**SYLLABUS**

**regarding the qualification cycle FROM 2023 TO 2024**

1. Basic Course/Module Information

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| --- | --- |
| Course/Module title | Food adulteration |
| Course/Module code \* |  |
| Faculty (name of the unit offering the field of study) | College of Natural SciencesInstitute of Food and Nutrition Technology |
| Name of the unit running the course | Institute of Food Technology and Nutrition |
| Field of study | Food technology and human nutrition |
| Qualification level  |  |
| Profile | General academic |
| Study mode | Part-time |
| Year and semester of studies | Winter/summer semester |
| Course type | Erasmus + program |
| Language of instruction | English |
| Coordinator | Agata Pawłowska PhD |
| Course instructor | Agata Pawłowska PhD |

\* - as agreed at the faculty

1.1.Learning format – number of hours and ECTS credits

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Semester(n0.) | Lectures | Classes | Colloquia | Lab classes | Seminars | Practical classes | Internships | others | **ECTS credits**  |
| Winter |  | 30 |  |  |  |  |  |  | 5 |

1.2. Course delivery methods

- conducted in a traditional way

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

pass with a grade

2. Prerequisites

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| Completed course: general chemistry, inorganic chemistry, organic chemistry |

3. Objectives, Learning Outcomes, Course Content, and Instructional Methods

3.1. Course/Module objectives

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| O1 | The aim of the course is to familiarize students with issues related to food fraud, types of adulteration, causes and methods of their detection, taking into account the latest research methods in food analysis. |

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 methods of falsifying food products, analytical techniques used to test authenticity and knows the operation of research equipment. | K\_W06 |
| LO\_02 | Understands the health risks associated with chemical and microbial contamination of food and knows how to assess the authenticity of food. | K\_W09 |
| LO\_03 | Has the ability to perform observations and measurements, determine the value and accuracy of measurements in relation to food adulteration. Has the ability to interpret the obtained empirical data. | K\_U02, K\_U08 |
| LO\_04 | Demonstrates the ability to work in a team, taking on various roles in it. Indicates the ability to exchange views, to organize work of the team responsible for food safety. | K\_K04 |

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

1. Lectures

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| Content outline |

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

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| Content outline  |
| The history of food fraud, current legislation and general issues. |
| Examples of adulteration of products of plant and animal origin. |
| Food fraud research. |
| Application of selected analytical methods for food adulteration research. |
| Detection of specific adulterations of selected food products. |

3.4. Methods of Instruction

Lectures: Presentation

Laboratory: performing experiments, designing experiments, working in groups**.**

4. Assessment techniques and criteria

4.1 Methods of evaluating learning outcomes

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| --- | --- | --- |
| 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 | Project, written assessment, exam | Lab, lectures |
| LO-o2 | Project, written assessment, exam | Lab, lectures |
| LO-o3 | Project, written assessment, exam | Lab, lectures |
| LO-o4 | Project, written assessment, exam | Lab, lectures |

4.2 Course assessment criteria

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| A prerequisite for passing a course is the achievement of all the assumed learning outcomes. A positive grade in the course is determined by the number of points obtained in examinations (>50% of the maximum number of points): ): 2,0 (f); 50 % <; 3,0 (e) 51 - 65%; 3,5 (d); 66 - 75%, 4,0 (c); 76 - 85%, 4,5 (b); 86 - 92%; 5,0 (a) 93-100%.  |

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 |
| Other contact hours involving the teacher (consultation hours, examinations) | 20 |
| Non-contact hours - student's own work (preparation for classes or examinations, projects, etc.) | 75 |
| 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

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| --- | --- |
| Number of hours | 0 |
| Internship regulations and procedures | 0 |

7. Instructional materials

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| Compulsory literature:Da-Wen S., Modern techniques for food authentication, 2008, Charon Tech. Ltd, Canada.Lees M., Food authenticity and traceability, 2000, Woodhead Publishing Limited Cambrige, England. |
| Complementary literature: Colegate S. M., Molyneux R.J.: Bioactive natural products, Detection, isolation and identification. 2nd Ed., CRC Press Taylor&Francis Group, 2008.Harris Daniel C.: Quantitative Chemical Analysis, W.H. Freeman & Comp., 2007.Watson J. Th., Sparkman O.D.: Introduction to mass spectrometry, 4th ed, Wiley, 2007. |

Approved by the Head of the Department or an authorised person