

Table 5.2. Subject specification

Studying course: Forestry and Natural Resources Management			
Subject: Forest Growth and Yield			
Professor/professors: Dr. Branko Stajić , MSc Marko Kazimirović			
Status of the subject: Elective			
ECTS number: 5			
Condition: -			
Goal of the subject: Training for the theoretical and quantitative assessment, analysis and prediction of forest tree and stands growth in order to acquire capacities for solving practical tasks and creating optimal solutions in the field of growth and silviculture of forests, bio-indication of the action of exogenous and endogenous factors on trees and forests vitality. Acquired knowledge should empower students for innovation and technological advancement in the process of producing wood volume and wood biomass as well as ensuring the vitality and stability of forest ecosystems.			
Result of the subject: The ability to quantitatively and qualitatively analyze and describe the growth of trees and stands and create optimal solutions in field of silviculture and forest management planning in order to insure the appropriate level of production and vitality of trees and forests as a natural resource of special economic and ecological importance.			
Content of the subject			
<u>Theoretical part:</u>			
Terminology and definitions in <i>Forest growth and yield</i> science. Importance of <i>Forest growth and yield</i> for forestry and ecology. Methods of <i>Forest growth and yield</i> research. Diameter, height, basal area and volume growth and increment of forests trees and stands. Growth and structure of tree crown and relations to trees and forest growth. Trees and forest growth depending on site (soil, community, climate etc.) and stand factors (density, competition). The effect of thinning on the growth and productivity of the stands. Increment of trees as a bio-indicator of the impact of stimulating and disturbing factors on forests and forest ecosystems. Forest growth models.			
<u>Practical part:</u>			
Includes field work and laboratory data processing. Laboratory work includes qualitative and quantitative analysis of the growth of trees and stands and effects of the action of exogenous and endogenous factors on growth and vitality, creation of models and their application in a process of gaining a comprehensive picture of the overall forest ecosystem and to develop sustainable management plans for forests.			
References:			
Assmann E (1970). <i>The Principles of Forest Yield Study</i> . Pergamon Press, pp. 506.			
Pretzsch, H. (2009): <i>Forest dynamics, growth and yield</i> . Springer, Germany			
Stajić B. et al. (2015): Preliminary Dendroclimatological Analysis of Sessile Oak (<i>Quercus petraea</i> (Matt.) Liebl.) in "Fruška Gora" National Park, Serbia. <i>Baltic Forestry</i> 21(1): 83-95.			
Stajic, B. et al. (2017): Growing space efficiency of European ash (<i>Fraxinus excelsior</i> L.) in the region of Majdanpečka domena. <i>Bulletin of Faculty of Forestry Belgrade</i> 115, 112-125			
Number of active teaching lessons: 60	Theoretical part of teaching: 30		Practical part of teaching: 30
Methods of giving lectures: lectures, practical lectures, laboratory work			
Knowledge evaluation (max 100 points)			
Pre-exam requirements:	points	Final examination:	points
Lectures presence and activity	5	Laboratory work	10
Seminar	15	Exam	50
Colloquium	20	