

Course name	Natural Disturbances in Forest Communities	
Course code		
Department	Department of Forest Biodiversity	
Faculty	Faculty of Forestry	
Course supervisor/Lecturer	Professor Jerzy Szwagrzyk, Ph.D.	
General information	Semester	Winter/Summer
	ECTS credits	1
	Lectures total	15 hours
	Classes/labs/field classes	-
Objective and general description	<p>Student at the end of the course should know and understand the role played by natural disturbances: wildfires, winds, floods and landslides in forest dynamics. These issues are very frequently addressed in contemporary scientific papers, but are almost absent in the textbooks. The results of recent researches have shown, that natural disturbance play key role in dynamics of various forest communities. The existence of some forest types, as well as occurrence of some plant and animal species depends on natural disturbances.</p> <p>The course includes: short characteristics of various kinds of natural disturbances, description of the role played by disturbances in various forest communities with a special emphasis on the forests of temperate zone, determination of the consequences of natural disturbances for the species composition and structure of forest communities, presentation of the consequences of natural disturbances for the forest management and for nature conservation.</p>	
Lectures	<p>Types of natural disturbances in forest communities. Intensity, extent and frequency of natural disturbances.</p> <p>The role of wind in forest ecosystems. Tree architecture and their resistance to hurricanes. The ability of various species to vegetative re-sprouting after serious wind damage.</p> <p>The role of wildfires in forest ecosystems. Mechanisms of ignition. The consequences of wildfires for forest communities. Organisms dependent on the occurrence of fire.</p> <p>Role of floods. Mechanical damage to trees by the flowing water and by the floating ice. Functioning of the riparian forest communities.</p>	

	<p>The role of avalanches and landslides in the dynamics of forest communities in the mountains. Rare and less known types of disturbances: ice storms, snowfalls during the growing season.</p> <p>Insect outbreaks and large-scale infestations by fungal pathogens as natural disturbances in forest communities.</p> <p>Natural disturbances and the specie diversity in forest communities: does the occurrence of natural disturbances increase the species diversity in forests?</p> <p>Natural disturbances and the climax stage in forest communities; can the classical succession theory be defended?</p>
<p>Assessment method Specify: oral/written examination</p>	<p>Written exam (test)</p>
<p>References</p>	<p>Johnson E. A., Miyanishi K. (Red.) 2007. Plant disturbance ecology. Academic Press, Boston</p> <p>Pickett S. T. A., White P. S. 1985. The Ecology of Natural Disturbance and Patch Dynamics. Academic Press, San Diego-New York.</p> <p>Van der Maarel E. (Red.). 2005. Vegetation Ecology. Blackwell Publishing, Oxford.</p> <p>Walker L. R., Del Moral R. 2003. Primary succession and ecosystem rehabilitation. Cambridge University Press, Cambridge-New York.</p>