

5.00 credits

15.0 h + 45.0 h

Q1 and Q2



**This learning unit is not open to incoming exchange students!**

Teacher(s)	Merle Stéphanie ;Raskin Jean-Pierre ;
Language :	French
Place of the course	Louvain-la-Neuve
Main themes	Projects which provide solutions to a real problematics issued from the field (technical, economical, socio-cultural), cooperation for development, systemic approach, responsibility, commitment, ethic, solidarity, team work, innovations, appropriate technologies, scientific citizenship.
Learning outcomes	<p><b>At the end of this learning unit, the student is able to :</b></p> <p><b>Contribution to the main teaching programs of the sector SST</b></p> <p><b>Disciplinary learning outcomes:</b></p> <p>After the training the student will be able to:</p> <p>Develop proposals, in the form of projects, appropriated to a development issue which falls under the identification and / or the design of a technical device, economic, socio-cultural:</p> <ol style="list-style-type: none"> <li>1. Identify and define questions and problematics             <ol style="list-style-type: none"> <li>1.1 Draw specifications</li> <li>1.2 Analyze a context</li> <li>1.3 Analyze a problematic</li> <li>1.4 To introduce the concept of systemic</li> <li>1.5 Find out the levers and constraints of a project</li> <li>1.6 Understand the life stages of a group</li> </ol> </li> <li>2. Establish innovative proposals             <ol style="list-style-type: none"> <li>2.1 Discovering and implementing technologies that foster innovation and creativity</li> <li>2.2 Discovering suitable and sustainable technologies</li> <li>2.3 Introduce the principles of sustainable development and its application in engineering projects</li> <li>2.4 Preparing for the mission on the field</li> <li>2.5 Soaking the iterative process</li> </ol> </li> <li>3. Assess the feasibility and impact of proposals drawn             <ol style="list-style-type: none"> <li>3.1 Understanding the technological balance as coming in support of human evolution</li> <li>3.2 Identify suitable tools to measure the impact of a project</li> <li>3.3 To contribute to the visibility of IngénieursSud projects</li> </ol> </li> </ol> <p><b>Transversal learning outcomes:</b></p> <ol style="list-style-type: none"> <li>1. Develop and adopt a reflexive attitude on questions and development issues and find appropriate solutions             <ol style="list-style-type: none"> <li>1.1 Carrying a critical look at their own skills, knowledge and his own limits</li> <li>1.1 Defining the various project issues (cultural, social, economic, technical) through a systems approach</li> <li>1.2 Continuously analyze the evolution of his thinking throughout the project</li> </ol> </li> <li>2. Team work, collaborate effectively with national and international partners             <ol style="list-style-type: none"> <li>2.1 Identify the contribution and complementary interests of the partners in the project issue</li> <li>2.2 Plan your teamwork: building a timetable, an apprenticeship program,¹</li> <li>2.3 Self-evaluate its individual involvement in the group and the cooperation within the project and its group</li> </ol> </li> <li>3. Communicate effectively orally and in writing with a wide spectrum of national and international audience (scientific experts, peers, teachers, trainers,...)             <ol style="list-style-type: none"> <li>3.1 Use appropriate means to dialogue with different audiences and partners</li> <li>3.2 Provide feedback and suggest future prospects</li> <li>3.3 Write an intercultural Portfolio, consistent, well structured, scientifically rigorous and critical thinking</li> </ol> </li> </ol> <p>Adapt your communication according to his interlocutors (peers, colleagues, teachers, trainers, scientists,...)</p>

Evaluation methods	<ul style="list-style-type: none"> <li>- Portfolio (continuous assessment) group with individual parts</li> <li>- Oral group presentations in front of an interdisciplinary panel</li> </ul> <p>Submission of a final report and oral defense of the project before moving and implementing the technical solution in the concerned Southern country.</p>
Teaching methods	<p>Hybrid formation (on line and face to face)</p> <ul style="list-style-type: none"> <li>- Course: multidisciplinary, multi-actors, multi-cultural</li> <li>- Active learning in group</li> <li>- Learning by the project</li> <li>- Coaching by scientific and academic bodies, field professionals (North and South)</li> </ul> <p>• Interviews, search and analysis of articles,'</p>
Content	<ul style="list-style-type: none"> <li>- For sustainable development Science and technology</li> <li>- International solidarity</li> <li>- The adequacy means-project objectives</li> <li>- Interculturalism: exchange of points of view, regard, fresh perspective on the same scientific problem</li> <li>- The development of the project as part of a development cooperation program</li> <li>- The application of a systemic approach in a scientific project</li> <li>- The development of a concrete project: the definition of the problem specifications to the practical application</li> <li>- Factors that influence the project (social, country, population, external constraints, planning,...)</li> <li>- The levers of change</li> </ul> <p>• Teamwork and communication (with Southern partners, with people in the group, with technical and development experts, the local population and authorities,')</p>
Bibliography	<p>Ouvrage de référence :</p> <ul style="list-style-type: none"> <li>- M. Ashby, (2016), « Materials and sustainable development », Elsevier Science and technology, UK.</li> </ul> <p>Revue Spore : Le magazine du développement agricole et rural des pays ACP - <a href="http://spore.cta.int">http://spore.cta.int</a></p>
Faculty or entity in charge	EPL

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Learning outcomes
Master [120] in Multilingual Communication	MULT2M	5		
Bachelor in Chemistry	CHIM1BA	5		
Bachelor in Veterinary Medicine	VETE1BA	5		
Master [120] in Management	GESM2M	5		
Master [120] in Data Science : Statistic	DATS2M	5		
Bachelor in Engineering	FSA1BA	5		
Master [120] in Law	DROI2M	5		
Master [120] in Geography : Climatology	CLIM2M	5		
Master [120] in Biology of Organisms and Ecology	BOE2M	5		
Master [60] in Physics	PHYS2M1	5		
Master [120] in Biochemistry and Molecular and Cell Biology	BBMC2M	5		
Bachelor in Biology	BIOL1BA	5		
Master [120] in Statistics: Biostatistics	BSTA2M	5		
Master [60] in Biology	BIOL2M1	5		
Master [120] in Linguistics	LING2M	5		
Minor : Issues of Transition and Sustainable Development	MINDD	5		
Master [120] in Mathematics	MATH2M	5		
Master [120] in Actuarial Science	ACTU2M	5		
Master [60] in Mathematics	MATH2M1	5		
Master [120] in Population and Development Studies	SPED2M	5		

Master [120] in Chemistry	<a href="#">CHIM2M</a>	5		
Master [120] in Statistics: General	<a href="#">STAT2M</a>	5		
Bachelor in Mathematics	<a href="#">MATH1BA</a>	5		
Master [120] in Public Administration	<a href="#">ADPU2M</a>	5		
Master [120] : Business Engineering	<a href="#">INGE2M</a>	5		
Bachelor in Computer Science	<a href="#">SINF1BA</a>	5		
Bachelor in Physics	<a href="#">PHYS1BA</a>	5		
Master [120] in Management	<a href="#">GEST2M</a>	5		
Master [120] in Physics	<a href="#">PHYS2M</a>	5		
Master [60] in Chemistry	<a href="#">CHIM2M1</a>	5		
Master [120] : Business Engineering	<a href="#">INGM2M</a>	5		
Bachelor in Geography : General	<a href="#">GEOG1BA</a>	5		
Master [120] in Geography : General	<a href="#">GEOG2M</a>	5		
Master [120] in Motor Skills: Physical Education	<a href="#">EDPH2M</a>	5		