

Course code:	HOESOV
Course title in language of instruction:	HOE Fruit Storage
Course title in Czech:	HOE Skladování ovoce
Course title in English:	HOE Fruit Storage
Mode of completion and number of credits:	Exam (6 credits) (1 ECTS credit = 28 hours of workload)
Mode of delivery/Timetabled classes:	full-time, 2/2 (full-time, hours of lectures per week / hours of seminars per week)
Language of instruction:	English
Level of course:	master
Semester:	SS 2016/2017 - FH
Name of lecturer:	Ing. Pavel Híc, Ph.D. (examiner, instructor, lecturer, supervisor) Ing. Miroslav Horák, Ph.D. (instructor) Ing. Jana Kulichová (instructor)
Prerequisites:	none

Aims of the course: Course objective: The ability to use the knowledge for storage of fruit, know the basic processes in the harvested crops, to learn to recognize the influence of microclimatic conditions for storability of fruit, illustrate the influence of ethylene and controlled atmospheres

- Course contents:**
- 1. Biological factors involved in deterioration (allowance 1/0)**
(allowance 1/0)
 - 2. Physiological breakdown and physical damage (allowance 2/0)**
(allowance 2/0)
 - 3. Physiological breakdown and physical damage (allowance 2/0)**
(allowance 2/0)
 - 4. Environmental factors influencing deterioration (allowance 2/0)**
(allowance 2/0)
 - 5. Supplements to temperature and humidity management (allowance 2/0)**
(allowance 2/0)
 - 6. Postharvest procedure, estimating maturity (allowance 2/0)**
(allowance 2/0)
 - 7. Harvesting systems, mechanical harvesting problems (allowance 2/0)**
(allowance 2/0)
 - 8. Cooling methods, forced-air evaporative cooling (allowance 2/0)**
(allowance 2/0)
 - 9. Storage systems, refrigeration, evaporators, refrigerants, (allowance 2/0)**
(allowance 2/0)
 - 10. Controlled atmosphere storage, simple CA system, pressure test allowance (2/0)**
(allowance 2/0)
 - 11. Ethylene in postharvest technology (allowance 2/0)**
(allowance 2/0)
 - 12. Quality and safety factors, components quality, methods for evaluating quality (allowance 2/0)**
(allowance 2/0)

Learning outcomes and competences:

Generic competences:

- ability to apply knowledge
- ability to create new ideas (creativity)
- ability to speak and write in mother tongue
- capacity to learn
- skilled at utilizing and processing information

Specific competences:

- Application of knowledges in practice
- Basic knowledge about fruit growing, vegetable growing
- Conditions for storage of fruit and vegetable
- Knowledge of compounds of fruit
- Knowledge of storage technology

Type of course unit:	required
Year of study:	Not applicable - the subject could be chosen at anytime during the course of the programme.
Work placement:	There is no compulsory work placement in the course unit.
Recommended study modules:	none
Assessment methods:	Course completion:written examination, oral examination

Learning activities and study load (hours of study load)

Type of teaching method	Daily attendance
Direct teaching	
lecture	28 h
professional educational excursion	10 h
consultation	5 h
Self-study	
preparation for exam	10 h
Total	53 h

Basic reading list

- KADER, A A. *Postharvest technology of horticultural crops*. 3. vyd. Oakland, CA: University of California Division of Agriculture and Natural Resources, 2001. 535 p. ISBN 1-879906-51-1.
- KADER, A A. *Postharvest Technology of Horticultural Crops*. Oakland: University of California Press, 1992. 7 p. ISBN 0-931876-99-0.
- THOMPSON, A K. *Fruit and vegetables : harvesting, handling, and storage*. Oxford, UK. 2007. ISBN 9780470751060, 9781405106191. URL: <http://dx.doi.org/10.1002/9780470751060>.
- GOLIÁŠ, J. -- BÖTTCHER, H. Determination of Volatiles of Impact Fruits during Phase of Ripening. *Nahrung/Food*. 1998. v. 38, ISSN 0027-769X.
- GOLIÁŠ, J. Dynamics of ethylene production during the harvest and cooling storage. *Zahradnictví = Horticultural science*. 1998. v. 25, no. 4, ISSN 0862-867X.
- GOLIÁŠ, J. -- FRUHWIRT, M. Formation of anaerobic products in sweet cherries and their partial release into ambient atmosphere under low oxygen storage. *Journal of Applied Botany and Food Quality-Angewandte Botanik*. 2008. v. 1, no. 82, p. 30--34. ISSN 1613-9216.
- GOLIÁŠ, J. *Skladování ovoce v řízené atmosféře*. 1. vyd. Praha: Brázda, 2011. 122 p. ISBN 978-80-209-0386-0.