

<b>Study Programme : BSc in Ecology</b>				
Degree level: Bachelor degree				
<b>Course Title: Basics of Conservation Biology</b>				
<b>Professor: Ante Vujic, PhD, Vesna Milankov, PhD</b>				
<b>Required Course</b>				
<b>Number of ECTS: 7</b>				
<b>Prerequisites: Genetics and genotoxycology, Basics of Molecular Biology</b>				
<b>Course Objective:</b>				
Conservation Biology course involves theory of population genetics and ecology, taxonomy, systematics and evolutionary biology and their implementation in defining conservation units, priorities and management. Since biological diversity involved three main parts (genetic, species and ecosystem diversity) the course examines the evolution of biodiversity and human impacts on it. The genetic basis of conservation biology includes genetic variation within and among populations, loss of genetic variation (bottleneck effect, genetic drift, hybridization and inbreeding). The topics of the lectures deal with habitat loss, the causes and patterns of extinctions, fragmentation, problems faced by small populations of threatened species and species extinction. The course covers conservation in practice including conservation of habitat and landscape, management protection of terrestrial and aquatic ecosystems as well as applications of conservation science to the problems of restoring species, habitats, and ecosystems.				
<b>Course Outcome:</b>				
The course provides the students with the appropriate principles and tools to tackle the many problems associated with the preservation and conservation biodiversity. Emphasis is also placed on developing oral and written communication skills. Students obtain the principles of conservation management, selection and prioritization criteria for protected areas and sustainable development. Students acquire fundamental knowledge to evaluate areas for conservation and be able to prepare written report and oral presentation. Reading scientific papers students acquire advanced and broader knowledge of conservation biology. During work on group project and debates students improve communication skills as well.				
<b>Course Content:</b>				
<i>Theoretical part</i>				
Introduction: „The sixth extinction“; Endangered and extinct species; Methodology in conservation biology. Genetics and extinction: Relationships between loss of genetic diversity and extinction. Evolutionary genetics of natural populations: genetic diversity; evolutionary potential of the species; variation over space and time. Characterizing genetic diversity: single loci and quantitative variation. Evolution in large populations: natural selection and adaptation; mutation, migration and their interactions with selection. Evolution in small populations: importance of small populations in conservation biology. Maintenance of genetic diversity: conservation of genetic diversity. Ethics and Conservation Biology. The Conservation of Habitat and Landscape. Management of Protected Areas. Species Management. Restoration Ecology. Conservation and Sustainable Development.				
<i>Practical part</i>				
Use of molecular markers in delineation of sympatric and allopatric species. Evolutionary conservation units. Population fragmentation. Measuring population fragmentation: F statistics. Genetics and the management of wild populations. Genetic management of captive populations. Genetic management for reintroduction. Ecosystem Management-case studies. Ecosystem Modeling. Plant Conservation. Conservation of Invertebrates. Vertebrate Conservation. Ecosystem Restoration. Conservation and Restoration-Challenges in Practice.				
<b>Reading List:</b>				
Milankov, V. (2007) Osnovi konzervacione biologije I. Prirodno-matematički fakultet, Novi Sad Vujić, A. (2007) Osnovi konzervacione biologije II. Prirodno-matematički fakultet, Novi Sad				
<b>Total hours:</b>				
Lectures: 2	Practicals: 2	Other:	Student research work:	Other: 2
<b>Methods of instruction:</b>				
Video beam and overhead presentation				
<b>Assessment (maximum number of points 100)</b>				
<b>Requirements</b>	<b>points</b>	<b>Final exam</b>	<b>points</b>	
Active participation in lectures		Practical exam	35	
Active participation in practicals		Oral exam	35	
Test(s) or				
Pre-exam testing	30			
<b>Remark:</b>				