

Name of the subject: EVOLUTION AND PHENOTYPIC PLASTICITY		
Teacher(s): Dr. Jasmina Ludoški		
Status of the subject: Elective		
Number of ECTS points: 15		
Condition: -		
Goal The course Evolution and Phenotypic Plasticity aims at studying the phenomenon of phenotypic plasticity, mechanisms and processes that cause and shape this phenomenon, as well as its evolutionary significance. The course integrates the knowledge in ecological genetics, developmental biology and theory of evolution with the aim of comprehending how the interaction between genetic and environmental factors shapes organisms.		
Outcome of the subject Acquiring the knowledge and critical comprehension of the processes of adaptive evolution of phenotypes.		
Content of the subject <i>Theoretical lectures</i> Phenotypic plasticity: the concept, the norm of reaction; Studying and comprehending phenotypic plasticity: empirical approach; Historical overview of studying phenotypic plasticity; Genetics of phenotypic plasticity: genetic variability of plasticity, genetic constraints, plasticity and heterozygosity, plasticity and developmental (in)stability, canalization and homeostasis; Molecular biology of phenotypic plasticity: molecular bases of phenotypic plasticity, concept of plasticity genes; Developmental biology of phenotypic plasticity: mechanisms of developmental plasticity, adaptive significance; Ecology of phenotypic plasticity: phenotypic plasticity as adaptive strategy, adaptive phenotypic plasticity – empirical examples; Behaviour and phenotypic plasticity: theoretical framework, case studies; Evolution of phenotypic plasticity: approaches to modelling the interaction genotype-environment; Theoretical biology of phenotypic plasticity; Phenotypic plasticity as central concept in evolutionary biology. <i>Student research</i> Analysis of phenotypic variability on selected groups of animals and plants.		
Recommended literature 1. Pigliucci, M (2001) Phenotypic plasticity: beyond nature and nurture. The Johns Hopkins University Press. 2. Scientific papers		
Number of active classes	Theory: 5	Practice: 5
Methods of delivering lectures Oral, seminar paper writing, analyzing papers published in relevant journals		
Evaluation of knowledge (maximum number of points 100) Oram exam (70), Seminar paper (30)		