SZKOŁA GŁÓWNA GOSPODARSTWA WIEJSKIEGO

Herbs, food and health

Educational subject description sheet

Basic information

Field of study Food Science - Technology and Nutrition **Speciality** - **Organizational unit** Faculty of Food Technology **Study level** first cycle (bachelor's degree) **Study form** full-time studies **Education profile** General academic	**Didactic cycle** 2023/24 **Subject code** NoZTNS_D.120.04174.23 **Lecture languages** english **Mandatory** Elective subjects **Block** Major subjects **Disciplines** Food technology and nutrition

Coordinator	Elżbieta Hać-Szymańczuk
Teacher	Elżbieta Hać-Szymańczuk, Ewa Lange

Period	**Examination**	**Number of ECTS points**
Semester 6	Pass with grade **Activities and hours** Lecture: 30 Laboratory exercises: 15	3

Goals

Code	Goal
C1	The aim of the course is to familiarize students with the possibilities of using herbs and spices containing specific active substances to limit changes in basic food ingredients, to inhibit the development of microorganisms and their impact on the human body.

Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
Knowledge – Student knows and understands:			
W1	the basic active substances found in popular herbs and spices, their healing properties and their influence on the human body	TN_K1_W01, TN_K1_W02, TN_K1_W03, TN_K1_W10	Written credit
Skills – Student can:			
U1	choose the right way to preserve herbs and spices and extract their active substances and use in food production.	TN_K1_U01, TN_K1_U03, TN_K1_U06	Written credit, Presentation
U2	choose herbs and spices appropriate for use in a broadly understood phytotherapy.	TN_K1_U02, TN_K1_U06, TN_K1_U09	Presentation

Study content

No.	Course content	Subject's learning outcomes	Activities
1.	Biologically active substances found in herbs. Herbal raw materials and forms of their use. Ways of obtaining extracts and essential oils from herbs. Preserving herbs and spices. Antimicrobial and antioxidant activity of herbs, extracts and oils. The sensitivity of microorganisms to the so-called natural preservatives. Herbs in the kitchen. The influence of medicinal plants on health and their importance and possible application in diet and diet therapy.	W1, U1	Lecture
2.	Spices and spice mixtures - the possibilities of their use. The market of herbal preparations and medicines - the current state of affairs, advertising and development prospects. Practical application of selected medicinal plants in dietary intervention.	U1, U2	Laboratory exercises

Course advanced

Activities	Methods of conducting classes
Lecture	Lecture, Discussion
Laboratory exercises	Discussion, Presentation, Teamwork, Individual work

Activities	Examination method	Percentage
Lecture	Written credit	60%
Laboratory exercises	Presentation	40%

Activities	Credit conditions
Lecture	Before taking the exam, the student must pass the laboratory exercises. Components of the subject grade: A. Exam grade, B. Presentation Grade weight: A x 60%, B x 40%. The condition for passing the course is to obtain a minimum of 51% of the points available for each element. The final grade for the course is calculated according to the following scale: 100-91% points. - 5.0; 90-81% pts. - 4.5; 80-71% pts. - 4.0; 70-61% pts. – 3.5: 60-51% points – 3.0.The condition for passing the course is to obtain a minimum of 50% of the total number of points, regardless of the exercises and lecture material. Obtaining a minimum of 50% of the points for each effect. The total number of points is calculated after taking into account the elements and the weight.
Laboratory exercises	Presentation (grade B) - the condition for passing the classes is to obtain a minimum of 51% of points from presentation.

Literature

Obligatory

1. Colalto C. 2018: What phytotherapy needs: Evidence-based guidelines for better clinical practice. Phytotherapy Research, 32, 413–425
2. Ramzan I. 2015: Phytotherapies, Efficacy, Safety, and Regulation. Wiley, Hoboken, New Jersey
3. The complete German Commission E monographs therapeutic guide to herbal medicines: https://www.herbalgram.org/resources/commission-e-monographs/

Optional

1. Monographs of European Scientific Cooperative on Phytotherapy: https://escop.com/escop-products/online-monographs/
2. Peter K.V. 2012: Handbook of herbs and spices. Second edition. Woodhead Publishing, Cambridge
3. Ravindran P.N. 2017: The Encyclopedia of herbs and spices. CAB International, Boston
4. Yanishlievaa N.V., Marinovaa E., Pokorny J. 2006: Natural antioxidants from herbs and spices. European Journal of Lipid Science and Technology, 108, 776–793
5. Tapsell L.C., Hemphill I., Cobiac L., Sullivan D.R., Fenech M., Patch C.S., Roodenrys S., Keogh J.B., Clifton P.M., Williams P.G., Fazio V.A., Inge K.E. 2006: Health benefits of herbs and spices: the past, the present, the future. Medical Journal of Australia. Supplement, 185 (4), 1-28, https://ro.uow.edu.au/hbspapers/1397

Calculation of ECTS points

Activity form	Activity hours*
Lecture	30
Laboratory exercises	15
Preparation for the exam	30
Preparation of a multimedia presentation	15
Student workload	**Hours** 90
Number of ECTS points	**ECTS** 3

* hour means 45 minutes

Effects

Code	Content
TN_K1_U01	The graduate can conduct experiments and solve practical issues in the field of basic sciences, and then implement them in activities carried out under directional issues in the field of food processing and human nutrition
TN_K1_U02	The graduate can assess the composition, energy and nutritional value of food products, determine their impact on the growth, development, functioning and health of the body, assess the diet, and nutritional status, and use the obtained results to rationalize the nutrition of individuals and different population groups
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_U06	The graduate can obtain, analyze and synthesize the obtained information and draw conclusions taking into account various conditions related to the aspects of human nutrition, food production, including regional production, food evaluation, consumer protection, intellectual property protection, legal, technological, economic, social, and sociological, cultural, ecological and ethical aspects of food production and consumption as well as quality and safety assurance in the food chain and human nutrition
TN_K1_U09	The graduate can update knowledge and deepen practical skills in the field of study, taking into account the progress in the development of science and technology, and the need for specific competences in the food production and human nutrition sector
TN_K1_W01	The graduate knows and understands theoretical issues in the field of biological, chemical, mathematical, and related sciences, which are the basis for the description of phenomena occurring in food and the human being body, used for its description
TN_K1_W02	The graduate knows and understands processes and phenomena occurring in the human being body in the nutrition process and the influence of food ingredients on the human being body and functions, importance and influence of food ingredients and energy value on the development and functioning of the human being body and their importance in ensuring public health
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_W10	The graduate knows and understands rules for assessing the diet, nutritional quality and health of individuals and population as well as cultural and social aspects of food production, distribution and consumption, food quality design, including intangible aspects of food, and its socio-cultural functions