

9.0 credits	90.0 h	1+2q
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Teacher(s) :	Bielders Charles ; Vanclooster Marnik (coordinator) ; Javaux Mathieu ;
Language :	Français
Place of the course	Louvain-la-Neuve
Main themes :	<p>Project The integrated soil and water management project requires that the students apply in an integrated way the knowledge and competences acquired during their training as bio-engineers in order to (1) analyse and understand a soil and water management issue, (2) identify and document possible solutions considering the legal and administrative framework, (3) select the most appropriate solutions, (4) work them out, and (5) criticise the chosen solution. The project will reflect the complexity of a similar problems that may be encountered during their future professional careers within the time constraints of the course. A written and oral report is expected, that must be understandable and useable by an engineer without specific prior knowledge on the topic.</p> <p>Seminars 1 ECTS of seminars given by experts and 1 ECTS of seminars given by the students regarding the environmental, economic, social and legal aspects of integrated soil and water management in its broadest sense.</p> <p>Suggested themes:</p> <ul style="list-style-type: none"> - European water framework directive - European framework directive for soil protection and Water Framework Directive - Integrated water management in Europe or developing countries - Multi-objective management of dams - Water and health in tropical areas - . <p>Excursions Visits in Belgium and possibly abroad in order to discover the multiple facets of integrated soil and water management.</p>
Aims :	<p>Integrated project (5 ECTS)</p> <ul style="list-style-type: none"> - Capacity to integrate basic scientific disciplines together with technical, economic and legal constraints in order to solve an environmental engineering issue regarding soil and water management. - Capacity to communicate regarding the approach and the solution with the needed rigour and technological sense expected from bio-engineers - Ability to work in teams, requiring initiative and good organisation in order to take up and complete the project - Capacity to justify and defend the approach and the chosen solution - Initiation to the legal and technical aspects of soil and water management <p>Seminars and excursion (4 ECTS)</p> <ul style="list-style-type: none"> - Familiarize the students with a set of notions regarding integrated soil and water management through seminars given by experts and the students themselves, as well as through excursions. - Raise awareness regarding the environmental, legal, economic and social aspects involved in integrated water and soil management, applied to temperate and tropical areas. <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>
Content :	<p>Projet A practical environmental issue related to soil and water management (flooding, muddy floods, soil erosion, hydraulics, etc.), different each year, is proposed by stakeholders or the teachers. The students develop a solution in groups of 3-5 students. The project involves individual work, team work and regular meetings with the teachers who guide the students. The project report is handed in by the end of the last week of courses and is presented orally during the exam session.</p> <p>Seminars During the first 7 weeks, experts present 2 hour seminars. Thereafter, the students present seminars in groups of 2 to 4 students on a theme of their choice.</p> <p>Excursion Visits in Belgium and possibly abroad.</p>

<p>Other infos :</p>	<p>Precursory courses : Tronc commun BIRE; mandatory courses of the "Ressources en eau et en sol " option.</p> <p>Supplemental courses : Hydraulique des canaux découverts et irrigation ; Drainage et conservation des sols</p> <p>Evaluation : Written report and oral presentation of the project Analysis of the expert seminars using a prescribed format Evaluation of student seminars Report on excursions</p>
<p>Cycle and year of study :</p>	<p>> Master [120] in Agricultural Bioengineering > Master [120] in Environmental Bioengineering</p>
<p>Faculty or entity in charge:</p>	<p>AGRO</p>