University of Zagreb Faculty of Agriculture
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Pomology 1 (296620)

Course coordinator

Prof. Tomislav Jemrić, PhD

Course description

This module deals with chapters from morphology, breeding and ecological conditions for fruit cultivation, physiology of growth and yield and pomo-technical and agro technical measures. Classes include lectures, exercises and field work. Student achieves fundamental knowledge that will be needed for understanding other modules from similar topic and basic skills needed for mastering fruit cultivation.

ECTS: **6.00**

E-learning: **L1**

Teaching hours: 60
Lectures: 32
Practicum: 16
Seminar: 8
Field exercises: 4

Lecturer

- Prof. Tomislav Jemrić, PhD

Associate teacher for exercises

- Prof. Tomislav Jemrić, PhD
- Marko Vuković, PhD

Associate teacher for seminars

- Prof. Tomislav Jemrić, PhD
- Marko Vuković, PhD

Grading

Sufficient (2): 60 %
Good (3): 70 %
Very good (4): 80 %
Excellent (5): 90 %

Type of course

- Undergraduate studies / BS Courses taught in English (Elective course, 1 semester, 1 year)

General competencies

The module enables understanding morphological characteristics and physiological manifestations of growth and yield of fruit trees. Students receive theoretical and practical knowledge that is necessary for the understanding materials from other related modules.

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Types of instruction

- Lectures
- Practicum

  Exercises deals with morphology of bearing shoots, tasks for calculation of production indicators and in orchard pruning is trained.
- Seminars

  Students prepare and present one of the topic from subjects that this module deals by.

Learning outcomes

Learning outcome	Evaluation methods
explain the importance of fruit in human diet	written or oral exam
identify and evaluate conditions needed for fruit cultivation	written or oral exam, homework
describe basic physiological processes of growth and yield of fruit trees	written or oral exam, homework
identify different systems of fruit cultivation	written or oral exam
organize and conduct agro-technical measures in orchard during the vegetative period	seminar
recognize and describe different types of bearing shoots on fruit trees	written exam
conduct pruning	practical checkup

Working methods

Teachers' obligations

Lectures, exercises and seminars

Students' obligations

Regular attendance to lectures, regular presence to the exams, regular fulfillment of obligations, handing two homework, positively evaluated seminar

Methods of grading

Evaluation elements	Maximum points or Share in evaluation	Grade rating scale	Grade	Direct teaching hours	Total number of average student workload	ECTS
I. i II. homework	8%			12	8	1
Seminar	7%			8	8	1
Partial exam - morphology	10%			8	5	1

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Evaluation elements	Maximum points or Share in evaluation	Grade rating scale	Grade	Direct teaching hours	Total number of average student workload	ECTS
1. midterm exam	38%			16	15	1.5
2. midterm exam	37%			16	15	1.5
Final exam	75%			32	30	3
Total	100%			60	51	6

Evaluation elements	Description	Deadline	Recoupment
Seminar	Write a seminar with at least 15 scientific relevant references in accordance with the received instructions and within the deadline set it on the system for e-learning	According to the agreement with the teacher	Obliged work off of the filed exercises
Partial exam - morphology	Answer correctly to at least 60% of the questions in the system for e-learning	According to the agreement with the teacher	Obliged to pass the exam
1. midterm exam	Answer correctly to at least 60% of the questions in the system for e-learning	According to the agreement with the teacher	Obliged to pass the exam
2. midterm exam	Answer correctly to at least 60% of the questions in the system for e-learning	According to the agreement with the teacher	Obliged to pass the exam
Final exam	Answer correctly to at least 60% of the questions in the system for e-learning or satisfactory answer to questions in oral exam	According to the agreement with the teacher	If midterm exams are passed final exam is not obliged

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Weekly class schedule

1. Introduction and course definition, the state of fruit production in the Republic of Croatia, morphological and physiological characteristics of root system
2. Objective methods for determing optimal harvest date and maturity of apples and pears
3. The morphology of the above-ground parts of fruit trees, types of fruiting and non-fruiting shoot
4. Generative and vegetative propagation of fruit trees, fruit nursery organization, production of nursery plants
5. Ecological and edaphic conditions for the growth and development of fruit trees, the influence of relief.
6. The effect of pruning on growth and fertility, distribution and characteristics of various tree training
7. Practical mastering the basic techniques of pruning and forming tree form
8. Annual and life cycle of fruit trees, growth stages of the tree growth, factors affecting the growth and development of fruit trees
9. The course of differentiation of flower buds, the factors that influence the differentiation, regulation methods of differentiation
10. Phenophases of flowering, relations of fertilization in fruit trees, the role of pollinators
11. Soil management in the orchard, the advantages and disadvantages of different systems
12. The role of fruit thinning in the regulation of fruit tree yielding, ways and thinning agens
13. The growth curve of the fruit, factors affecting fruit growth, dependence of vegetative and generative growth, fruit quality
14. Preparation and presentation of student's seminar papers
15. A visit to the orchard, introduction to technological processes of fruit production in practice and experience of the fruit producers

Obligatory literature

1. Jemrić, T. 2007 Fruit grafting and pruning, Uliks, Rijeka (In Croatian)
2. Miljković, I. 1991. Modern pomology, Znanje, Zagreb (chosen chapters)
3. Štampar, K. 1966 Pomology 2 (internal script), Poljoprivredni fakultet Zagreb

Recommended literature

1. Kozlowski, T. T., Pallardy, S. G. 1997. Growth control in woody plants, Academic press, San Diego
2. Westwood, M. N. 1995. Temperate-zone pomology, physiology and culture, Third edition, Timber Press, Portland, Oregon

Similar course at related universities

- Fruit growing I, Faculty of Horticultural Science, Corvinus university of Budapest, Hungary

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