1.	**Course name: Conservation Genetics**
2.	University department: Department of Behavioural Ecology
3.	Course type: lectures (15h) and seminars (20h)
4.	Degree: **master**
5.	Semester: **winter**
6.	Number of hours: **35**
7.	Name, Surname, academic title: **Maria Magdalena Zagalska-Neubauer, PhD** (maria.zagalska-neubauer@uwr.edu.pl)
8.	Course description/Content: Lectures: - evolutionary genetics of natural populations: methodology in conservation genetics, extinction, genetic diversity, threatened species and bottlenecked populations, variation over space and time, genetic differences among species, quantitative variation, evolutionary impacts of natural selection, mutation and migration in large populations, population genomics; - genetic consequences of reduced population size: loss of genetic diversity in small populations, inbreeding, inbreeding depression, population fragmentation, genetically viable populations; - applications of genetic principles to management of threatened species in wild, semi-wild and captive populations: resolving taxonomic uncertainties and defining management units, genetic management of wild populations, hybridization and introgression, genetic issues in introduced and invasive species, genetic management of captive populations, genetic management for introduction, use of molecular genetics in wildlife forensics, population viability analysis. Seminars: > software (ARLEQIN, FSTAT, BEAST, STRUCTURE) and basic statistic R studio packages used in population genetics; > software for simulation the effects of selection, drift, mutation, gene flow and migration; > Categorizing endangerment of species (IUCN); > selected breeding/reintroduction programs conducted in Poland and around the world; > Designing molecular analyzes with non-invasive sampling; > Designing a reintroduction/restitution project/breeding program for the selected species.
9.	Recommended literature: Frankham R., Ballou J.D., Briscoe D.A. 2010. Introduction to Conservation Genetics. Cambridge University Press Frankham R., Ballou J.D., Briscoe D.A. 2004. A primmer of conservation genetics. Cambridge University Press Frankham R., Ballou J.D., Ralls K., Eldridge M.D.B., Dudash M.R., Fenster C.B., Lacy R.C. & Sunnucks P. 2017. Genetic Management of Fragmented Animal and Plant Populations. Oxford University Press Höglund J. 2009. Evolutionary Conservation Genetics. Oxford University Press. van der Werf J., Graser H.-U., Frankham R., Gondro C. 2009. Adaptation and Fitnessin Animal Populations. Evolutionary and Breeding Perspectiveson Genetic Resource Management. Springer Science+Busines Media B.V. Hartl D.L, Clark A.G. 2007. Principles of Population Genetics. Sinauer Hamilton M.B. 2009. Population Genetics. Wiley-Blackwell, A John Wiley & Sons, Ltd., Publication
10.	Form of credit: Lectures – test, Seminar - projects
11.	Language: English
12.	Number of ECTS: **3**