SZKOŁA GŁÓWNA GOSPODARSTWA WIEJSKIEGO

Alcoholic beverages and human being

Educational subject description sheet

Basic information

Field of study
Course Offer for exchange students - second cycle studies, including uniform master studies (MA programmes)

Speciality
-

Organizational unit
Course Offer for exchange students

Study level
second cycle studies, including uniform master studies (MA programmes)

Study form
full-time studies

Education profile
General academic

Didactic cycle
2024/25

Subject code
PWMPWM2S_D.B100000K.04045.24

Lecture languages
english

Mandatory
Elective subjects

Block
Major subjects

Disciplines
Food technology and nutrition

Coordinator	Piotr Koczoń
Teacher	Piotr Koczoń

Period	**Examination**	**Number of ECTS points**
Winter semester	Pass with grade **Activities and hours** Lecture: 15	1

Goals

Code	Goal
C1	The aim of the course is to provide students with the knowledge properties of ethanol (main component of alcoholic beverages) and various aspects i.e. physical, chemical and biological properties of alcoholic beverages.The history of alcoholic beverages and their evolutions.

Entry requirements

Principles of inorganic and organic chemistry

Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
Knowledge – Student knows and understands:			
W1	chemical and physical properties of ethanol, its metabolism in the body and its effects on organs		Written credit
W2	the production of alcoholic beverages, monitoring of ethanol content in the body, healthy and economical results of drinking alcoholic beverages		Written credit
Skills – Student can:			
U1	critical analyzis of the information obtained during the course		Written credit

Study content

No.	Course content	Subject's learning outcomes	Activities
1.	Ethanol physic-chemical properties. Type and mechanism of chemical reactions of ethanol. Economic, social and individual reasons for alcoholic beverages consumption. Ethanol various industrial applications. Different than drinking use of commercial vodka. Market of alcoholic beverages in Poland, Europe and the Word including amounts of yearly consumption. Beers and wines production. Distillation process. Vodka’s production. Ethanol distribution, metabolism and elimination from organism and its influence on different organs and systems, such as central and peripheral nervous system (e.g. neurotransmitters), gastrointestinal system (stomach, liver, pancreas, small intestine and colon),endocrine, immune and reproductive system.Short and long term effects of ethanol on organs. Ethanol and cancer risk. The next day effect -hangover. Alcoholism, its social adverse effects, treatment and cures for these disease. Beneficial effects of alcoholic beverages (ethanol) consumption on human body. In vivo models for monitoring effects of ethanol on different organs.Chemical analysis of alcoholic beverages due to ethanol content and other components of alcoholic beverages. Breathalyzer.	W1, W2, U1	Lecture

Course advanced

Activities	Methods of conducting classes
Lecture	Problem lecture

Activities	Examination method	Percentage
Lecture	Written credit	100%

Activities	Credit conditions
Lecture	Written test in the end of the course.

Literature

Obligatory

1. Svatopluk Henke, Pavel Kadlec, Zdenek Bubnik. (2010) Physico-chemical properties of ethanol – Compilation of existing data. J. Food Eng. 99, 497–504.
2. S. Seidl, U. Jensen, A. Alt. (2000) The calculation of blood ethanol concentrations in males and females. Int. J. Legal Med. 114 :71–77.
3. Daya I. Perkins, James R. Trudell, Daniel K. Crawford, Ronald L. Alkana, Daryl L. Davies. (2010) Molecular targets and mechanisms for ethanol action in glycine receptors. Pharmacology & Therapeutics 127, 53–65.

Optional

1. M. Palma, C.G. Barroso, (2002) Application of FT-IR spectroscopy to the characterization and classification of wines, brandies and other distilled drinks. Talanta, 58, 265–271.
2. Klas Linderborg, Mikko Salaspuro, Satu Väkeväinen (2011) A single sip of a strong alcoholic beverage causes exposure to carcinogenic concentrations of acetaldehyde in the oral cavity Food and Chemical Toxicology 49, 2103–2106.
3. José Carlos Baffa Júnior, Regina Célia Santos Mendonça, Joesse Maria de Assis Teixeira Kluge Pereira, José Antonio Marques Pereira, Nilda de Fátima Ferreira Soares (2011) Ethyl-carbamate determination by gas chromatography–mass spectrometry at different stages of production of a traditional Brazilian spirit. Food Chemistry 129, 1383–1387.
4. Dirk W. Lachenmeier (2007) Rapid quality control of spirit drinks and beer using multivariate data analysis of Fourier transform infrared spectra Food Chemistry 101, 825–832.
5. Flavio D. Fuchsa, Lloyd E. (2007) Chamblessb Is the cardioprotective effect of alcohol real? Alcohol 41, 399-402...

Calculation of ECTS points

Activity form	Activity hours*
Lecture	15
Preparation for the exam	15
Student workload	**Hours** 30
Number of ECTS points	**ECTS** 1

* hour means 45 minutes