

SYLLABUS

REGARDING THE QUALIFICATION CYCLE FROM TO

1. BASIC COURSE/MODULE INFORMATION

Course/Module title	Contemporary trends of fruit and vegetables technology
Course/Module code *	
Faculty (name of the unit offering the field of study)	College of Natural Sciences
Name of the unit running the course	Institute of Food Technology and Human Nutrition
Field of study	Food technology and human nutrition
Qualification level	1 st
Profile	academic
Study mode	stationary
Year and semester of studies	3 rd /winter
Course type	basic
Language of instruction	English
Coordinator	Dr hab. Ireneusz Kapusta, prof. UR
Course instructor	Dr hab. Ireneusz Kapusta, prof. UR

* - as agreed at the faculty

1.1. Learning format – number of hours and ECTS credits

Semester (no.)	Lectures	Classes	Colloquia	Lab classes	Seminars	Practical classes	Internships	others	ECTS credits
	10			20					5

1.2. Course delivery methods

- conducted in a traditional way
- involving distance education methods and techniques

1.3. Course/Module assessment (exam, pass with a grade, pass without a grade)

Pass with a grade

2. PREREQUISITES

Food chemistry, food analysis, food microbiology, general food technology

3. OBJECTIVES, LEARNING OUTCOMES, COURSE CONTENT, AND INSTRUCTIONAL METHODS

3.1. Course/Module objectives

O ₁	To introduce students with the latest trends in fruit and vegetable processing
O ₂	Provide knowledge on the use of fruit and vegetable raw materials in processing
O ₃	Preparing students to use modern processing technologies fruit and vegetable

3.2. COURSE/MODULE LEARNING OUTCOMES (TO BE COMPLETED BY THE COORDINATOR)

Learning Outcome	The description of the learning outcome defined for the course/module	Relation to the degree programme outcomes
LO_01	knows the technology and the park at an advanced level machine used in the processing of fruit and vegetables.	KW_11
LO_02	can solve technological tasks and make the right decisions related to using appropriate technologies processing of fruit and vegetables	KU_09
LO_03	is able to analyze the impact of available technologies processing of fruit and vegetables for the quality of the final product.	KU_07
LO_04	is ready to deepen his knowledge in order to improve their professional competences and striving for independent solving of given tasks	KK_02

3.3. Course content (to be completed by the coordinator)

A. Lectures

Content outline
Unconventional fruit and vegetable raw materials used in processing
Modern techniques used in the processing of fruit and vegetables
Modern technologies of preserving fruit and vegetable products

Technologies for the production of preserves with an increased content of biologically active compounds

B. Classes, tutorials/seminars, colloquia, laboratories, practical classes

Content outline
Acquainting students with the rules of passing, learning outcomes, health and safety and laboratory equipment
Production of cloudy apple juice
Quality assessment of the produced cloudy apple juice
Analysis of the physical and chemical parameters of the cloudy apple juice produced
Assessment of the pro-health potential of cloudy apple juice

3.4. Methods of Instruction

e.g.

Lecture: a problem-solving lecture/a lecture supported by a multimedia presentation/ distance learning

Classes: text analysis and discussion/project work (research project, implementation project, practical project)/ group work (problem solving, case study, discussion)/didactic games/ distance learning

Laboratory classes: designing and conducting experiments

Lectures with multimedia presentation.

Laboratories performing and designing experiments, solving technological tasks formulating conclusions.

4. Assessment techniques and criteria

4.1 Methods of evaluating learning outcomes

Learning outcome	Methods of assessment of learning outcomes (e.g. test, oral exam, written exam, project, report, observation during classes)	Learning format (lectures, classes,...)
LO-01	ORAL EXAM, OBSERVATION DURING CLASSES	LECTURES, CLASSES
LO-02	OBSERVATION DURING CLASSES, REPORTS	CLASSES
LO-03	OBSERVATION DURING CLASSES, REPORTS	CLASSES
LO-04	OBSERVATION DURING CLASSES, REPORTS	CLASSES

4.2 Course assessment criteria

Passing all learning outcomes. For a satisfactory grade, mastery of over 55% of the material, for a satisfactory grade, plus over 65% of the material, for a good grade of over 75%, for good plus above 85% of the material, very good above 95% of the material

**5. Total student workload needed to achieve the intended learning outcomes
– number of hours and ECTS credits**

Activity	Number of hours
Scheduled course contact hours	30/1,2
Other contact hours involving the teacher (consultation hours, examinations)	participation in consultations 5/0,2
Non-contact hours - student's own work (preparation for classes or examinations, projects, etc.)	preparation for classes 60/2,4 preparation of reports 30/1,2
Total number of hours	125
Total number of ECTS credits	5

* One ECTS point corresponds to 25-30 hours of total student workload

6. Internships related to the course/module

Number of hours	none
Internship regulations and procedures	none

7. Instructional materials

<p>Compulsory literature:</p> <ol style="list-style-type: none"> 1.Oszmiański J., Technologia i analiza produktów z owoców i warzyw. Wybrane zagadnienia. Skrypt AR Wrocław 2002 2.Zaderowski R., Oszmiański J., Wybrane zagadnienia z przetwórstwa owoców i warzyw. Podręcznik AR-T Olsztyn 1994 3.Jarczyk A., Płocharski W., Technologia produktów owocowo - warzywnych. tom 1 i 2, wydanie pierwsze,. Wyższa Szkoła Ekonomiczno - Humanistyczna im. prof. Szczepana A. Pieniążka, Skierniewice 2010
<p>Complementary literature:</p> <ol style="list-style-type: none"> 1. Cebulak T., Oszmiański J., Kapusta I., Lachowicz S., 2019. Effect of abiotic stress factors on polyphenolic content in the skin and flesh of pear by UPLC-PDA/TOF-MS. European Food Research and Technology, 245,12,2715-2725. 2. Wojciech Janczukowicz, Joanna Rodziewicz and Anna Iwaniak (Eds.) New Trends in Environmental Engineering, Agriculture, Food Production, and

Analysis ISBN 978-3-0365-1124-5 (Hbk); ISBN 978-3-0365-1125-2 (PDF)
<https://doi.org/10.3390/books978-3-0365-1125-2> open access

3. Jan Oszmianski and Sabina Lachowicz-Wiśniewska Food Processing and Its Impact on Phenolic and other Bioactive Constituents in Food
ISBN 978-3-0365-4460-1 (Hbk); ISBN 978-3-0365-4459-5 (PDF)
<https://doi.org/10.3390/books978-3-0365-4459-5> open access

4. Alejandra Acevedo-Fani and Harjinder Singh (Eds.) Processing Foods to Design Structures for Optimal Functionality
ISBN 978-3-0365-4390-1 (Hbk); ISBN 978-3-0365-4389-5 (PDF)
<https://doi.org/10.3390/books978-3-0365-4389-5> open access

5. Isidoro Garcia-Garcia, Jesus Simal-Gandara and Maria Gullo (Eds.) Advances in Food, Bioproducts and Natural Byproducts for a Sustainable Future: From Conventional to Innovative Processes ISBN 978-3-0365-3957-7 (Hbk); ISBN 978-3-0365-3958-4 (PDF)
<https://doi.org/10.3390/books978-3-0365-3958-4> open access

6. Parisa Jafarian AslaVikky Rajulapati Mohsen Gavahianc Ireneusz Kapusta Predrag Putnike AminMousavi Khaneghah KrystianMarszałek Non-thermal plasma technique for preservation of fresh foods: A review Food Control Volume 134, April 2022, 108560

Approved by the Head of the Department or an authorised person