



SZKOŁA GŁÓWNA
GOSPODARSTWA
WIEJSKIEGO

Carcinogenes and Anticarcinogenes in Food

Educational subject description sheet

Basic information

<p>Field of study Course Offer for exchange students - second cycle studies, including uniform master studies (MA programmes)</p> <p>Speciality -</p> <p>Organizational unit Course Offer for exchange students</p> <p>Study level second cycle studies, including uniform master studies (MA programmes)</p> <p>Study form full-time studies</p> <p>Education profile General academic</p>	<p>Didactic cycle 2024/25</p> <p>Subject code PWMPWM2S_D.B100000.06386.24</p> <p>Lecture languages english</p> <p>Mandatory Elective subjects</p> <p>Block Basic subjects</p> <p>Disciplines Food technology and nutrition</p>	
Coordinator	Ewa Majewska	
Teacher	Ewa Majewska	
Period Winter semester	Examination Pass with grade	Number of ECTS points 5
	Activities and hours Lecture: 15 Seminar exercises: 15	

Goals

Code	Goal
C1	The course aims to acquaint students with dietary carcinogens and anticarcinogens and to develop professional skills in presenting scientific data in the English language.

Entry requirements

Basic knowledge of organic chemistry.

Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
Knowledge - Student knows and understands:			
W1	physical and chemical carcinogens present in food, knows the chemical structures of carcinogens, knows the classification of carcinogens according to different international organizations, the student can indicate anticarcinogenic compounds found in food products using specialized English vocabulary in the field of food technology and nutrition at the level B+.		Test (written or computer based)
Skills - Student can:			
U1	use specialized scientific vocabulary in the field of food technology and nutrition and correctly and freely express his thoughts in writing and/or orally using the English language.		Presentation
Social competences - Student is ready to:			
K1	deepen their competencies related to the knowledge of a foreign language and its practical use in their professional life.		Presentation
K2	recognize knowledge in their professional life and search for it among experts and professional literature.		Presentation

Study content

No.	Course content	Subject's learning outcomes	Activities
1.	Definition and classification of carcinogens present in food, physical carcinogens (ionizing and UV radiation), chemical carcinogens (their chemical structure, origin, metabolism in a human body) such as N-nitroso compounds, heterocyclic aromatic amines, polycyclic aromatic hydrocarbons, mycotoxins, dioxins, furan, acrylamide, vinyl chloride, phthalates, heavy metals and their derivatives, areca nut, aristolochic acid, salted fish (Chinese style), lindan, 2-naphthylamine, phenacetine, ortho-toluidine, trichloroethylene, benzidine, phenolphthalein, pickled vegetables (Asian style), hot beverages, yerba mate, aspartame; controversial compounds: monosodium glutamate, Sudan dyes, trans fats, various food additives; legal regulations concerning the acceptable concentration of the discussed compounds in food; human dietary anticarcinogens: definition, mode of action, examples	W1	Lecture
2.	Human dietary anticarcinogenes: examples of chemical compounds, occurrence, mode of action, recommendations. Presentation of the latest scientific reports about dietary carcinogens and anticarcinogenes.	U1, K1, K2	Lecture, Seminar exercises

Course advanced

Activities	Methods of conducting classes
Lecture	Lecture
Seminar exercises	Presentation

Activities	Examination method	Percentage
Lecture	Test (written or computer based)	50%
Seminar exercises	Presentation	50%

Activities	Credit conditions
Lecture	A final test: 20 closed questions, the passing limit is 11 points.
Seminar exercises	A student should deliver two presentations: a) about any chosen anticarcinogen/anticarcinogens b) to present any recent scientific report related to dietary carcinogens or anticarcinogens. In each presentation a student can score 10 points, the passing limit is 11 points.

Literature

Obligatory

1. Food components and diet habits: chief factors of cancer development, Food Quality and Safety, 2019, Volume 3, Issue 4, pages 227-231.
2. Carcinogenic and anticarcinogenic food components, W. Baer-Dubowska, A. Bartoszek, D. Malejka-Giganti, CRC Press, 2005.
3. Food-Borne Chemical Carcinogens and the Evidence for Human Cancer Risk, T. Kobets, B.P.C. Smith, G.M. Williams, Foods, 2022, 11(18), 2828
4. any relevant scientific reports

Calculation of ECTS points

Activity form	Activity hours*
Lecture	15
Seminar exercises	15
Preparation for the test	30
Preparation of a multimedia presentation	80
Student workload	Hours 140
Number of ECTS points	ECTS 5

* hour means 45 minutes