

## COURSE SYLLABUS

### 1. Information about the programme

1.1 Institution of higher education	<b>UNIVERSITY OF ORADEA</b>
1.2 Faculty	<b>ENVIRONMENTAL PROTECTION</b>
1.3 Department of	<b>AGRICULTURE, HORTICULTURE</b>
1.4 Field of study	<b>HORTICULTURE</b>
1.5 Level of study	<b>MASTER</b>
1.6 Study programme/ Qualification	<b>MODERN HORTICULTURAL TECHNOLOGIES</b>

### 2. Discipline data:

2.1 Course name	<b>MODERN TEHCNOLOGIES IN FRUIT GROWING AND FRUIT SHRUBS</b>						
2.2 Course coordinator	PhD. Lecturer GÎTEA MANUEL ALEXANDRU						
2.3 Seminar/ Lab/ Project coordinator	PhD. Lecturer GÎTEA MANUEL ALEXANDRU						
2.4 Year of study	I	2.5 Semester	II	2.6 Type of assessment	Ex	2.7. Type of discipline	C

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

### 3. Total time estimated (hours of teaching per semester)

3.1 Number of hours per week	3	of which: 3.2 course	2	3.3 laboratory	1
3.4 Total hours in the curriculum	4	of which: 3.5 course	28	3.6 laboratory	14
Distribution of time					hours
Study based on course book, course materials, bibliography and notes					70
Additional documentation in the library, on specialized electronic platforms / in the field					40
Training seminars / laboratories, homework, essays, portfolios and essays					20
Tutoring					7
Examinations					3
Other activities.....					-
<b>3.7 Total hours of private study</b>					<b>140</b>
<b>3.9 Total hours per semester</b>					<b>98</b>
<b>3.10 Number of credits</b>					<b>5</b>

### 4. Prerequisites (where applicable)

4.1 curriculum	Pomology, Ecology, Phytopathology, Entomology, Agrotehnics
4.2 competences	

### 5. Conditions (where applicable)

5.1. for the course	Video-projector, computer
5.2. for the laboratory	Video-projector, computer, boards, microscopes,

### 6. Specific skills acquired

Professional skills	<p>C3 Developing and implementing a portfolio of specific rules and procedures for the management and marketing of the capitalization of quality horticultural products</p> <p>C5 Development and implementation of specific criteria and methods for assessing the quality of different types of horticultural products</p> <p>C6 Implementation of European rules regarding origin, registration, certification and valorisation of horticultural products</p>
Transversal competences	<p>CT1 Performing one's own attributions with professionalism and rigor and making specific decisions for teamwork in accordance with deontological values and principles</p> <p>CT2 Planning and organizing the activities to be carried out by each member of the work team so that they lead to the efficient conduct of the work process in accordance with the principles of the division of labour</p> <p>CT3 Objective self-assessment of the need for continuous professional training in order to adapt professional competencies to the dynamics of the field and the demands of the labour market: learning new methods and techniques through continuous learning</p>

### 7. Course objectives (based on the grid of the skills acquired)

7.1 The overall objective of the course	Development of modern, efficient technologies for horticultural crops in the context of consumer safety
7.2 Specific objectives	The aspects regarding modern technologies for fruit trees and fruit shrubs farms are highlighted.

### 8. Contents \*

8.1 Course	Teaching methods	No. of hours / Comments
1. The importance and current situation of horticulture for human existence and activity.	Presentation of the theoretical aspects related to the subject	2
2. The main cultivation areas of fruit tree species in Romania	Presentation of the theoretical aspects related to the subject	2
3. Soil works. Work carried out before planting and after planting fruit tree species.	Presentation of the theoretical aspects related to the subject	2
4. Planting fruit tree species	Presentation of the theoretical aspects related to the subject	2
5. Applying fertilizers in orchards. Control of weeds, diseases and pests in fruit crops	Presentation of the theoretical aspects related to the subject	2
6. Maintenance works specific to fruit crops. Modern technologies applied in the cultivation of apple, pear and quince	Presentation of the theoretical aspects related to the subject	2
7. Modern technologies applied in the cultivation of plums, cherries and sour cherries.	Presentation of the theoretical aspects related to the subject	2
8. Modern technologies applied in the cultivation of peach and apricot	Presentation of the theoretical aspects related to the subject	2
9. Modern technologies applied in the cultivation of almonds, hazelnuts and walnuts	Presentation of the theoretical aspects related to the subject	2
10. Modern technologies applied in the cultivation of fruit	Presentation of the	2

shrubs.	theoretical aspects related to the subject	
11.Modern technologies applied in strawberry cultures	Presentation of the theoretical aspects related to the subject	
12.Modern technologies applied in raspberries and blackberries cultures	Presentation of the theoretical aspects related to the subject	2
13.Modern technologies applied in currant and gooseberry cultures	Presentation of the theoretical aspects related to the subject	2
14.Modern technologies for fruit production and preservation in the context of food safety	Presentation of the theoretical aspects related to the subject	2
<p><b>Bibliography</b></p> <p>1.Gîtea Manuel Alexandru, 2020 – Pomologie, Editura Universităţii din Oradea</p> <p>2.Gîtea Manuel Alexandru, 2021- Lucrări practice de pomologie, Editura Universităţii din Oradea</p> <p>3.Braniste, N. S. Budan, Madalina Butac, Madalina Militaru, Scheau V., 2007 – Soiuri de pomi, arbusti fructiferi si capsuni create in Romania- Cultura migdalului, Ed. Paralela 45- Pitesti</p> <p>4.Vasile Cociu, Gh. Achim, I. Botu, M. Botu, N. Cepoiu, Sina Cosmulescu, Gh. Deaconu, I. Godeanu, M. Iancu, Silvia Murg, I. Popa, Silvia Preda, Teodora Tetileanu, Elena Turcu, V. Scheau, Cachita Sarpe, 2003– Culturile nucifere. Ed Ceres</p> <p>5.Ghena N. ,Nicolae Branişte - Cultura specială a pomilor,Ed. Matrix Rom Bucureşti,2003</p> <p>6.Pomohaci N., Ioan Nămoşanu - Cultivarea plantelor horticole,Ed. Ceres Bucureşti,2003</p> <p>7.Scheau Viorel, 1998 - Migdalul-taxonomie, bioecologie, portaltol, sortiment, ameliorare, Ed. Imprimeriei de Vest Oradea</p> <p>8.Venig A., - Practicum de pomicultură, Ed. Universităţii din Oradea., 2006</p> <p>9.Venig A., - Lucrari practice de pomicultura. Ed. Universităţii din Oradea, 2012</p>		
8.2 Seminar	-	
8.3 Laboratory	Teaching methods	No. of hours / Comments
1.General characteristics of crown types used in intensive and super-intensive plantations.	Presentation of theoretical and practical aspects related to the subject, lecture, practical activity	1
2. Formation and maintenance of spindle type crowns: slender spindle, super spindle and their conditions of use.	Presentation of theoretical and practical aspects related to the subject, lecture, practical activity	1
3. Formation and maintenance of cord type crowns: vertical cord, oblique cord, horizontal cord, bush cord and their conditions of use.	Presentation of theoretical and practical aspects related to the subject, lecture, practical activity	1
4. Formation and maintenance of palmette crowns and their conditions of use.	Presentation of theoretical and practical aspects related to the subject, lecture, practical activity	1
5. Formation and maintenance of pot and bush crowns	Presentation of theoretical and practical aspects related to the subject, lecture, practical activity	1
6. Formation and maintenance of decorative crowns: U-shaped and double U-shaped crown, four and six arm verrier, chandelier pyramid and chandelier vessel.	Presentation of theoretical and practical aspects related to the subject, lecture, practical activity	1
7. Determining the viability and germination capacity of pollen in apple and pear varieties.	Presentation of theoretical and practical aspects related to the subject, lecture, practical activity	1
8. Examination of the particularity of phenological development of the vegetative and	Presentation of theoretical and practical aspects related to the subject, lecture,	1

generative organs in the stone species.	practical activity	
9. Examination of the particularity of phenological development of vegetative and generative organs in apple and pear.	Presentation of theoretical and practical aspects related to the subject, lecture, practical activity	1
10. Morphological examination in laboratory conditions of the reproductive organs of stone and seed varieties in order to highlight the phenomenon of androsterility	Presentation of theoretical and practical aspects related to the subject, lecture, practical activity	1
11. Determining the viability and germination capacity of pollen in the varieties of stone species.	Presentation of theoretical and practical aspects related to the subject, lecture, practical activity	1
12. Modern technologies for the production of fruit planting material.	Presentation of theoretical and practical aspects related to the subject, lecture, practical activity	1
13. Modern technologies for controlling diseases and pests in fruit crops.	Presentation of theoretical and practical aspects related to the subject, lecture, practical activity	1
14. Modern technologies for storing horticultural products	Presentation of theoretical and practical aspects related to the subject, lecture, practical activity	1
8.4 Project	-	-

**Bibliography**

- Gîtea Manuel Alexandru, 2020 – Pomologie, Editura Universităţii din Oradea
- Gîtea Manuel Alexandru, 2021- Lucrări practice de pomologie, Editura Universităţii din Oradea
- Braniste, N. S. Budan, Madalina Butac, Madalina Militaru, Scheau V., 2007 – Soiuri de pomi, arbusti fructiferi si capsuni create in Romania- Cultura migdalului, Ed. Paralela 45- Pitesti
- Vasile Cociu, Gh. Achim, I. Botu, M. Botu, N. Cepoiu, Sina Cosmulescu, Gh. Deaconu, I. Godeanu, M. Iancu, Silvia Murg, I. Popa, Silvia Preda, Teodora Tetileanu, Elena Turcu, V. Scheau, Cachita Sarpe, 2003– Culturile nucifere. Ed Ceres
- Ghena N. ,Nicolae Branişte - Cultura specială a pomilor,Ed. Matrix Rom Bucureşti,2003
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- Venig A., - Practicum de pomicultură, Ed. Universităţii din Oradea., 2006
- Venig A., - Lucrari practice de pomicultura. Ed. Universităţii din Oradea, 2012

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

**9. Corroborating the content of the discipline with the expectations of the epistemic community, professional associations and representative employers within the field of the programme**

The content of the discipline is adapted and meets the requirements imposed by the labour market, being agreed by the epistemic communities (which study the process of spatial planning of a space as it should take place within science), social partners, professional associations and employers in horticulture.

**10. Evaluation**

Type of activity	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Share in the final grade
10.4 Course	For grade 5, both subjects must be treated to minimum standards; For grades higher than 5 the subjects must be treated to higher standards	Oral exam	70%
10.5 Seminar	-	-	-
10.6 Laboratory	All works must be done as a condition to entering the exam. The students are allowed to attend only one	Report	30 %

	laboratory to catch up on those they missed (in the last week of the semester)		
10.7 Project	-	-	-
10.8 Minimum performance standard			
Developing a plan for continuous personal professional development that includes the use of modern information and training resources. Theoretical and practical knowledge on modern technologies in growing fruit trees and fruit shrub farms.			

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Date of approval in the department

07.10.2020

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