

Description of the learning outcomes at TECHNOLOGY OF FOOD AND HUMAN NUTRITION

with reference to the learning outcomes for the agricultural, forestry and veterinary sciences and the teaching outcomes resulting in acquisition of engineering competences

general profile
studies of the 2nd cycle

specialization: - food technology

Learning outcomes for the Food Technology and Human Nutrition	After completing the 2nd cycle the graduate:	Reference to the learning outcomes for the agricultural, forestry and veterinary sciences	Reference to teaching outcomes resulting in acquisition of engineering competences
KNOWLEDGE			
NTZ2_W01	Has profound knowledge within the range of biology, chemistry, biochemistry and mathematics corresponding to the food science	R2A_W01 R2A_W04	
NTZ2_W02	Knows the biological structure and operating of active food ingredients	R2A_W05	
NTZ2_W03	Has profound knowledge within the range of health risk related to chemical, biological and physical contamination of food and knows the procedures of its minimization and prevention	R2A_W01 R2A_W03 R2A_W04 R2A_W06	InzA_W03
NTZ2_W04	Has profound knowledge within the range of the rules of planning experiments applying advanced techniques used in food research	R2A_W05	InzA_W02
NTZ2_W05	Has knowledge on the modern methods of physicochemical and microbiological food analysis	R2A_W05	
NTZ2_W06	Knows advanced statistical methods within planning and optimizing the experiments as well as working out the results of scientific research	R2A_W01 R2A_W05	Inz A_W02
NTZ2_W07	Knows new trends in the food industry engineering and food technology taking into consideration work safety, quality of the final product, energy economy and environmental protection	R2A_W05	InzA_W05
NTZ2_W08	Knows trends in food biotechnology. Has knowledge on potential of applying microorganisms and enzymes, describes the advantages and disadvantages of the GMO food	R2A_W04 R2A_W05	InzA_W05

Learning outcomes for the Food Technology and Human Nutrition	After completing the 2nd cycle the graduate:	Reference to the learning outcomes for the agricultural, forestry and veterinary sciences	Reference to teaching outcomes resulting in acquisition of engineering competences
NTZ2_W09	Has knowledge on the policy of human nutrition, the manner of organizations works regarding establishment of such policy, identifies the famine risk factors globally and locally	R2A_W02 R2A_W06 R2A_W07 R2A_W09	
NTZ2_W10	Has profound economic, legal and social knowledge. Knows legal and economic structures and institutions within food industry. Knows systems of quality managements within organization units	R2A_W02 R2A_W08 R2A_W09	InzA_W03
NTZ2_W11	Knows software for analysis of experimental data, particularly the Statistica. Knows the principles of work safety online, software for encrypting data and its dissemination. Knows digital signature and the principles of its usage	R2A_W05	InzA_W02
NTZ2_W12	Knows the terms and rules within protection of industrial property and intellectual copyright, knows the principles of using patent information resources	R2A_W08	InzA_W03
NTZ2_W13	Knows general rules of establishing and development of individual forms of resourcefulness	R1A_W09	InzA_W03 InzA_W04
NTZ2_W14_T	Has a specific knowledge on scientific foundation of food technology and has profound knowledge on human nutrition and dietetics	R2A_W01 R2A_W03 R2A_W04 R2A_W06	
NTZ2_W15_T	Has knowledge on issues within food technology recently disused in the scientific literature	R2A_W03 R2A_W06	InzA_W05
NTZ2_W16_T	Has profound knowledge on physicochemical and biochemical changes occurring in processing, preserving and storing raw materials and food products	R2A_W03 R2A_W04	InzA_W05

Learning outcomes for the Food Technology and Human Nutrition	After completing the 2nd cycle the graduate:	Reference to the learning outcomes for the agricultural, forestry and veterinary sciences	Reference to teaching outcomes resulting in acquisition of engineering competences
NTZ2_W17_T	Has profound knowledge within the range of technology of plant and animal raw materials. Specifies selected devices and unit operations of technological processes	R2A_W04 R2A_W05	InzA_W01 InzA_W05
SKILLS			
NTZ2_U01	Possesses skills to search, analyze and apply creatively information from various scientific disciplines in accordance with the appropriate legal regulations, including copyright	R2A_U01	
NTZ2_U02	Possesses skills of precise communication with various subjects verbally and in writing	R2A_U02	
NTZ2_U03	Can plan and carry out experimental works with the application of mathematical, physical and biological tools, can work out the gained results	R2A_U03 R2A_U04	InzA_U01
NTZ2_U04	Selects and applies software programmes while working out the results, can use the Internet data base	R2A_U01 R2A_U03 R2A_U04	InzA_U01
NTZ2_U05	Analyses and assesses new trends in food industry engineering as well as in technological solutions of food processing and preserving	R2A_W01 R2A_W05 R2A_W07	InzA_W05
NTZ2_U06	Analyses and critically assesses applied technical and technological solutions within food processing in market economy of the food industry	R2A_U05 R2A_U06	InzA_U05
NTZ2_U07	Carries out modern qualitative and quantitative food analyses	R2A_U06	
NTZ2_U08	Applies and interprets major principles of the agro food industry reading food safety and production	R2A_U06	

Learning outcomes for the Food Technology and Human Nutrition	After completing the 2nd cycle the graduate:	Reference to the learning outcomes for the agricultural, forestry and veterinary sciences	Reference to teaching outcomes resulting in acquisition of engineering competences
NTZ2_U09	Analyses issues of food policy and interprets the threats regarding risk factors of diet-related diseases	R2A_U01 R2A_U05	
NTZ2_U10	Independently prepares projects and scientific works within food technology and human nutrition, can present it and discuss topics related to the studied specialization	R2A_U08 R1A_U09	InzA_U08
NTZ2_U11	Has profound knowledge on specialist foreign language within the food science and nutrition	R2A_U08 R2A_U09 R2A_U10	
NTZ2_U12_T	Analyses and interprets physical and biochemical relations within raw materials and food products	R2A_U01 R2A_U02	InzA_U01
NTZ2_U13_T	Independently analyses problems related to food quality and production, critically assesses various technical and technological solutions within food processing and human nutrition. Can undertake tasks reassuring proper organisation of production	R2A_U05 R2A_U06 R2A_U07	InzA_U03 InzA_U04 InzA_U05 InzA_U06
NTZ2_U14_T	Work outs new technologies, selects and modifies typical tasks leading to improvement of the food quality and establishment of appropriate eating habits. Calculates, analyses and interprets the efficiency of production processes within food quality assurance	R2A_U01 R2A_U04 R2A_U05 R2A_U06	InzA_U02 InzA_U05 InzA_U07
NTZ2_U15_T	Assesses conformity of the food products to norms and specifications	R2A_U05 R2A_U06	

Learning outcomes for the Food Technology and Human Nutrition	After completing the 2nd cycle the graduate:	Reference to the learning outcomes for the agricultural, forestry and veterinary sciences	Reference to teaching outcomes resulting in acquisition of engineering competences
SOCIAL COMPETENCES			
NTZ2_K01	Understands the need to learn and the idea of a permanent lifelong learning	R2A_K01	
NTZ2_K02	Expresses the need for specialized training and self-improvement related to the profession	R2A_K07	
NTZ2_K03	Is professionally and ethically aware of the responsibility for conducting experimental works, food production of high quality and the condition of the environment	R2A_K03 R2A_K04 R2A_U05 R2A_U06	InzA_K01
NTZ2_K04	Is creative in popularizing knowledge on human nutrition and principles of balanced dieting	R2A_K01 R2A_K06 R2A_K08	InzA_K01
NTZ2_K05	Can cooperate and work in a team playing different roles, being aware of the responsibility for the commonly accomplished tasks	R2A_K02	
NTZ2_K06	Can adequately define priorities for the accomplishment of own and commissioned tasks, is aware of the legal protection of intellectual and industrial as well as other properties	R2A_K03 R2A_K04	
NTZ2_K07	Is responsible for the safety of own and others' work	R2A_K05	
NTZ2_K08	Is aware of the threats resulting from application of internet resources, inappropriate data storage and its spread	R2A_K06 R2A_K07	
NTZ2_K09	Can act and think resourcefully	R2A_K08	Inz A_K02
NTZ2_K10	Identifies and solves issues related to the profession	R2A_K04	
NTZ2_K11	Presents active attitude and responsibility in solving technological and social problems within the range of establishing the food quality	R2A_K03 R2A_K04 R2A_K06	InzA_K01

R – area of learning within agricultural, forestry and veterinary sciences,
 Inz – engineering competences
 A – general profile

W – knowledge
 U – skills
 K- social competences (attitudes)