

3.0 credits	30.0 h + 15.0 h	2q
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Teacher(s) :	Ponette Quentin (coordinator) ; Vincke Caroline ;
Language :	Français
Place of the course	Louvain-la-Neuve
Main themes :	<p>1. Dynamics of natural forests: 1.1. Forest communities; 1.2. Requirement and tolerance of tree species; 1.3. Interactions, competition, and strategies involving tree species; 1.4. Gradients and niches; 1.5. Successions and disturbances; 1.6. Stand dynamics following major disturbance; 1.7. Gap dynamics</p> <p>2. Tree ecophysiology: 2.1. Growth; 2.2. Rooting; 2.3. Regeneration; 2.4. Shade tolerance</p> <p>3. Managed forests: 3.1. Functions of managed forests; 3.2. Principles of integrated management; 3.3. Silvicultural systems; 3.4. Regeneration and tending of forest stands: principles</p> <p>4. Development stages and characterization of the main silvicultural systems: 4.1. even-aged high forests; 4.2. selection and uneven-aged high forests; 4.3. Coppice and coppice selection; 4.4. Coppice with standards</p> <p>5. Silvicultural operations and treatments: 5.1. Even-aged high forests - tending; 5.2. Even-aged high forests - regeneration; 5.3. Coppice; 5.4. Uneven-aged high forests</p> <p>6. Practical work and excursions: 6.1. Excursions: two half-day excursions illustrating various aspects of forest science.</p>
Aims :	<ul style="list-style-type: none"> - To understand the dynamics of natural forests, with special emphasis on disturbances; - To be able to assess the reaction of individual trees and stands in terms of growth and regeneration patterns, to various factors either of human or of natural origin; - To identify the main functions of forests, and the criteria needed for their optimization; - To identify the objectives associated to the main silvicultural operations and to understand their effects at the tree, stand and ecosystem levels; - To understand the spatio-temporal organization of forest operations, at the stand and ownership scales. <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 :	The course is made up of three parts, corresponding to (i) the individual tree, (ii) the plant populations and communities, and (iii) the ecosystem levels, respectively. The main functions of woodlands as well as the management principles involved in their fulfilment at the various spatio-temporal scales are deduced from the biological and ecological processes operating at each level of organization.
Other infos :	<p>Prerequisite Applied ecology, Economy of natural ressources, Bioclimatology, Soil science</p> <p>Related courses Silviculture</p> <p>Assessment methods Oral examination, summary and synthesis of an article</p> <p>Course materials Lecture notes</p> <p>Recommended readings</p> <p>Barnes, B.V., Zak, D.R., Denton, S.R., Spurr, S.H., 1998. Forest ecology. 4th ed. John Wiley & Sons, New York, USA, 774 p.</p> <p>Kimmins, J.-P., 1997. Forest ecology. A foundation for sustainable management. 2nd ed. Prentice Hall, Upper Saddle River, USA, 596 p.</p> <p>Nyland, R.D., 2002. Silviculture : concepts and applications. 2nd ed. McGraw-Hill, USA, 682 p.</p> <p>Schütz, J.-P., 1990. Sylviculture 1. Principes d'éducation des forêts. Presses polytechniques et universitaires romandes, Lausanne, Suisse, 243 p.</p> <p>Smith, D.M., Larson, B.C., Kelty, M.J., Ashton, P.M.S. 1996. The practice of silviculture: applied forest ecology. 9th ed. John Wiley & Sons, New York, USA</p> <p>Training supervision Professor, assistant, technician</p> <p>Other Two half-day excursions</p>

<p>Cycle and year of study :</p>	<ul style="list-style-type: none"> > Master [120] in Biology of Organisms and Ecology > Bachelor in Psychology and Education: General > Bachelor in Information and Communication > Bachelor in Philosophy > Bachelor in Engineering : Architecture > Bachelor in Computer Science > Bachelor in Economics and Management > Bachelor in Motor skills : General > Bachelor in Human and Social Sciences > Bachelor in Sociology and Anthropology > Bachelor in Political Sciences: General > Bachelor in History of Art and Archaeology : General > Bachelor in Mathematics > Bachelor in History > Bachelor in Biomedicine > Bachelor in Engineering > Bachelor in Pharmacy > Bachelor in Religious Studies > Bachelor in Bioengineering
<p>Faculty or entity in charge:</p>	<p>AGRO</p>