

1. Course name: Basics of viticulture Code:	
2. Qualification, study level: Horticultural engineer BSc	3. Language: English
4. Course type: obligatory	5. Evaluation: colloquium
6. Number of hours per week: 2+2	7. Credit: 4
8. Semester: 3.	9. Work schedule: daytime
10. Study prerequisites:	
11. Responsible organization unit: Department of Horticulture	
12. Course leader: Dr. Ferenc Baglyas	
13. Instructor: Dr. Ferenc Baglyas	
14. Short description of the study programme (announced in Neptun) Aims and objectives of the course (max 5 lines): To provide basic knowledge for the practical horticulturist of vineyards that can be used to manage both private farms and integrated vineyards for efficient and productive production.	
Curriculum: The history of viticulture Viti-viniculture in the world Wines of Hungary Morphology Nutrition Ecology Phenology Propagation	
Those students who have the following knowledge, abilities, attitudes, autonomy and responsibility can be awarded a BSc diploma:	
a) knowledge Graduates will <ul style="list-style-type: none"> • have comprehensive knowledge of the facts, directions and boundaries of the topics of the given field of training • have knowledge of the most important correlations, theories and the concepts related to their professional field • knows the knowledge acquisition and problem-solving methods of the main theories of their professional field • have the knowledge that is necessary for starting an MSc course of the given (and other) field of training • have comprehensive knowledge of the legal regulations and ethical norms related to their professional field • have the knowledge, abilities and attitudes that relate their profession to specific fields of civic literacy 	
b) abilities Graduates <ul style="list-style-type: none"> • can fulfil their tasks related to their qualifications • can perform a basic analysis of the disciplines of their field of research and provide a synthetic definition and adequate assessment of correlations • can employ the procedures of their field of interest as well as the most important theories and the related terminology • understand and use the online and printed literature related to their professional field in Hungarian and foreign language and also have the knowledge of effective information searching and information processing in their professional field 	

- understand and interpret longer texts, as well as texts with visual signs, typography tools and icons, tables, datasets, moving and still pictures, maps and diagrams
- identify routine problems, explore and determine the theoretical and practical background needed for their resolution and solve them using standard procedures
- plan and organize their own independent learning and use the widest range of sources available
- utilize the resources of their workplace effectively using their professional knowledge

c) attitudes

Graduates

- accept and represent the social role of their profession and its relationship with the world
- are open to transit and convey the basic characteristics of the comprehensive way of thinking of the professionals in their professional field and the practical mechanisms of their profession
- are open to get acquainted with, accept and convey the technological developments and innovations in their professional field
- make their decision with respect to all laws, regulations and ethical norms even in situations requiring a complex approach
- aim at solving problems in collaboration with others
- develop themselves continuously to serve the public

d) autonomy and responsibility

Graduates

- examine comprehensive professional questions thoroughly without help and give an answer to them in unexpected situations on the basis of given resources
- examine comprehensive and special professional questions thoroughly and give an answer to them on the basis of given resources using professional guidance
- carry out their duties independently and critically assess and continuously correct their work
- participate in shaping and justifying professional assumptions
- accept the basic assumptions of their professional field
- develop their skills and acquire new competencies (by learning independently or attending further education courses) which make them suitable for responsible positions in a corporation

15. The system of assessment and evaluation (announced in Neptun)

Assignments:

- Midterm exams: 5. and 11. weeks
- The maximum points (25), at least 51% (13).
- Options for Supplementation:
Supplementation of absence can be done within the term prescribed by the department during the term of study. If there is no substitution until the deadline that has expired, replacement can be done only in the semester in which the absence was completed. If the number of absences reaches 30% of the compulsory number, the subject should be repeated.
Replacement and repair of a midterm exam: during the 12th week of the study period

Final examination requirements:

- At least 51% completion of midterm exam is required
- Colloquium can be offered by the result of the midterm exams

The type of exam: colloquium

- Mode: oral or written. Student takes exam from one of the exam items.
- Application: in NEPTUN according to the requirements

Grading:

Midterm exam	2 x 25 points=50 points	(5)	excellent	86 - 100 points
Colloquium:	50 points	(4)	good	76 - 85 points
Total:	100 points	(3)	satisfactory	61 - 75 points
		(2)	sufficient	51 - 60 points
		(1)	fail	below 51 points

Exam items:

The history of viticulture

Viti-viniculture in the world
Wines of Hungary
Morphology
Nutrition
Ecology
Phenology
Propagation

16. Study materials:

powerpoint presentations
Study farm, library

17. The 2-5 most important textbooks and reference books

(notes, books) bibliographic data of authors, publishing date and place ISBN)(**announced in Neptun**)

Compulsory:

Peter Dry, Brian Coombe (2005): Viticulture Volume 1: Resources, Publisher: Winetitles
ISBN 13: 9780975685006

Patrick Iland, Peter Dry, Tony Proffitt, Steve Tyerman (2011): The Grapevine, Wine Promotions ISBN
9780958160551

Recommended:

Wine Spectator Magazine
Publisher: Shanken Communications, ASIN: B002PXVZ8G

Course name: Basic knowledge of fruit growing and nursery	
Name of course, level of qualification Horticultural Engineering BSc	Language: English
	Fin review: colloquium
Weekly number of lessons (lectur+semester+practice): 2+2+0	Credit value: 4
Curriculum period of the course: 3. semester	Working schedule: <u>Daytime</u>
Responsible department: Department of Horticulture	
Course coordinator: Dr. Király Ildikó	
The teacher of the course: Kajtár-Czinege Anikó	
Course description (in Neptun published on)	
<p>The aim of teaching the course is to: The students will learn about fruit species, their grouping, flowering, fertility and yield characteristics of fruit plants, their association, cultivation systems and the basics of fruit nursery propagation.</p> <p>The knowledge to be learned:</p> <ol style="list-style-type: none"> 1. I. Basics about fruit-bearing plants - 1. Fruit plants classification and morphology 2. I. Basics about fruit-bearing plants - 2. Grouping of fruit bearing plants 3. I. Basics about fruit-bearing plants - 3. Knowledge of fruiting laterals 4. II. Cultivation system, crown forms - 1. Integrated and organic fruit growing 5. II. Cultivation system, crown forms - 2. Traditional and semi-intensive cultivation system and canopy 6. II. Cultivation system, crown forms - 3. Intensive cultivation system and canopy 7. III. Flowering and fruit setting characteristics - 1. Flowering of fruit -bearing plants 8. III. Flowering and fruit setting characteristics - 2. Association of fruit-bearing plant's varieties 9. III. Flowering and fruit setting characteristics - 3. Fruit development and ripening 10. IV. Basics of tree nursery cultivation - 1. Vegetative propagation of fruit-bearing plants 11. IV. Basics of tree nursery cultivation - 2. Generative propagation of fruit-bearing plants 12. IV. Basics of tree nursery cultivation - 3. Use of rootstocks <p>Professional competences to be obtained (knowledge, skills, attitudes, autonomy and responsibilities):</p> <p>a) knowledge</p> <ul style="list-style-type: none"> – Students should be understanding the morphology and physiology of fruit-bearing plants. – Learn about the biological and technological basis of fruit production, its agro- and phytotechnical characteristics and their control options, and the abiotic effects on fruit production and effective ways to control them. – - Students will be able to see the specificities of the production processes in each fruit sector, the main theoretical and methods and the relevant practical knowledge. – Have the necessary knowledge to identify problems in fruit production sectors and the relevant methods of information gathering, analysis and problem solving. – - They know the terminology and jargon of the fruit sector. Be familiar with the main sources of knowledge and literature. 	

b) skills

- Capable of producing, preserving and presenting high biological value and food-grade fruit crops in a safe manner, free from damage and deterioration.
- Ability to express professional problems in the fruit-growing sector, to identify expected trends, to develop an independent professional position and to defend it in discussions.
- Ability to understand and interpret in a systematic way the professional knowledge that determines the functioning of the fruit sector.
- To be able to decide on the fruit species and varieties that can be planted, taking into account the ecological needs and economic situation of fruit crops and the ecological conditions of the area.
- Mastered the most important practical skills of fruit growing, based on knowledge of the biological, morphological and technological basics.
- Be able to critically analyse and process information and data on fruit production in a variety of ways.

c) attitudes

- You should try to make your self-training a means to achieve your professional goals.
- He is open to new and innovative fruit growing technologies.
- Constantly follows the introduction of new varieties.

d) autonomy and responsibilities

- To be able to make responsible decisions in the future, knowing the sector's actual economic situation and prospects.
- On the basis of knowledge and methods relating to fruit growing, carry out detailed independent analysis, identify basic relationships and draw independent conclusions.

The system of monitoring and evaluation (in Neptun published on)**Mid-semester study requirements:**

Attendance of lectures and seminars in accordance with the requirements of the SER (Study and Examination Regulations). Further requirements for signing the semester:

- Minimum satisfactory passing mark for "The Species Recognition Report",
planned date: 3rd week of teaching.
- Minimum satisfactory pass mark for a report on "A Fruit-Laterals Collection" of your own making.,
planned date: 8th week of teaching
- pass the written examination with at least satisfactory results.
planned date: 9th week of teaching

Reports and papers will count towards your examination grade.

- (5) excellent 90 - 100 %
- (4) good 80 - 89 %
- (3) medium 66 - 79 %
- (2) sufficient 50 - 65 %
- (1) inadequate 50 % below

If you fail a report or a test, you will be given the opportunity to make up the paper once during the last week of the semester. To be admitted to the semester, the two reports and the test must be passed with at least a satisfactory grade.

Examination requirements:

Students who have fulfilled the semester requirements may be admitted to the examination.

Examination type: colloquium

- - method: written.
- - where to apply, deadline: in the NEPTUN system, according to the specifications

The mark for the colloquium is determined as follows:

- (5) excellent 90 - 100 %
- (4) good 80 - 89 %
- (3) medium 66 - 79 %
- (2) sufficient 50 - 65 %
- (1) inadequate 50 % below

The mark for the colloquium will be determined as follows: the mark for the exam will be based on the results of the test (25%), the reports (10+15%) and the colloquium (50%).

The questions in the exam correspond to the topics to be studied, or parts of them:

- Fruit plants classification and morphology
- Grouping of fruit bearing plants
- Knowledge of fruiting laterals
- Integrated and organic fruit growing
- Traditional and semi-intensive cultivation system and canopy
- Intensive cultivation system and canopy
- Flowering of fruit -bearing plants
- Association of fruit-bearing plant's varieties
- Fruit development and ripening
- Vegetative propagation of fruit-bearing plants
- Generative propagation of fruit-bearing plants
- Use of rootstocks

Study aids:

NJE KVK library

Study aids edited by the lecturer of the course in Moodle.

Required and recommended literature

- Melvin Neil Westwood (1993): *Temperate-Zone Pomology: Physiology and Culture*, Third Edition, Timber Press. ISBN: 978-1-60469-070-5
- Tara Auxt Baugher (editor), Suman Singha (Editor) (2010) *Concise Encyclopedia of Temperate Tree Fruit*. CRC Press. ISBN: 1-56022-940-3.
- Harry Baker, Royal Horticultural Society, Christopher Brickell (Editor) (2009) *Growing Fruit*. ISBN: 978 1 84000 153 2

Current articles in specialist journals (MDPI- Horticulturae  horticulturae , Obstbaum)

1. Name of the subject, Microbiology code:	
2. Name and level of training: FOSZK / BSc / MSc / SZT	3. Language of instruction: English
4. Subject list: <u>compulsory</u> / optional	5. Evaluation: Colloquium/ <u>Practical grade</u> / Signature
Weekly lesson (lecture + practice + l): 0+2 Number of consultancy hours in a semester:	7. Credits: 2
8. Curriculum area of the subject: 3	9. Work schedule: <u>Full time</u> / Correspondent
10. Prerequisites: -	
11. Department responsible: Department of Agriculture	
12. Responsible lecturer: Virág Mihálka PhD	
13. Tutor of the subject: Virág Mihálka PhD	
14. Course description (published in Neptune) Purpose of teaching the subject (max 5 rows): Provides basic knowledge of the microbiology science field. Students get acquainted with the basic microbiological concepts, the structure, basic life processes and systematization of microbes. Students will be aware of the role and significance of microorganisms in agricultural production. The knowledge to be acquired (weekly division): <ol style="list-style-type: none"> 1. Introduction: working in a microbial laboratory 2. History of microbiology. General characterization of microorganisms. 3. Basics of virology 4. Prokaryotic microorganisms 5. Eucaryotic microorganisms 6. Microorganisms in the biosphere, genetics of microorganisms 7. Ecology of Microorganisms, Pathogenicity, and Infections in Practice 8. The microbiological background of the cycles of matter 9. Plant visit: Microbiological laboratory of Bácsvíz Kft 10. Microorganisms in farming practice 11. Microbial biotechnology in practice 12. Interaction of microbes (Inter-Population Interactions in the ecosystems), Plant-microbe interactions 13. Algae cultivation and use, microalgae biotechnology 14. <i>Agrobacterium tumefaciens</i> and <i>rhizogenes</i>, Genetic transformation 	

Professional competences to be acquired (knowledge, ability, attitude, autonomy, and responsibilities):

a) knowledge

Graduates

- know significant microbiological concepts in horticultural production.
- know the state of the art of microbiological technologies used in agricultural sectors and their practical application.
- are familiar with organisms that are harmful to horticultural production, and effective methods of protection against them.
- are aware that products produced in horticulture are part of the food chain, know and understand the basic concepts, contexts and processes of food chain security.

b) ability

Graduates

- possess all the knowledge that makes them capable of direct professional communication
- are capable of recognizing and eliminating routine problems in the horticultural production process.
- are able to observe and enforce food chain safety principles when producing food.
- are able to apply test methods acquired during training
- keep track of the environmental, hygiene, food safety, nutrition and safety regulations
- know the interaction between the environment and the horticultural production and the complexity of their work.

c) attitude

Graduates

- have a constructive approach to professional issues.
- are sensitive to the problems that arise in any sector of agriculture
- takes responsibility for compliance with food chain safety conditions.
- social and personal health and environment protection play an important role in their professional decision making
- are sensitive to the environmental and food safety aspects of agricultural production

d) autonomy and responsibilities

Graduates

- feel strong sense of responsibility towards professional, legal and ethical norms and regulations related to the work with microbes
- plan their professional development independently
- carry out decision-making and management functions independently on the level of production organisation units
- take responsibility for their own decisions and work as well as for the work of other employees under their supervision
- take responsibility for the consequences of their professional decisions
- can identify problems independently in their chosen branch of horticulture and field of specialisation, develop solution strategies using their theoretical and practical knowledge and follow these strategies consistently

15. System of accountability and evaluation (published in Neptune)

Intermediate learning requirements:

- Attending practical lessons according to the regulations (TVSZ) of the University.
- Two midterm exams (max. 50-50 points).
- Improvement or supplement of a midterm exam: during the 12th week of the study period.
- The course is completed with practical mark based on the result of the 2 midterm exams (max. 50+50 points):

90 - 100 % excellent (5)
80 - 89 % good (4)
66 - 79 % satisfactory (3)
50 - 65 % passed (2)
50 % fail (1)

16. Study materials, laboratory background:

- Tissue culture and molecular genetics laboratory of the Department
- Library of the University

17. List of 2-5 most important compulsory and recommended literature (notes, textbooks) with bibliographic data (author, title, publication details, ISBN) (published in Neptune):

Obligatory:

Gerard J. Tortora, Berdell R. Funke, Christine L. Case Derek Weber, Warner Bair: Microbiology: An Introduction (13th Edition) Pearson, 960 pp. 2018. ISBN 013 4605 18 7, relevant chapters

Compulsory:

Erika M. Tóth, Andrea K. Borsodi, Tamás Felföldi, Balázs Vajna, Rita Sipos, Csaba Romsics, Judit Makk, Katalin Jáger, Márton Palatinszky, Éva Ács, Károly Márialigeti: Practical Microbiology, Eötvös Loránd University, 2013 available on „Digitális Tankönyvtár”: https://www.tankonyvtar.hu/hu/tartalom/tamop412A/2011-0073_practical_microbiology/index.html

Name of the subject, Water management code:	
2. Name and level of training: Horticultural engineer BSc.	3. Language of instruction: English
4. Subject list: Compulsory	5. Evaluation: Colloquium
Weekly lesson (lecture + practice + l): 1 + 1 + 0	7. Credits: 2
Number of consultancy hours in a semester:	
8. Curriculum area of the subject: 3	9. Work schedule: Full time
10. Prerequisites: -	
11. Department responsible: Department of Agriculture	
12. Responsible lecturer: Dr. Judit Pető	
13. Tutor of the subject: Dr. Judit Pető	
14. Course description (published in Neptune)	
Purpose of teaching the subject (max 5 rows):	
<p>Students should be familiar with the relationship between soil-nutrient-water-plant chain, salt flow control, and water retention dynamics. They should consider the water demand of agricultural crops, the influence of the environmental factors on individual cultures. Get acquainted with the relationship between water and nutrient supply, high quality irrigation water, and have the knowledge of the possibilities of cost-effective water management.</p>	
The knowledge to be acquired:	
<ol style="list-style-type: none"> 1. Relationship between water management and crop production. Basic concepts. 2. The water balance of the soil. The hydrological cycle and its elements. 3. Surface and groundwater. Water resources management. 4. Water management of Hungarian soils. 5. Organic-matter and water management of some of the soil of the inter sand-dunes of the Danube-Tisza. 6. Irrigation water demand calculation. Water consumption of plants. Transpiration characteristics. Disturbances in metabolism caused by water deficiency. 7. Agricultural water utilization. Irrigation water needs. 8. Irrigation water supply, storage, transport. Irrigation modes, systems. 9. Quality of irrigation water. 10. Effect of ground water in crop production. The chemical properties of the soil during irrigation. Secondary salinisation. 11. Groundwater soluble salt content and its impact on soil properties. 12. Municipal water management. Water supply (drinking water quality), sewerage, sewage treatment) 13. Water supply (sewage treatment, placement and recovery) 	
Professional competences to be acquired (knowledge, ability, attitude, autonomy and responsibilities):	
a) knowledge:	
<ul style="list-style-type: none"> - Familiar with the most important relationships, theories, and the conceptual framework of water management. - It comprehensively understands the basic facts, directions, and boundaries of the subject area. 	

- Familiar with the water management tasks related to the field of sustainable agricultural management tasks necessary for solving rural development problems and its health determinant solutions.

b) ability

- Knows, understands and applies the principles of environmental and nature conservation in water management.

- He/she is able to take environmental standards into account in the management of agricultural sectors.

- Keeps track of the environmental, hygiene, food safety, nutrition and safety regulations, and keeps them and keeps them.

c) attitude

- Environment-conscious and have positive attitude towards sustainable agriculture.

- Has professional responsibility and cooperative skills.

d) autonomy and responsibility

- characterized by a sense of responsibility in terms of professional, legal, ethical standards and rules of work and conduct.

15. System of accountability and evaluation (published in Neptune)

Intermediate learning requirements:

• The lectures are an integral part of the training process, so participation in the lectures is expected. One written essay on theoretical material presented in the lecture is mandatory.

• During the study period, students complete an irrigation water demand calculation. The final deadline for submitting the calculation task is 11th week of study period.

Date of essay: The 7th week of education at the time of the lesson.

Replacement / repair dates:

At the 10th week of education at the time of the lesson

Exam requirements:

The course ends with a written colloquium. The collocation consists of answering approx. 10 questions of the themes of the subject.

16. Study materials, laboratory background:

Tutorial provided by the lecturer on TEAMS group surface.

The practical training of students is supported by a state-of-the-art laboratory unit. The Faculty has an accredited Soil and Plant Testing Laboratory.

17. List of 2-5 most important compulsory and recommended literature (notes, textbooks) with bibliographic data (author, title, publication details, ISBN) (published in Neptune)

1. Manika Gupta: Agricultural Water Management : Theory, Abstratction and Practices, Elsevier Science & Technology Books, p. 416., 2018 ISBN 9780128123621

2. Hong Li (2016): Global Trends & Challenges in Water Science, Research and Management, <https://www.iwapublishing.com/open-access-ebooks> eISBN: 9781780408378

3. M. A. Giordano, F. R. Rijbersman, R. M. Saleth (2006): "More Crop Per Drop": Revisiting a Research Paradigm, <https://www.iwapublishing.com/open-access-ebooks> eISBN: 9781780402284

Vermes L.: Vízgazdálkodás. Mg-i Szaktudás Kiadó Bp. 395 p., 2001, 9789639736757,
http://www.tankonyvtar.hu/hu/tartalom/tamop425/0032_vermes/adatok.htmlISBN: 978 963 286 455 6-4

Ligetvári F. A vízgazdálkodás alapjai, SZIE, https://www.tankonyvtar.hu/hu/tartalom/tamop412A/2010-0019_A_vizgazdalkodas_alapjai/ch01s02.html 2011

1. Course name: Basic ornamental cultivation Code:	
2. Qualification, study level: Horticultural engineer BSc	3. Language: English
4. Course type: obligatory	5. Evaluation: Practice mark
6. Number of hours per week: 0+4	7. Credit: 4
8. Semester: 3.	9. Work schedule: full time
10. Study prerequisites: -	
11. Responsible organization unit: Department of Horticulture	
12. Course leader: Dr. Zsuzsa Turi-Farkas	
13. Instructor: Dr. Zsuzsa Turi-Farkas	
<p>14. Short description of the study programme (announced in Neptun) Aims and objectives of the course (max 5 lines): Students will learn about the attributes of Hungarian and international ornamental plant production sector, characteristic of ornamental plant production and trade, conditions of production. The aim of these course is to provide basic knowledge of remarkable annuals, biennials, lawn (morphology, production, application, maintenance), the used flower bed forms and planting systems.</p> <p>Curriculum: Definition of floriculture and ornamental plant production, classification, actual status Plant identification practice Environmental conditions of ornamental plant production Production methods and application of annuals Flower bed forms and planting systems Annual cut flowers, annual dry flowers Seed production of annual ornamental plants Production methods and application of biennials Sowing and maintenance of lawn</p> <p>Those students who have the following knowledge, abilities, attitudes, autonomy and responsibility can be awarded a BSc diploma:</p> <p>Knowledge Graduates will d) be aware of the biological and technological bases of ornamental plants production, the agro- and phytotechnical characteristics and regulations of ornamental plants e) have a good understanding of the characteristics of the production processes in ornamental plant, the most important theoretical and methodological basic principles f) know the terminology of floriculture g) know ornamental plant products and have a good understanding of trading</p> <p>Abilities Graduates</p> <ul style="list-style-type: none"> • can produce safe ornamental plants of high biological quality without damage to them, preserve and package them • can plan and carry out procedures preparing and supporting production in the field of floriculture, distribute resources in a professional way, take part in elaborating suggestions for professional decision making and draw conclusions • can conduct detailed analyses based on the knowledge and methods related to floriculture, explore correlations and draw conclusions independently <p>Attitudes Graduates</p> <ul style="list-style-type: none"> • accept and represent the social role of agriculture, especially that of horticulture and the related field of science (floriculture) • have a constructive attitude towards professional issues. 	

- are sensitive to problems in their professional field and aim at analysing and solving them in collaboration with others
- are environment-conscious and have positive attitude towards sustainable agriculture
- are open to apply the latest results of horticultural production development
- have a positive attitude towards quality
- feel strong sense of professional responsibility and have cooperative skills
- are committed to the professional and ethical norms of horticulture

Autonomy and responsibility

Graduates

- take responsibility for their own decisions and work as well as for the work of other employees under their supervision
- take responsibility for the consequences of their professional point of view
- can identify problems independently in their chosen branch of horticulture and field of specialisation, develop solution strategies using their theoretical and practical knowledge and follow these strategies consistently

15. The system of assessment and evaluation (announced in Neptun)

Assignments:

- Participation of practices
- First midterm exam 6. week (34 point) at least 50 %
- Plant identification test in 9. week (32 point) at least 50 % (16 point)
- Second midterm exam 12. week (34 point) at least 50 %
- Once opportunity of supplementary midterm exams or plant identification test in 13. week

Final examination requirements:

- At least 50 % of midterm exams and plant identification test

The type of exam: seminar mark, based on midterm exams and plant identification test

Grading:

1. Midterm exam	34 point
2. Midterm exam	34 point
Plant identification test	32 point
Total:	100 point

5 (excellent)	90-100 point	90-100 %
4 (good)	80-89 point	80-89 %
3 (satisfactory)	66-79 point	66-79 %
2 (sufficient)	50-66 point	50-66 %
1 (fail)	below 50 point	below 50 %

16. Study materials:

Powerpoint presentations, slideshow of plant pictures. Botanical garden and glasshouse of Faculty

17. The 2-5 most important text books and reference books

(notes, books) bibliographic data of authors, publishing date and place ISBN)(announced in Neptun)

Compulsory:

A. Tilly-Mándy, M. Steiner: Cultivation, growth regulation and trade of bedding and balcony plants production In: Éva Németh Zámboiné, Szilvia Sárosi, Levente Horváth: Modern Horticulture. Corvinus University of Budapest, Faculty of Horticultural Science, 2013. (ISBN: 978-963-503-552-6)

<http://kertesztananyag.hu/modern-systems-in-production-and-commerce-in-ornamentals/bedding-balcony>

1. Course name: Basics of vegetable growing Code:	
2. Qualification, study level: Horticultural engineer BSc	3. Language: English
4. Course type: obligatory	5. Evaluation: practice mark
6. Number of hours per week: 0+4	7. Credit: 4
8. Semester: 3	9. Work schedule: daytime
10. Study prerequisites: -	
11. Responsible organization unit: Department of Horticulture	
12. Course leader: Zsuzsanna Tóth-Taskovics	
13. Instructor: Zsuzsanna Tóth-Taskovics	
<p>14. Short description of the study programme</p> <p>Aims and objectives of the course:</p> <p>The aim of the course is the students get to know the relevance of field vegetable cultivation. To learn technological basic knowledge for field cultivation of vegetables.</p> <p>Curriculum:</p> <ul style="list-style-type: none"> Statistics of vegetable production in the world Nutritional value of vegetables Ecology of vegetables (temperature, light) Ecology of vegetables (water, nutrients) Propagation of vegetables Seed and properties Seedling production Making a project of seedling production Basic knowledge of cultivation technology (crop rotation, tillage) Basic knowledge of cultivation technology (manuring) Basic knowledge of cultivation technology (irrigation) Basic knowledge of cultivation technology (harvesting, storage) <p>Those students who have the following knowledge, abilities, attitudes, autonomy and responsibility can be awarded a BSc diploma:</p> <p>Knowledge</p> <p>Graduates will:</p> <ul style="list-style-type: none"> - have comprehensive knowledge of the facts, directions and boundaries of the topics of the given field of training; - have knowledge of the most important correlations, theories and the concepts related to their professional field; - knows the knowledge acquisition and problem-solving methods of the main theories of their professional field; - have the knowledge that is necessary for starting an MSc course of the given (and other) field of training; - have comprehensive knowledge of the legal regulations and ethical norms related to their professional field; - have the knowledge, abilities and attitudes that relate their profession to specific fields of civic literacy. <p>Abilities</p> <p>Graduates</p> <ul style="list-style-type: none"> - can fulfil their tasks related to their qualifications; - can perform a basic analysis of the disciplines of their field of research and provide a synthetic definition and adequate assessment of correlations; - can employ the procedures of their field of interest as well as the most important theories and the related terminology; 	

- understand and use the online and printed literature related to their professional field in Hungarian and foreign language and also have the knowledge of effective information searching and information processing in their professional field;
- understand and interpret longer texts, as well as texts with visual signs, typography tools and icons, tables, datasets, moving and still pictures, maps and diagrams;
- identify routine problems, explore and determine the theoretical and practical background needed for their resolution and solve them using standard procedures;
- plan and organize their own independent learning and use the widest range of sources available;
- utilize the resources of their workplace effectively using their professional knowledge.

Attitudes

Graduates

- accept and represent the social role of their profession and its relationship with the world;
- are open to transit and convey the basic characteristics of the comprehensive way of thinking of the professionals in their professional field and the practical mechanisms of their profession;
- are open to get acquainted with, accept and convey the technological developments and innovations in their professional field;
- make their decision with respect to all laws, regulations and ethical norms even in situations requiring a complex approach;
- aim at solving problems in collaboration with others;
- develop themselves continuously to serve the public.

d) autonomy and responsibility

Graduates

- examine comprehensive professional questions thoroughly without help and give an answer to them in unexpected situations on the basis of given resources;
- examine comprehensive and special professional questions thoroughly and give an answer to them on the basis of given resources using professional guidance;
- carry out their duties independently and critically assess and continuously correct their work;
- participate in shaping and justifying professional assumptions;
- accept the basic assumptions of their professional field, develop their skills and acquire new competencies (by learning independently or attending further education courses) which make them suitable for responsible positions in a corporation.

15. The system of assessment and evaluation

Assignments:

Evaluation (practical grade):

- **passed (grade 2):**
 - the average of the two midterm tests reaches at least 60%
 - the home project (seedling production) reaches at least 50%
 - the seed collection is marked 100% and seed identification test is at least 50%
- **average (3):** midterm tasks averaging at 70%, but none of the tasks can be worse than 60%.
- **good (4)** midterm tasks average of at least 80%, but each task is at least 60%.
- **excellent (5)** midterm tasks average of at least 90%, but each task is at least 70%.

It is possible to re-sit the midterm exams on the 13th week of the semester. Students can re-sit their weaker midterm exam or those where they did not achieve 60%. There is one possibility to repeat the seed identification test also on the 13th week of the semester.

Final examination requirements:

The semester ends with a practical grade, based on the results of the mid-term survey.

16. Study materials: Powerpoint presentations. Study farm.

17. The most important text books and reference books

Swiader, J. M. ; Ware, G. W. ; McCollum, J. P.(1992): Producing vegetable crops. Interstate Printers and Publishers Inc. ISBN : 081342903X

W.E. Splittstoesser(1990): Vegetable Growing Handbook Chapman &Hall, New York ISBN 0442239718

2. Name of the subject, Crop production code:	
2. Name and level of training: Horticultural engineer, FOSZK / <u>BSc</u> / MSc / SZT	3. Language of instruction: English
4. Subject list: <u>compulsory</u> / optional	5. Evaluation: <u>Colloquium</u> / Practice Mark / Signature
Weekly lesson (lecture + practice + l): 2+0 Number of consultancy hours in a semester:	7. Credits: 2
8. Curriculum area of the subject: 3	9. Work schedule: <u>Full time</u> / Correspondent
10. Prerequisites: -	
11. Department responsible: Department of Agricultural science	
12. Responsible lecturer: Dr. Attila Hüvely	
13. Tutor of the subject: Dr. Attila Hüvely	
<p>14. Course description (published in Neptune)</p> <p>Purpose of teaching the subject (max 5 rows):</p> <p>Our most important arable crops cultivation methods, their role in agriculture and their importance. Describe the situation of Hungarian crop production in the European Union.</p> <p>The knowledge to be acquired (weekly division):</p> <ol style="list-style-type: none"> 1. The importance and the branches of crop production 2. The cultivation of wheat, rye, barley and oats 3. Cultivation of maize 4. Sorghum, the cultivation of Sudan grass 5. Cultivation of peas, soybeans and beans 6. Cultivation of sugar beet and potatoes 7. Cultivation of oil plants (sunflower, cabbage rape) 8. Lucerne cultivation 9. Dual cultivation, cultivation of second crops 10 Seed Production 11. Cultivation of arable crops for energy purposes <p>Professional competences to be acquired (knowledge, ability, attitude, autonomy and responsibilities):</p> <p>e) knowledge</p> <ul style="list-style-type: none"> - Knows the most important relationships in the field of crop production and the conceptual system that builds on them. - Comprehensively understands the basic facts, directions, and boundaries of the subject area. - Familiarize knowledge and problem-solving methods with your core theories. - Knows the agronomic tasks related to the production tasks needed to solve crop production problems and their decisive solutions. 	

f) ability

Graduates

- possess all the knowledge that makes them capable of direct professional communication
- are capable of recognizing and eliminating routine problems in the horticultural production process.
- are able to observe and enforce food chain safety principles when producing food.
- are able to apply test methods acquired during training
- keep track of the environmental, hygiene, food safety, nutrition and safety regulations
- know the interaction between the environment and the horticultural production and the complexity of their work.

g) attitude

Graduates

- have a constructive approach to professional issues.
- are sensitive to the problems that arise in any sector of agriculture
- takes responsibility for compliance with food chain safety conditions.
- social and personal health and environment protection play an important role in their professional decision making
- are sensitive to the environmental and food safety aspects of agricultural production

h) autonomy and responsibilities

Graduates

- feel strong sense of responsibility towards professional, legal and ethical norms and regulations related to the work with microbes
- plan their professional development independently
- carry out decision-making and management functions independently on the level of production organisation units
- take responsibility for their own decisions and work as well as for the work of other employees under their supervision
- take responsibility for the consequences of their professional decisions
- can identify problems independently in their chosen branch of horticulture and field of specialisation, develop solution strategies using their theoretical and practical knowledge and follow these strategies consistently

15. System of accountability and evaluation (published in Neptune)

Intermediate learning requirements:

• The lectures are an integral part of the training process, so participation in the lectures is expected. The mid-term requirement is to produce 1 study on the production (at national level) of a free field of choice for arable crops over the past five years and its market situation. The length of the study is 3-5 pages, in which any writer can quote only the exact source. The deadline for submission is the last week of the term.

Examination conditions:

- Preparation and submission of the study before expiry of the deadline.

Exam requirements:

The course ends with an oral colloquium. During the colloquium, one of the following items must be reported:

- The importance and the branches of crop production
- Cultivation of wheat, rye, barley and oats
- Cultivation of maize
- Sorghum, the cultivation of Sudan grass
- Cultivation of peas, soybeans and beans
- Cultivation of sugar beet and potato
- Cultivation of oil plants (sunflower, cabbage rape)
- Lucerne cultivation
- Dual cultivation, cultivation of second crops

- Seed Production
- Cultivation of arable crops for energy purposes
 - 86-100% excellent (5);
 - 76-85% good (4);
 - 61-75% satisfactory (3);
 - 50-60% passed (2);
 - 0 to 49% fail (1).

16. Study materials, laboratory background:

- Tissue culture and molecular genetics laboratory of the Department
- Library of the Department

17. List of 2-5 most important compulsory and recommended literature (notes, textbooks) with bibliographic data (author, title, publication details, ISBN) (published in Neptune):

Obligatory:

Antal J. : Növénytermesztés 1-2. Mezőgazda kiadó. Budapest. p 392. ISBN 963-286-205-8.
p 596. 2005. ISBN: 9789632864402

Compulsory:

Antal J. : Növénytermesztők zsebkönyve. Mezőgazda kiadó. Budapest. p 392. 2000. ISBN:
9789632864815