



ЦЕНТЪР ЗА ОБУЧЕНИЕ – БАН

1000 София
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Basic Information:

Course Title: Ecological foundations for forest ecosystems management

Lecturer: Prof. Tzvetan Zlatanov, PhD

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Total Teaching Hours: 30

Annotation (up to 150 words)

The course is intended for doctoral students interested in the study, conservation, and sustainable use of forest ecosystems. Its main objective is to develop a balanced and interdisciplinary understanding of forest management under changing environmental conditions. The training combines theoretical knowledge and practical preparation through the integration of lectures and fieldwork. The theoretical component addresses key ecological issues related to the management of forest ecosystems, as well as the role of silviculture as a science, an art, and a practice in the context of dynamic ecological and socio-economic conditions. The practical component provides skills for assessing key parameters of forest structure and its functions. The course contributes to the development of analytical and applied competencies necessary for contemporary sustainable forest management.

Course content (brief description by topics or modules)

Topic / Module 1: Theoretical Part 1: Ecological Issues in the Management of Forest Ecosystems

Topic / Module 2: Theoretical Part 2: Silviculture as a Science, Art, and Practice under Changing Ecological and Socio-Economic Conditions

Topic / Module 3: Practical Component: During the fieldwork, students will acquire practical knowledge on the assessment of the most important structural and functional parameters of the forest.

Teaching and assessment methods

The training is carried out through lectures, seminars, and fieldwork. Assessment is based on continuous evaluation (participation in classes, completion of practical tasks and field exercises) and a final written or oral exam.

Competencies acquired as a result of training (3–5 points)

Trainees acquire skills for identifying and interpreting ecological problems and for applying contemporary silvicultural concepts. Competencies are developed for science-based planning and decision-making, as well as skills in fieldwork, data analysis, and critical evaluation of management strategies.

Literature:

Burton P., C. Messier, D. Smith, W. Adamowicz. 2010. *Forest Ecology*. Hoboken, NJ: John Wiley & Sons.

Kimmins H. 1997. *Balancing Act: Environmental Issues in Forestry*. Vancouver: UBC Press.

Nyland R. 2016. *Silviculture: Concepts and Applications* (2nd ed.). Long Grove, IL: Waveland Press.



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Schütz J-P. 2001. Sylviculture 2: La gestion des forêts irrégulières et mélangées. Lausanne: Presses Polytechniques et Universitaires Romandes.

Spathelf P. (Ed.) (2010). Managing Forest Ecosystems: The Challenge of Climate Change. Dordrecht: Springer.

Kostov G, V Stiptsov. 2004. Textbook on General Silviculture. Sofia: ET “Ruta”.

Rafailov G, M Dakov V Vlasev. 1988. General Silviculture. Sofia: Zemizdat.

Additional information (optional) (e.g., special requirements, laboratory equipment, prior knowledge)

It is desirable that participants hold at least a Bachelor’s degree in forestry or applied ecology, as well as basic practical experience in forest ecosystems.