SYLLABUS

REGARDING THE QUALIFICATION CYCLE FROM 2022 TO 2023

1. BASIC COURSE/MODULE INFORMATION

Course/Module title	Dairy technology
Course/Module code *	
Faculty (name of the unit offering the field of study)	College of Natural Sciences Institute of Food and Nutrition Technology
Name of the unit running the course	Institute of Food Technology and Human Nutrition
Field of study	Food technology and human nutrition
Qualification level	
Profile	General academic
Study mode	Part-time
Year and semester of studies	Summer semester
Course type	Erasmus + program
Language of instruction	English/Spanish
Coordinator	DR MAGDALENA BUNIOWSKA-OLEJNIK
Course instructor	DR MAGDALENA BUNIOWSKA-OLEJNIK

* - 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**
	15			15					5

1.2. Course delivery methods

- conducted in a traditional way

1.3. Course/Module assessment (exam)

2. PREREQUISITES

BASIC KNOWLEDGE OF CHEMISTRY, BIOLOGY, MICROBIOLOGY AND FOOD TECHNOLOGY

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

3.1. Course/Module objectives

O1	The student will become familiar with the chemical, physical properties and organoleptic changes of milk and milk products.
O2	The student will acquire knowledge about the overall technology of various dairy products.
On3	The objective of the course is also to introduce the students the importance of milk microbiology and the ways of hygienic milk production.

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	To know the components and physicochemical properties of milk and know unit operations needed to produce milk products. Recognize procedures needed to ensure processing efficiency in dairy technology of various dairy products.	K_W11
LO_02	Recognize procedures needed to preserve milk quality. Identify hazards and critical control points to preserve milk quality from farm to consumers.	K_U07
LO_03	Understand how cleaning and sanitizing can influence the quality of milk and dairy products and take responsibility for manufactured products. contribute to teamwork to produce a written assignment and to develop oral communication skills. ability to think creatively on developing new dairy products	K_K05

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

A. Lectures

Content outline
History and biology of milk production. Milk composition.

Microbiology of milk. Hygiene in manufacturing milk
Unit operations needed to produce milk and milk products. Fluid milk products.
Starter dairy cultures. Functional dairy products. Probiotics and prebiotics.
Enzymes in milk technology.
Infant formula and other concentrated milks.
Dairy products typical in Poland.

B. laboratories,

Content outline
Evaluation of raw milk quality.
Physical and chemical properties of milk.
General aspects of milk processing.
Production of dairy fermented products.
Processing of cream and butter production
Cheese making technology.
Milk desserts technology.

3.4. Methods of Instruction

Lecture: a lecture supported by a multimedia presentation
Laboratory classes: designing and conducting experiments

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	test	LECTURES, LAB
LO-02	reports	LAB
LO-03	observation during classes	LAB

4.2 Course assessment criteria

ATTENDANCE IN ALL LABORATORY CLASSES. REPORTING AND PRESENTING RESULTS OF PRACTICAL AND LABORATORY EXERCISES. PASS THE LABORATORY MATERIAL TESTS AND FINAL EXAM (OPEN TEST) GRADE 5, > 94% ; GRADE 4.5, 90-94%; GRADE 4, 80-89%; GRADE 3.5, 70-79%; GRADE 3, 60-69% CORRECT ANSWERS

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	75
Other contact hours involving the teacher (consultation hours, examinations)	5
Non-contact hours - student's own work (preparation for classes or examinations, projects, etc.)	70
Total number of hours	150
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	
Internship regulations and procedures	

7. Instructional materials

Compulsory literature: BYLUND G. ET AL. DAIRY PROCESSING HANDBOOK, TETRA PAK AVAILABLE ONLINE: HTTP://WWW.DAIRYPROCESSINGHANDBOOK.COM/ ROBINSON R.K. (ED.) MODERN DAIRY TECHNOLOGY, VOL.1, 2 1994, SPRINGER SCIENCE+BUSINESS MEDIA DORDRECHT
Complementary literature: ARTICLES COVERS ASPECTS OF DAIRY SCIENCE AND TECHNOLOGY INCLUDING MICROBIOLOGY

Approved by the Head of the Department or an authorised person