



SZKOŁA GŁÓWNA
GOSPODARSTWA
WIEJSKIEGO

General food technology

Educational subject description sheet

Basic information

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| Field of study Food Science - Technology and Nutrition | Didactic cycle 2023/24 |
| Speciality - | Subject code NoZTNS_D.14K.02443.23 |
| Organizational unit Faculty of Food Technology | Lecture languages english |
| Study level first cycle (bachelor's degree) | Mandatory Obligatory subjects |
| Study form full-time studies | Block Major subjects |
| Education profile General academic | Disciplines Food technology and nutrition |
| Coordinator | Anna Florowska, Monika Marcinkowska-Lesiak |
| Teacher | Anna Florowska, Monika Marcinkowska-Lesiak |
| Period Semester 3 | Examination Exam |
| | Activities and hours Lecture: 30 Laboratory exercises: 45 |
| | Number of ECTS points 5 |

Goals

| Code | Goal |
|------|---|
| C1 | The aim of the course is to teach students with the basic theoretical and practical issues related to raw materials, conducting technological processes in the food industry and methods of food preservation and processing. |

Entry requirements

none

Subject's learning outcomes

| Code | Outcomes in terms of | Effects | Examination methods |
|---|---|-----------|--|
| Knowledge - Student knows and understands: | | | |
| W1 | the basic characteristics and quality requirements of raw materials processed in the food industry | TN_K1_W03 | Written exam, Test (written or computer based) |
| W2 | the principles of operations and processes used in food technology and their impact on the quality of products | TN_K1_W04 | Written exam, Test (written or computer based) |
| W3 | the methods of food preservation | TN_K1_W06 | Written exam, Test (written or computer based) |
| Skills - Student can: | | | |
| U1 | apply basic operations and processes and choose the appropriate method of food preservation depending on the specificity of the raw material | TN_K1_U03 | Report |
| Social competences - Student is ready to: | | | |
| K1 | for the responsibility for the reliability of the conducted experiments, the obtained results, their interpretation and transfer to the society | TN_K1_K01 | Report |

Study content

| No. | Course content | Subject's learning outcomes | Activities |
|-----|---|-----------------------------|----------------------|
| 1. | Basic definitions in food technology; food balance; the main tasks of the food industry; characteristics of raw materials with the requirements for food processing; contamination of the raw material and its purifying, operations and processes used in food technology: mechanical, thermal, diffusion type, physicochemical, chemical, biotechnological; methods of food preservation: freezing and cooling, heating, addition of osmoactive substances, drying, unconventional methods; auxiliary materials and techniques: food additives, washing and packaging devices, packaging, storage, control of the production process. | W1, W2, W3 | Lecture |
| 2. | Pasteurization, sterilization, freezing, thermal processing of raw materials, cleaning, grinding, centrifuging and homogenization, drying, emulsifying, extraction, coagulation and gelification, biotechnological processes. | U1, K1 | Laboratory exercises |

Course advanced

| Activities | Methods of conducting classes |
|----------------------|---|
| Lecture | Lecture, E-learning - lecture part |
| Laboratory exercises | Laboratory (experiment), learning by experiment |

| Activities | Examination method | Percentage |
|----------------------|----------------------------------|-------------------|
| Lecture | Written exam | 50% |
| Laboratory exercises | Report | 25% |
| Laboratory exercises | Test (written or computer based) | 25% |

| Activities | Credit conditions |
|----------------------|---|
| Lecture | Obtaining a minimum of 51% of the total number of points possible to obtain in the exam. |
| Laboratory exercises | Obtaining a minimum of 51% of the total number of points possible to obtain in the test, and in the report. |

Literature

Obligatory

1. Romain Jeantet, Thomas Croguennec, Pierre Schuck, Gérard Brulé, Handbook of Food Science and Technology 1: Food Alteration and Food Quality; ISBN: 978-1-848-21932-8 January 2016, Wiley-ISTE
2. Giuseppina P. P. LimaFabio Vianello, Food Quality, Safety and Technology; ISBN: 978-3-7091-1984-6, 2013, Springer Nature Switzerland AG
3. M. Shafiur Rahman, Handbook of Food Preservation, 2-nd. edition, ISBN 9781574446067, Published July 16, 2007 by CRC Press

Optional

1. Giuseppina P. P. LimaFabio Vianello, Food Quality, Safety and Technology; ISBN: 978-3-7091-1984-6, 2013, Springer Nature Switzerland AG
2. M. Shafiur Rahman, Handbook of Food Preservation, 2-nd. edition, ISBN 9781574446067, Published July 16, 2007 by CRC Press
3. Romain Jeantet, Thomas Croguennec, Pierre Schuck, Gérard Brulé, Handbook of Food Science and Technology 1: Food Alteration and Food Quality; ISBN: 978-1-848-21932-8 January 2016, Wiley-ISTE
4. Fellows, P.J. (Ed.), Food Processing Technology (Fourth Edition), 2017, Woodhead Publishing
5. Zeki Berk, (Ed.), Food Process Engineering and Technology (Second Edition), 2013, Academic Press

Calculation of ECTS points

| Activity form | Activity hours* |
|--------------------------|------------------------|
| Lecture | 30 |
| Laboratory exercises | 45 |
| Preparation for the exam | 40 |
| Preparation for the test | 20 |
| Preparing a report | 15 |

| | |
|------------------------------|---------------------|
| Student workload | Hours 150 |
| Number of ECTS points | ECTS 5 |

* hour means 45 minutes

Effects

| Code | Content |
|-----------|---|
| TN_K1_K01 | The graduate is ready to contact and exchange of experiences and knowledge with the experts in order to explore better solutions for particular problems connected to among others: food production, delivery chain, food storage and human nutrition |
| TN_K1_U03 | The graduate can select methods and tools to make observations, measurements, and calculations in the field of phenomena occurring during processing, storage, research of food, human nutrition and consumer behaviour on the food market, and critically analyze and interpret the obtained data, assess the credibility of own actions |
| TN_K1_W03 | The graduate knows and understands the composition and properties of raw materials, auxiliaries, food additives, and food industry products, the possibilities and conditions of use of them in food production, taking into account the principles of sustainable development and their impact on human health |
| TN_K1_W04 | The graduate knows and understands the theoretical basis of phenomenon and changes occurring in raw materials, semi-finished products, and food products in a natural way, and under the influence of technological processes, food storage and testing |
| TN_K1_W06 | The graduate knows and understands methods and techniques used for food processing, preservation, storage, and testing |