



MSc Programme – Forestry

FOR 622 Exploitation of Transport Vehicles in Forestry

Obligatory subject /in **winter** semester for Bulgarian students/

ECTS credits – **5.0**

Ability to teach a foreign language – **English**

Syllabus in brief

I. Lectures:

A. Main characteristics of forest stands from transport point of view

1. Characteristics of transport process in mountainous forest conditions
2. Choice of proper transport vehicle according to operational conditions
4. Energetic and labor intensity of transport operations
5. Principles of organization and formation of transport systems

B. Tractive performance of forest vehicles

6. Characterization of the response of terrains to normal and shear stresses
7. Main characteristics of forestry tyres
8. Soil-wheel vehicle interaction
9. Effect of the transmission on forest vehicle tractive efficiency
10. Effect of slip and rolling losses on forest vehicle tractive efficiency
11. Interaction between forest vehicle and load and trailer

C. Efficiency and cost analysis of transport systems

12. Basic classification of transport costs
13. Total costs and unit-costs
14. Breakeven and minimum cost analysis
15. Calculation of machine rates in forest transport systems

II. Laboratory classes:

1. Efficiency and cost analysis of a cable skidder
2. Efficiency and cost analysis of a cable yarder
3. Efficiency and cost analysis of a timber truck

III. Practical training:

Field trips – Exploitation of transport vehicles in forestry in Training and Experimental Forest Range.

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