

"Genetic and GENETIC IMPROVEMENT" (69855) of the integrated course LIVESTOCK AND ECONOMY (69854). AA 2013/2014 - Prof. Stefania Dall'Olio - Year of study: 1st

Course contents	Learning outcomes	Hours
<p>Structure of chromosome and genes. Mendelian genetics. Sex-linked inheritance. Multiple alleles. Incomplete dominance, codominance. Lethal alleles. Gene interactions. Genetic linkage. Chromosomal and gene mutations.</p> <p>Tutorial: classroom activities (resolution of exercises)</p>	<p>Basic knowledge of genetic transmission of traits and ability to predict the results of genetic cross.</p>	<p>6</p> <p>2</p>
<p>Genetic structure of populations. Hardy-Weinberg equilibrium.</p> <p>Tutorial: exercises on calculation of allele and genotypic frequencies.</p>	<p>Ability to calculate allele and genotypic frequencies and to verify the Hardy-Weinberg equilibrium.</p>	<p>2</p> <p>1</p>
<p>Qualitative and quantitative traits. Phenotypic, environmental and genetic variability. Heritability, repeatability. Genetic improvement of livestock species: official records, relationships, genetic evaluations (pedigree, performance test, sib test, progeny test, BLUP-animal model), selection (traditional and genomic selection). Inbreeding and crossbreeding.</p>	<p>Ability to understand the principles and the organization of genetic improvement of livestock species.</p>	<p>11</p>