

DISCIPLINE DESCRIPTION

1. Information on the study programme

1.1 Academic institution	UNIVERSITY OF ORADEA
1.2 Faculty	FACULTY OF ENVIRONMENTAL PROTECTION
1.3 Department	AGRICULTURE, HORTICULTURE
1.4 Field of study	AGRONOMIE
1.5 Cycle of study	LICENSE
1.6 Study programme/Qualification	AGRICULTURE / AGRICULTURAL ENGINEERS

2. Information on the discipline

2.1 Name of discipline	GENETICS I						
2.2 Course holder	CONF. DR. LAZĂR ANDRA NICOLETA						
2.3 Seminar/Laboratory/Project holder	CONF. DR. LAZĂR ANDRA NICOLETA						
2.4 Year of study	II	2.5 Semester	III	2.6 Type of evaluation	E	2.7 Regime of discipline	DF

(C) Compulsory; (O) Optional; (E) Elective

3. Total estimate time (hours per semester of didactic activities)

3.1 Number of hours per week out of which:	4	3.2. course	2	3.3. laboraty/project	2
3.4 Total hours in the curriculum out of which:	56	3.5. course	28	3.6. laboratory/project	28
Time allotment					hours
Study assisted by manual, course support, bibliography and notes					25
Additional documentation in the library/ on specialised electronic platforms and in the field					20
Preparation of seminars/laboratories/ topics/reports, portfolios and essays					15
Tutorship					7
Examinations					2
Other activities.....					-
3.7 Total hours of individual study		69			
3.9 Total hours per semester		56			
3.10 Number of credits		5			

4. Prerequisites (where appropriate)

4.1 curriculum	Botany, Plant Physiology
4.2 competences	Microbiology, Biochemistry

5. Conditions (where appropriate)

5.1. related to course	Projector
5.2. related to seminar	Microscopes, laboratory kits, field trip

6. Specific competences acquired

Professional competences	<p>C1. Develop sustainable agricultural production technologies, organization and coordination to achieve production processes</p> <p>C4. Production of biological material quality for crop propagation</p> <p>C6. Providing advisory services and extension in agriculture</p>
Transversal competences	<p>CT1. Developing and following a schedule and achieve their tasks with professionalism and rigor</p>

7. Objectives of discipline (coming from the specific competences acquired)

<p>7.1 General objective</p>	<p>The course aims is to give students basic knowledge of general genetics, with examples, if possible, in plant genetics of the species subject to improvement and production of seed of varieties of high biological value and high performance rays productive.</p> <p>It makes the presentation of hereditary phenomena and variability are entries in quantitative genetics, population genetics and ecological genetics and teach basic information on the use of modern biotechnology, including genetic engineering and horticultural crop improvement.</p>
<p>7.2 Specific objectives</p>	<p>Acquiring practical and theoretical knowledge to students, necessary for the implementation of modern technologies of reproduction, growth, improvement and operation of various plant species horticultural and ornamental different types of households and existing farms in our country.</p> <p>Selection, improvement, production and exploitation of biological material reproduction.</p>

8. Content*/

8.1 Course	Methods of teaching	No. of hours/Remarks
1.Genetics - the science of heredity and variability of living organisms (definition, the subject, purpose and importance of genetics, genetics branches and research methods used short history)	Modern lecture for student in accessible forms, combined with discussion followed by explanations that clarify the phenomena presented Active and participative methods	2
2. Mendelian laws of heredity (Mono-hybridism and gametes purity law, the law of segregation and independent Di-hybridism pairs of characters)	Idem	2
3. Other types of segregation (partial dominant, over dominant, co-dominant, pleiotropic genes, lethal gene complementarity, interaction between genes, epistasis, polygenic, transgression)	Idem	4
4. Heredity quantitative and qualitative characters (heredity characteristics quantitative characters)	Idem	4
5. Cytological bases of heredity (organization of eukaryotic cell, chromosomes of eukaryotic organisms, eukaryotic chromosome morphology, chemical composition, characteristics eukaryotic karyotype)	Idem	4
6. Cellular Reproduction (mitotic cell cycle and genetic significance, meiotic cell cycle and genetic significance, genetic recombination in higher plants, genetic and biological significance)	Idem	4
7. Heredity of sexual characteristics (types of determinism chromosomal gender, type <i>Drosophila</i> , <i>Abraxas</i> type, type of determinism of the haploid male gender, other factors influencing the genetic determinism of gender, sex-linkage phenomenon)	Idem	4

Bibliography:		
<ol style="list-style-type: none"> 1. Ceapoiu N. 1976 “Genetica și evoluția populațiilor biologice” Editura Academiei Române, București 2. Crăciun T. 1970 “Genetica” Editura Didactică și Pedagogică, București; 3. Drăcea I. 1973 „Genetica” Editura Didactică și Pedagogică, București; 4. Enescu V. 1985 “Genetica ecologică” Editura Ceres, București; 5. Pamfil C. 1974 “Genetica” Editura Didactică și Pedagogică, București; 6. Savatti M., Andra Ienciu 2003 “Genetica agro-silvică” Editura AcademicPres, Cluj-Napoca; 7. Savatti M., Andra Ienciu, Savatti M. jr. 2004 „Genetica” Editura AcademicPres, Cluj-Napoca. 		
8.3. Laboratory	Methods of teaching	No. of hours/ Remarks
1. Usual laboratory methods in cytogenetic.	Exposure, talks with students working at the laboratory (interactive activities). Field trip	2
2. Usual laboratory techniques in cytogenetic		2
3. Micrometre and microscopic elements.	Idem	2
4. Highlighting microscope hereditary component functions		4
5. Nucleic acids - chemical substrate of heredity.	Idem	2
6. Phenomena of mitosis and meiosis genetic nature		2
7. Cytological methods for highlighting chromosomes in plants. The study of chromosomes in plants..	Idem	4
8. Cell division	Idem	2
9. Study of eucromatins and heterochromatin.	Idem	2
10. Methods of investigation to karyotype plants	Idem	2
11. Crosses between individuals that differ by a single character (mono-hybridising.)	Idem	2
12. Crosses between individuals who differ by a second or more characters (mono-hybridising and poli-hybridising	Idem	2
Bibliography:		
<ol style="list-style-type: none"> 1. Ceapoiu N. 1976 “Genetica și evoluția populațiilor biologice” Editura Academiei Române, București 2. Crăciun T. 1970 “Genetica” Editura Didactică și Pedagogică, București; 3. Drăcea I. 1973 „Genetica” Editura Didactică și Pedagogică, București; 4. Enescu V. 1985 “Genetica ecologică” Editura Ceres, București; 5. Pamfil C. 1974 “Genetica” Editura Didactică și Pedagogică, București; 6. Savatti M., Andra Ienciu 2003 “Genetica agro-silvică” Editura AcademicPres, Cluj-Napoca; 7. Savatti M., Andra Ienciu, Savatti M. jr. 2004 „Genetica” Editura AcademicPres, Cluj-Napoca. 		

* The content, respectively the number of hours allocated to each course / seminar / laboratory / project will be detailed during the 14 weeks of each semester of the academic year.

9. Corroboration of discipline content with the expectations of the epistemic community, professional associations and representative employers from the field corresponding to the study programme

- By learning the theoretical concepts and practical aspects included in discipline approach Genetics, students acquire knowledge that consistent with partial competencies required for possible occupations provided in Grid 1 - NRQHE
- The course curriculum exists also, in universities and faculties in Romania.

10. Evaluation

Type of activity	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Share in the final grade
------------------	--------------------------	-------------------------	-------------------------------

10.4 Course	Exam scheduled session	Written exam	90%
10.6. Laboratory	Evaluation of laboratory work is under continuous evaluation.	Test, practical test	10%
10.8 Minimum standard of performance			
Knowledge and learning the basics correct encountered in genetic variability and understanding of hereditary phenomena, acquiring basic information on the use of modern biotechnology, including genetic engineering in plant breeding.			

Date of completion

Signature of course holder

Signature of seminar holder

17.09.2020

Conf. univ. dr. biol. **Lazăr Andra Nicoleta**

Conf. univ. dr. biol. **Lazăr Andra Nicoleta**

Date of approval in the department

Signature of the Head of Department

.....

Prof. univ. dr. ing. Bandici Gheorghe-Emil

.....

Dean signature
Prof. dr. ing. Chereji Ioan

.....

** - Name, first name, academic degree and contact details (e-mail, web page, etc.) will be specified.
Conf. dr. Lazăr Andra Nicoleta, ienciuandra@yahoo.com