

4.0 credits

30.0 h + 22.5 h

2q

Teacher(s) :	Ponette Quentin ;
Language :	Français
Place of the course	Louvain-la-Neuve
Main themes :	<ul style="list-style-type: none"> - definitions, significance, measurement or estimation of current tree (e.g. diameter, circumference, basal area, heights, volumes, forms, crown parameters) and stand (e.g. stem distributions, diameters, heights, volumes, stand densities, productivity) characteristics; - tree and stand increments: concepts, estimation, tools and models; - forest inventories - complete tree tally and sampling: (i) fundamental concepts of sampling theory, (ii) sampling units, (iii) inventory planning and analysis, (iv) sampling designs (e.g. simple random, stratified random, systematic, single- and multi-stage, multiphase, repeated samplings).
Aims :	<p>By the end of this course, the student will be able to handle instruments, tools and strategies that are to be implemented for the quantification of tree and stand characteristics, both from static and dynamic (increments) points of view. This quantification is needed for the understanding of ecosystem functioning, as well as for the assessment of present and future forest resources.</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>
Content :	<p>This course is made of two modules:</p> <ul style="list-style-type: none"> - Module 1 (30h): Lectures - 14 2-hour sessions dealing with the measurement and sampling methods as well as with the essential tools, used for the quantification of forest trees and stands (current characteristics and increments). - Module 2 (22.5h): Practical exercises - The theoretical principles are illustrated and implemented through a mini-project combining data collection in the field and data treatment with a computer in classrooms.
Other infos :	<p>Precursory courses : Silviculture, Forest ecology, Statistics, Computing</p> <p>Supplemental courses : This course mainly focuses on ground measurements of trees and stands. Use of aerial or satellite information as well as land area determination are developed in specialized courses such as geomatics, topometry and photogrammetry.</p> <p>Evaluation : Oral examination for theoretical developments, reports for practical exercises.</p> <p>Support : Lecture notes, slides, web site icampus.</p> <p>Recommended readings : Avery, T.E., Burkhart, H.E., 1994. Forest measurements. 4th ed. McGraw-Hill, USA, 408 p.</p> <p>Husch, B., Beers, T.W., Kershaw, J.A. (jr.), 2003. Forest mensuration. 4th ed. John Wiley & Sons, New York, USA, 443 p.</p> <p>Loetsch, F., Haller, K.E., 1973. Forest inventory, volume 1: statistics of forest inventory and information from aerial photographs. 2nd ed. BLV, München, Germany, 436 p.</p> <p>Rondeux, J., 1999. La mesure des arbres et des peuplements forestiers. Les Presses Agronomiques de Gembloux, Gembloux, Belgique, 521 p.</p> <p>Shiver, B.D., Borders, B.E., 1996. Sampling techniques for forest resource inventory. John Wiley & Sons, New York, USA, 356 p.</p> <p>Teaching team : Professor, assistant, technician.</p> <p>Miscellaneous : An integrated exercise combining forest mensuration, forest management, forest engineering and silviculture is given in Master 2.</p>
Cycle and year of study :	> Master [120] in Forests and Natural Areas Engineering
Faculty or entity in charge:	AGRO