

SUBJECT OUTLINE

1. Information on the programme

1.1. Higher education institution	University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca
1.2. Faculty	Agriculture
1.3. Department	II – Plant culture
1.4. Field of study	Agriculture
1.5. Education level ¹⁾	Bachelor
1.6. Specialization/Study programme	Agriculture
1.7. Form of education	Full time

2. Information of the discipline

2.1. Name of the discipline		Fruit growing						
2.2. Lecture coordinator				Professor Viorel MITRE				
2.3. Seminar/laboratory/project coordinator				Professor Viorel MITRE				
2.4. Year of study	III	2.5. Semester	II	2.6. Type of evaluation	Continue	2.7. Discipline status	Content ² Compulsory level ³	BD CD

3. Total estimated time (teaching hours per semester)

3.1. Hours per week – full time programme	4	out of which: 3.2. lecture	2	3.3. seminar/ laboratory/ project	2
3.4. Total number of hours in the curriculum	56	out of which: 3.5. lecture	28	3.6. seminar/laboratory	28
Distribution of time allotted					hrs.
3.4.1. Study based on book, textbook, bibliography and notes					20
3.4.2. Additional documentation in library, specialized electronic platforms and field					15
3.4.3. Preparing seminars / laboratories / projects, reports, portfolios and essays					15
3.4.4. Tutorials					4
3.4.5. Examinations					6
3.4.6. Other activities					
3.7. Total hours of individual study	64				
3.8. Total hours per semester	120				
3.9. Number of credits ⁴	4				

4. Prerequisites (if applicable)

4.1. curriculum - related	Soil science, Botany, Plant physiology, Agro-chemistry
4.2. skills - related	Students should have knowledge concerning general agriculture.

5. Conditions (if applicable)

5.1. for the lecture	The course of fruit growing is interactive. During the course students may ask questions regarding the content of the subject. No other activities are allowed during the course, its beginning and ending hour must be respected as rule of the academic discipline.
5.2. for the seminar/laboratory/project	At the practical work is necessary the consultation of coordinator, every student will develop an individual activity with the existent didactical materials made available and described by the supervisor of practical works. Academic discipline is compulsory during the seminars.

6. Specific competences acquired

P r o f e s s i o n a l c o m p e t e n c e s C o m p e t e n t e p r o f e s s i o n a l e	<p>Elaboration and use of technologies for sustainable fruit production; Diagnosing and solving problems related to the organization and management of fruit farms; Development of a fruit production chain; Production and capitalization of fruit planting material; Providing consulting and extension services in fruit growing.</p>
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T r a n s v e r s a l c o m p e t e n c e s	<p>Elaboration and observance of a work program and the accomplishment of their own duties with professionalism and rigor;</p> <p>The application of efficient communication techniques in the specific activities of teamwork;</p> <p>Assume a role within the team and respect the principles of the division of labor;</p> <p>Objective self-assessment of the need for continuous training in order to constantly adapt and respond to the demands of economic development;</p> <p>Use of information and communication techniques;</p> <p>To participate in research activities in the field of experience of the discipline.</p>
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7. Lecture objectives (based on the list of competences acquired)

7.1. Overall lecture objective	Students should have knowledge concerning the principles and methodologies of modern fruit growing
7.2. Specific objectives	<p>Address interdisciplinary specific problems concerning the biology and technology of fruit trees.</p> <p>Define properly the specific terms of course.</p> <p>Knowledge of plant material production, planning, planting and maintenance of orchards.</p> <p>Applying in practice the knowledge accumulated by studying the theoretical aspects of the course.</p> <p>Acquiring the intellectual and practical skills related to technology of planting and maintenance of orchards.</p>

8. Content

8.1. LECTURE	Teaching methods	Observations
<p>Number of hours – 28 hrs</p> <p>Definition, importance and current situation of fruit growing.</p> <p>Fruit species of temperate climate, taxonomy, nomenclature.</p> <p>Organography</p> <p>The whole life cycle of fruit species.</p> <p>The annual cycle of fruit species.</p> <p>The alternation of fruit.</p> <p>Ecology of fruit trees and shrubs.</p> <p>Production of fruit planting material.</p> <p>Establishment of fruit plantations.</p>	<p>Lectures, heuristic conversation,</p> <p>observation, guided discovery learning, problem solving, modeling,</p> <p>demonstration, exercises, case study.</p> <p>Lectures have lasting 2 hours.</p>	<p>1 lectures</p> <p>1 lectures</p> <p>1 lectures</p> <p>1 lectures</p> <p>3 lectures</p> <p>1 lecture</p> <p>1 lectures</p> <p>3 lectures</p> <p>2 lectures</p>

<p>8.2. PRACTICAL WORK</p> <p>Number of hours – 28 hrs</p> <p>Recognition of fruit species.</p> <p>Organography of fruit trees.</p> <p>Nursery work (part I).</p> <p>Categories of planting material and obtaining them.</p> <p>Training and maintenance work on fruit trees</p>	<p>Presentation of practical applications related to the fruit growing work, focusing on skills training and recognition of decorative elements of each species and plant material category.</p>	<p>1 lab work (2 hours)</p> <p>5 lab works (10 hours)</p> <p>2 lab works (4 hours)</p> <p>2 lab works (4 hours)</p> <p>4 lab works (8 hours)</p>
<p><i>Compulsory bibliography:</i></p> <ol style="list-style-type: none"> 1. MITRE V., (2019) – <i>Notes</i>. 2. MITRE V., G. ROPAN, IOANA MITRE, 2001, <i>Pomicultură aplicată</i>, ed ACADEMICPRES, Cluj-Napoca 3. MITRE V., 2008 - <i>Pomicultură specială</i>, Ed. Todesco, Cluj-Napoca 4. MITRE V., 2007- <i>Pomologie</i>- Ed. Todesco, Cluj-Napoca . 		

Optional bibliography:

1. BACIU A. – *Pomicultură generală*, Edit. Universitaria Craiova, 2005
2. BOTU I., BOTU M. – *Pomicultură modernă și durabilă*, Edit. Conphys. Rm. Vâlcea, 2003
3. COSMULESCU SINA, BACIU A – *Pomologie. Îndrumător de lucrări practice*, Tipografia Universității din Craiova, 2003
4. DRĂGĂNESCU, E. - *Pomicultură*, Editura Mirton, Timișoara, 1998
5. GHENA N., BRANIȘTE N., STĂNICĂ FL. – *Pomicultură generală*, Edit. MatrixRom, București, 2004
6. GODEANU I. – *Pomicultură generală, Îndrumător lucrări practice*, Reprografia Universității Craiova, 1981
7. GRĂDINARIU G. – *Pomicultură specială*, Edit. Ion Ionescu de la Brad, Iași, 2003
8. IORDĂNESCU OLIMPIA ALINA – *Pomicultură*, Edit. Eurobit, Timișoara, 2008
9. IORDĂNESCU OLIMPIA ALINA, MICU ROXANA ELENA – *Pomicultură generală și specială*, Edit. Eurobit, Timișoara, 2011
10. POPESCU, M., și colab. – *Pomicultură, Edit. didactică și pedagogică*, București, 1993.

9. Corroborating the lecture content with the expectations of the epistemic community representatives, of the professional associations and representative stakeholders in the corresponding field

Information regarding this course are constantly improved and updated by participating at seminars, symposiums, different meetings. The content of course is complete with information's from specific international reference material.

10. Assessment

Type of activity	10.1. Assessment criteria	10.2. Assessment methods	10.3. Percentage of the final grade
10.4. Lecture	Knowledge and applying the special terms in different contexts. Acquiring special knowledge's, intellectual and practical skills necessary for the presentation and performance of specific works of fruit growing.	Exam	70 %
10.5. Seminar/Laboratory	Practical application of accumulated theoretical knowledge of fruit growing course. Practical testing of notions presented to the laboratory and field.	Colloquy	30 %
10.6. Minimal performance standards: Assimilation of the information presented during lectures and laboratory classes at a medium level. Passing mark of the tests.			

1 Education levels - choose of the three options: Bachelor/Master*/Ph.D.

2 Discipline status (content) - for the undergraduate level, choose one of the options: FD (fundamental discipline), BD (basic discipline), SD (specific disciplines), UO (disciplines based on the university's options).

3 Discipline status (compulsoriness) - choose one of the options: CD (compulsory discipline) OD (optional discipline) ED (elective discipline).

4 One credit is equivalent to 25-30 hours of study (teaching activities and individual study)

5* Disciplines: AK - Advanced knowledge, CT- Complementary Training, S - Synthesis.

Filled in on
02.09. 2019

Lecture coordinator
Professor Viorel MITRE

Laboratory work/seminar coordinator
Professor Viorel MITRE

Approved by the
department on

Head of the Department
Prof.dr. Marcel M. DJUDA