

Course name:**The Outline of Applied Silviculture in North America**

ECTS	1
Course status	optional, facultativ
Course final assessment /evaluation of outcomes	graded credit
Prerequisite	forest ecology

Main field of study:**Forestry**

Educational profile	General academic
Code of studies and education level	MSc
Semester of studies	summer
Language of instruction	English

Course offered by:

Name of faculty offering the course	Faculty of Forestry
Name of department offering the course	Department of Forest Ecology and Silviculture
Course coordinator	Maciej Pach PhD, DSc, Associate Professor

Learning outcomes:

Symbol of outcome	Description of the learning outcome	Reference to main field of study outcomes	Area symbol*
KNOWLEDGE – student knows and understands			
LES_ZSHLAP_W01	rules for silvicultural procedures adapted to the intended purposes (tending measures, methods of stand regeneration, other special silvicultural treatments) depending on the development phases and species composition of stands in North America, taking into account the preservation and stability of forests, ensuring the sustainable development of natural resources	LES2_W02 LES2_W04	RL
SKILLS – student is able to			
SOCIAL COMPETENCIES – student is ready to:			

Teaching contents

Lectures	15 hours
Topics	<ol style="list-style-type: none"> 1. Basic forestry (silvicultural) terms. Basic silvics and biomes of North America. 2. Silvicultural systems – Regeneration methods, high forest methods (even-aged stands, uneven-aged stands), coppice forest methods (coppice methods, coppice with standards). 3. Artificial regeneration, site preparation (slash disposal, prescribe burning, fertilization, mechanical treatment (mounding, scalping, mixing, disc trenching, plowing), chemical treatment, use of hand tools), methods of planting, seeding. 4. Stages of natural and managed stand development (tree size classification), intermediate treatments - release operation (weeding, cleaning, liberation), thinning (non-commercial, timber stand improvement, commercial). 5. Intermediate treatments - improvement cutting (presalvage, salvage and sanitation cutting), wood quality operation (pruning), fertilization, prescribed burning. 6. Fire management, environmental issues of applied silviculture, biodiversity.
Accomplished learning outcomes	
Means of verification, rules and criteria of assessment	
Classes: hours
Topics	
Accomplished learning outcomes	
Means of verification, rules and criteria of assessment	

References:

Basic	1. Matthews J.D. 1989. Silvicultural systems. Oxford University Press, 284 p. 2. Nyland R. D. 2007. Silviculture. Concepts and Applications. Second edition, Waveland Pr. Inc., USA, 682 p. 3. Smith D.M., Larson B.C., Kelty M.J., Ashton P.M.S. 1997: The practice of silviculture: applied forest ecology. 9th ed. John Wiley & Sons, Inc., New York, USA 537 p.
Supplementary	1. Innes J.L., Tikina A.V. (eds) 2017. Sustainable Forest Management. From concept to practice. Routledge, London and New York, 396 p. 2. Messier C., Puettmann K.J., Coates K.D. 2014. Managing Forests as Complex Adaptive Systems. Building Resilience to the Challenge of Global Change. Routledge, London and New York, 368 p. 3. Puettmann K.J., Coates K.D., Messier C. 2009. A Critique of Silviculture. Managing for Complexity. Island Press, Washington, DC, 188 p.

Structure of learning outcomes

Area of academic study: R – Agricultural sciences, L - Forestry	1 ECTS **
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Structure of student activity

Contact hours	18	hrs.	0,7 ECTS**
Including:	lectures	15	hrs.
	classes and seminars	0	hrs.
	consultations	2	hrs.
	participation in research	0	hrs.
	obligatory traineeships	0	hrs.
	participation in examination	1	hrs.
e-learning	0	hrs. ECTS**
student own work	7	hrs.	0,3 ECTS**

*Areas of academic study in the fields of: H- humanities; S - social studies; P – biological sciences; T – technological sciences; M- medical, sport and health sciences; R – Agricultural, forestry and veterinary sciences; A – the arts

** stated with an accuracy to 0.1 ECTS, where 1 ECTS = 25 - 30 hours of classes