1:5Cr)									
GEOG0073-1	Town and country planning, food and energy security - Serge SCHMITZ	B1	Q2	24	-	-	3		
HULG0490-1	Evaluation of the environmental impact: diagnosis and indicators - Charles BIELDERS, Pierre DEFOURNY	B1	Q2	22,5	-	-	3		
ENVT0075-1	Waste: water, energy and food resources - Luc Minne - [3h Vis.]	B1	Q2	21	-	[+]	3		
ECON0945-1	Economy, energy and environment - Nadia DE ZOTTI, HenryJean GATHON, Axel GAUTIER	B1	Q1	24	5	-	2		
Module 4: Technical tools									
With the agreemen	nt of the Jury, choose 1 course from: (B1: 2Cr)								
HULG0563-1	Evaluation of the environmental impact: project and introduction to managing databases, part F: Managing databases - Guillaume LOBET	B1	Q2	12	12	-	2		
ENVT0736-4	Development projects management and communication, Part 1: Development projects management - N, Bernard Tychon	B1	Q1	12	12	-	2		
GEST7085-1	Leadership best practices (english language) - Michael GHILISSEN	B1	Q2	-	16	-	2		