

General information			
Academic subject	Genetics and plant breeding		
Degree course	Sustainable Agriculture		
Academic Year	2021/2022		
European Credit Transfer and Accumulation System (ECTS)	4		
Language	Italian		
Academic calendar (starting and ending date)	1 semester		
Attendance	no		

Professor/ Lecturer	
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Department and address	DiSAAT
Virtual headquarters	Teams
Tutoring (time and day)	

Syllabus	
Learning Objectives	At the end of the course the students will acquire the basic knowledge on the main approaches to the study of genetics and the main methodologies for plant breeding.
Course prerequisites	
Contents	The student will deepen basic concepts of Genetics and plant breeding, which are essential to take actions on the safeguard and valorisation of plant genetic resources. Main contents of the course will be: DNA and its replication <ul style="list-style-type: none"> • Population genetics and continuous variability • Agricultural biodiversity • Main methods of genetic improvement of agricultural crops • Varietal constitutions
Books and bibliography	LORENZETTI F., CECCARELLI S., ROSELLINI D., VERONESI F. 2011. <i>Genetica agraria</i> . Patron Ed. o LORENZETTI F., M. FALCINELLI, F. VERONESI, 1994. <i>Miglioramento genetico delle piante agrarie</i> . Edagricole, Bologna
Additional materials	

Work schedule			
Total	Lectures	Hands on (Laboratory, working groups, seminars, field trips)	Out-of-class study hours/ Self-study hours
Hours			
100	16	14 hours classroom exercises +28 (14 x2) Laboratory exercise where students will be divided into two groups)	42
ECTS			
4	2	2	
Teaching strategy			

	<i>Themes talked during the course will be presented by means of Power Point presentations and the reading of scientific publications.</i>
Expected learning outcomes	
Knowledge and understanding on:	<ul style="list-style-type: none"> ○ Basic concepts on genetics, genetic erosion, conservation genetics and plant breeding
Applying knowledge and understanding on:	<ul style="list-style-type: none"> ○ Application of methodologies for the plant genetic , the creation of genetic variation and plant breeding
Soft skills	<ul style="list-style-type: none"> • <i>Making informed judgments and choices</i> <ul style="list-style-type: none"> ○ Capacity to understand suitable tools for the management of genetics and plant breeding • <i>Communicating knowledge and understanding</i> <ul style="list-style-type: none"> ○ Development of personal skill of communication, multidisciplinary group work and judging capacity • <i>Capacities to continue learning</i> <ul style="list-style-type: none"> ○ Capacity to update knowledge on the subject

Assessment and feedback	
Methods of assessment	<p>The exam will consist of an oral test on questions related to the subjects deepened during the Course, as pointed out in the “Regolamento Didattico del Corso di Studio TAS (art. 10) and in the curriculum scheme (Annex A).</p> <p>For students that passed the intermediate exam, the overall evaluation mark will be the average between marks obtained at the intermediate exam and the final exam.</p>
Evaluation criteria	<ul style="list-style-type: none"> • <i>Knowledge and understanding</i> <ul style="list-style-type: none"> ○ Capacity to correctly report themes related to population genetics, conservation genetics and plant breeding • <i>Applying knowledge and understanding</i> <ul style="list-style-type: none"> ○ Capacity to correctly report methodologies for valorisation of genetic resources and plant breeding • <i>Autonomy of judgment</i> <ul style="list-style-type: none"> ○ Capacity to evaluate most suitable strategies in the genetics for the valorisation of genetic resource • <i>Communicating knowledge and understanding</i> <ul style="list-style-type: none"> ○ Capacity to communicate knowledge acquired during the course • <i>Capacities to continue learning</i> <p>Capacity to update knowledge on themes treated during the course</p>
Criteria for assessment and attribution of the final mark	<i>The expected learning outcomes, in terms of knowledge and skills, are listed in Annex A of the Didactic Regulations of the Course Study (expressed through the European Degree Descriptors)</i>
Additional information	