

# Study programmes 2023-2024 Faculty of Sciences Advanced Master in the Water-Energy-Food Nexus

Block 1	of the study programme	-	Th		Au	Cr
Compulsory cou						
Module 1: Inti	roduction and basic concepts					
Opening semin	ars of the water-energy-food Nexus ¿ Charles BIELDERS, Gilles COLINET, B	ernarc	1 TYC	HON		
HULG0559-1	Challenges of sustainable development, transition and development of the EEA Nexus dimension - Challenges of sustainable development and transition - Philippe BARET, Nathalie DELZENNE, Valérie SWAEN	Q1	22,5	-	-	4
	- Development of the EEA Nexus dimension - Charles BIELDERS, Gilles COLINET, Bernard TYCHON		6	3	-	
Module 2: The	e 3 components of the NEXUS EEA					
Water security	y component					
ENVT3040-2	Integrated and participative management of water resources - Johan DEROUANE, Joost WELLENS	Q1	32	16	-	4
Energy securit	ty component					
ENVT0892-1	Integrated energy management, particularly in the construction industry - Philippe ANDRE, Maxime HABRAN	Q1	32	16	-	4
Food security	component					
ENVT0073-1	Agricultural production systems and food security - Antoine DENIS, Pierre OZER, Bernard TYCHON	Q1	20	20	-	4
Module 3: Inte	erconnections of the 3 components of the EEA Nexus and case studies					
ENVT0074-1	Nexus Water-Energy-Food seminars: case studies of interconnections - Charles BIELDERS, Gilles COLINET, Antoine DENIS, Bernard TYCHON - [38h SEM, 10h Vis.]	TA	-	-	[+]	4
HULG0560-1	Natural resources: appropriation and resistance - An ANSOMS	Q2	30	-	-	3
HULG0561-1	Water-Food Nexus: modelling and analysis tools - Mathieu JAVAUX, Marnik VANCLOOSTER	Q2	22,5	22,5	-	4
Module 4: Tec	hnical tools					
ENVT2027-4	Application of teledetection and geographical information systems for environmental management - Antoine DENIS, Bernard TYCHON	Q1	12	24	-	3
Module 5: Per	sonal work in the form of an internship					
STFE0035-1	<i>Personal work in the form of an internship</i> - COLLÉGIALITÉ - [1,5mois Internship]	Q2	-	-	[+]	15

### **Optional courses**

### 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):

#### Water security component

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

#### **Energy security component**



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ELEC0080-1	Energy networks - Part 1: Electrical energy systems - Damien ERNST - Part 2: Heat networks - Pierre DEWALLEF - [1d FW]	Q1	24 6	12 6	- [+]	4		
ENVT0068-2	<i>Exploitation of renewable energy</i> - Philippe ANDRE, Manfred GREGER, Vincent HANUS	Q1	32	16	-	4		
Food security component								
HULG0487-1	Soil management and development in warm region - Charles BIELDERS, Bruno DELVAUX	Q2	22	8	-	3		
GEST3019-2	Food policies and strategies (english language) - Hossein AZADI - [3h FT]	Q1	9	15	[+]	3		
Module 3: Interce	onnections 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):								
GEOG0073-1	Town and country planning, food and energy security - Serge SCHMITZ	Q2	24	-	-	3		
HULG0490-1	Evaluation of the environmental impact: diagnosis and indicators - Charles BIELDERS, Pierre DEFOURNY	Q2	22,5	-	-	3		
ENVT0075-1	Waste: water, energy and food resources - Luc MINNE - [3h Vis.]	Q2	21	-	[+]	3		
ECON0945-1	<i>Economy, energy and environment</i> - Nadia DE ZOTTI, HenryJean GATHON, Axel GAUTIER	Q1	24	5	-	2		
Module 4: Techni	ical tools							
Choose, in accorda	ance with the Jury, 1 course among :							
HULG0563-1	Evaluation of the environmental impact: project and introduction to managing databases, part F: Managing databases - Guillaume LOBET	Q2	12	12	-	2		
ENVT0736-4	Development projects management and communication, Part 1: Development projects management - N, Bernard TYCHON	Q1	12	12	-	2		

GEST7085-1	Leadership best practices (english language) - Michael GHILISSEN	Q2 -	16 -	2