

5 credits

15.0 h + 45.0 h

Q1 and Q2

Teacher(s)	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.
Aims	<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>1.2 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,'</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> <p>-----</p> <p><i>The contribution of this Teaching Unit to the development and command of the skills and learning outcomes of the programme(s) can be accessed at the end of this sheet, in the section entitled "Programmes/courses offering this Teaching Unit".</i></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	Aims
Master [120] in Business Engineering	INGM2M	5		
Master [120] in Mathematics	MATH2M	5		
Master [120] in Actuarial Science	ACTU2M	5		
Master [120] in Management	GEST2M	5		
Teacher Training Certificate (upper secondary education) - Physical Education	EDPH2A	5		
Master [120] in Statistic: Biostatistics	BSTA2M	5		
Master [120] in Management	GESM2M	5		
Master [120] in Business Engineering	INGE2M	5		
Master [120] in Biochemistry and Molecular and Cell Biology	BBMC2M	5		
Master [120] in Chemistry	CHIM2M	5		
Master [120] in Geography : General	GEOG2M	5		
Master [120] in Physics	PHYS2M	5		
Master [120] in Statistic: General	STAT2M	5		
Bachelor in Veterinary Medicine	VETE1BA	5		
Master [120] in Law	DROI2M	5		
Master [120] in Public Administration	ADPU2M	5		
Master [120] in Biology of Organisms and Ecology	BOE2M	5		
Master [120] in Geography : Climatology	CLIM2M	5		
Master [120] in Motor Skills: Physical Education	EDPH2M	5		