

Table 5.2. Subject specification

Studying course: <i>Forestry and Natural Resources Management</i>			
Subject: Anatomical and physiological traits of woody plants			
Professor/professors: PhD Dušan D. Jokanović , Associate Professor			
Status of the subject: electoral			
ECTS number: 5 (five)			
Condition: -			
Goal of the subject: Basic knowledge obtaining related to anatomical structure of woody plants and physiological processes in xylem and phloem.			
Result of the subject: Students should be capable for recognizing conifers and hardwoods, and they also have to realise relation between anatomical structure and physiological processes that permanently occur in the plants.			
Content of the subject			
<u>Theoretical part:</u>			
<p>Meaning of the Wood Anatomy. Anatomical structure of conifers wood. Axial tracheids, radial tracheids, resin canals. Wood rays (classification based on structure, origin, width and height). Anatomical structure of hardwoods. Vessels, wood fibres. Transitive elements (fibrilar, vascular and vasicentric tracheids). Anatomical structure of conifers wood without resin canals. Anatomical structure of conifers wood with resin canals. Anatomical structure of difuse-porous hardwoods. Anatomical structure of ring-porous hardwoods. Anatomical structure of exotic species. Анатомска грађа дрвета егзота. Compression and tension wood. Watering regim of plants. Mineral nutrition. Macro- and microelements. Growth and development. Physiology of plants resistance. Phytoremediation (heavy metals and their impact to the environment).</p>			
<u>Practical part:</u>			
<p>Recognizing of woody species based on its macroscopic structure. Recognizing of woody species based on its microscopic structure. Establishing of number and dimensions of some anatomical elements on microscopic preparations. Monitoring of growth stimulants and its effect on growth dynamics. Monitoring of nutrition and watering effect on growth dynamics. Assessment of heavy metals content in some vegetative plant organs.</p>			
References:			
<ol style="list-style-type: none"> 1. Fahn (1990): <i>Plant Anatomy</i>, Fourth Edition 2. Crivellaro, A., Schweingruber, F.H. (2013): <i>Atlas of Wood, Bark and Pith Anatomy of Eastern Mediterranean Trees and Shrubs with a special focus on Cyprus</i>, Springer 3. Stanković, D., Jokanović, D. (2017): <i>Pollutants in plants</i>, Lambert Academic Publishing, p. 1-54, ISBN 978-3-659-91695-3 			
Number of active teaching lessons: 2+2	Theoretical part of teaching: 2		Practical part of teaching: 2
Methods of giving lectures:			
<p>Theoretical part of teaching includes modern references using followed by video-presentations with numerous practical examples. As for practical part of teaching, it will be organised not only in a modern laboratory, but also outside at experimental plots made for this purpose.</p>			
Knowledge evaluation (max 100 points)			
Before exam obligations:	40 points	Final exam:	60 points
Activity during lectures	5	Writing exam	30
Practical teaching	5	Oral exam	30
Writing tests	10	
Study	20		