

Study programmes 2023-2024

Faculty of Sciences

Advanced Master in the Water-Energy-Food Nexus

Block view of the study programme

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Module 1: Introduction and basic concepts

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Opening seminars of the water-energy-food Nexus	Charles BIELDERS,	Gilles COLINE I	, Bernard I I CHON

HULG0559-1	Challenges of sustainable development, transition and development of the	Q1				4
	EEA Nexus dimension					
	- Challenges of sustainable development and transition -	,	22,5	-	-	
	Valentin COUVREUR, 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 -	Q1	32	16	-	4
	Johan Derouane, Joost Wellens					

Energy security component

ENVT0892-1	Integrated energy management, particularly in the construction industry -	Q1	32	16	-	4
	Philippe Andre. Maxime Habran					

Food security component

ENVT0073-1	Agricultural production systems and food security - Antoine DENIS,	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 - 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: Technical tools

ENVT2027-4	Application of teledetection and geographical information systems for	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	Q2 -	-	[+]	15
	Internship				

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	Exploitation of renewable energy - 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: Interc	onnections of the 3 components of the EEA Nexus and case studies					
In agreement with credits, contact the	the Jury, choose courses for a total of 5 credits from: (Note: for an annual proe Beadle's office):	ogran	nme o	f mor	e than	60
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	$\begin{tabular}{ll} {\it Economy, energy and environment} - {\it Nadia DE ZOTTI, Henry Jean GATHON, Axel GAUTIER} \end{tabular}$	Q1	24	5	-	2
Module 4: Techn	ical tools					
Choose, in accord	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