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| Rok akademicki: | | Grupa przedmiotów: | | Numer katalogowy: | |
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|---|--|--|---------------|--------------------------|------------|
| Course title in Polish ¹⁾ : | Nutrigenomika – co żywność mówi naszym genom ? | | | ECTS²⁾ | 1,0 |
| Course title in English: ³⁾ | Nutrigenomics – what food says to our genes? | | | | |
| Major ⁴⁾ : | Food Technology and Human Nutrition | | | | |
| Coordinator name ⁵⁾ : | Dr Anna Bzducha-Wróbel | | | | |
| Lecturer(s) ⁶⁾ : | Dr Anna Bzducha-Wróbel, Dr Iwona Gientka | | | | |
| Faculty/department ⁷⁾ : | Faculty of Food Science, Department of Biotechnology, Microbiology and Food Quality | | | | |
| Faculty for which course is offered ¹⁾ : | Faculty of Food Sciences | | | | |
| Status of the course: ⁹⁾ | a) facultative | b) level II or III | c) stationary | | |
| Didactic cycle ¹⁰⁾ : | spring | Language ¹¹⁾ : English | | | |
| The aims of the course ¹²⁾ : | The aim of the course is to extend the students' knowledge about the influence of bioactive components of food on gene expression as well as about the relationship among the diet and human genetic predispositions to civilization diseases. | | | | |
| Form of the course, number of hours ¹³⁾ : | a) Lectures (10h), workshops with student's projects (4h), examination (1h) | | | | |
| Learning activities and teaching methods ¹⁴⁾ : | Lectures, presentations | | | | |
| Full course description ¹⁵⁾ : | <ol style="list-style-type: none"> 1. Basic genetic (DNA, RNA, gene, genetic information, genome, gene mutations, protein synthesis, transcriptome, transcription factors, proteome, metabolome). 2. Epigenetic. 3. Definition of nutrigenomics. 4. Dependence between nourishment and the answer of organism on level of gene expression. 5. Patterns of gene expression, protein synthesis and metabolite production in response to particular nutrients. 6. Mechanisms by which nutrients influence gene expression. 7. Influence of nutrients on DNA methylation. 8. Apoptosis. 9. Diet and human genetic predispositions to civilization diseases (tumour, hearth diseases, obesity, diabetes, AIDS and different). 10. The new approach to nourishment - the personalization of diet . | | | | |
| Prerequisite ¹⁶⁾ : | Basic biology, genetics and biochemistry | | | | |
| Presuppositions ¹⁷⁾ : | Basic biochemistry and cell biology knowledge | | | | |
| Learning outcomes ¹⁸⁾ : | 01-know the influence of food components on gene expression 02-know the relationship between diet and health | 03-know the mechanism of action of bioactive food components on human gene expression, proteome and metabolome 04- know the idea of personalization of diet 05-possess the ability to communicate in technical English | | | |
| The way of verifying learning outcomes ¹⁹⁾ : | Learning outcomes 01 – 05 written examination and project | | | | |
| The way of learning outcomes documentation ²⁰⁾ : | Written examination in English, printout of project | | | | |
| The elements influencing the final note ²¹⁾ : | Exam - 60%, project - 40% | | | | |
| Place of course ²²⁾ : | Lectures room | | | | |
| Literature: Original articles: | <ol style="list-style-type: none"> 1. Mutch David M., Wahli Walter, Williamson Gary: Nutrigenomics and nutrigenetics: the emerging faces of nutrition. The FASEB Journal , 2005, Vol. 19, 1602-1616 2. Farhud DD, Yeganeh M Zarif, Yeganeh M Zarif: Nutrigenomics and Nutrigenetics. Iranian J Publ Health, 2010, Vol. 39, No.4, 1-14 | | | | |
| Notices ²⁴⁾ : | | | | | |

Quantitative indicators characterizing the course²⁵⁾ :

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| Summary amount of hours in contact with teacher and individual work needed to reach the learning outcomes: | 30h |
| Summary amount of ECTS credits in direct contact with teacher: | 0,5 ECTS |
| Summary amount of ECTS credits in practical classes: | 0,5 ECTS |

Compatibility table of the specific learning outcomes with the effects of the course ²⁶⁾

| No./Symbol of the learning outcomes | Learning outcomes: | Compatibility to the specific learning outcomes | |
|-------------------------------------|---|---|--|
| 01 | know the influence of food components on gene expression | K_W15, K_W04, K_U08 | |
| 02 | know the relationship between diet and health | K_U03, K_U15 | |
| 03 | know the mechanism of action of bioactive food components on human gene expression, proteome and metabolome | KU_11, K_K03 | |
| 04 | know the idea of personalization of diet | K_W15, K_W04, K_U08 | |
| 05 | possess the ability to communicate in technical English | K_U09 | |

The summary amount of time – allocation of ECTS²⁾:

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|-----------------------------------|-----------------|
| <i>Lectures</i> | 10h |
| Workshops with student's projects | 4h |
| Consultations | 1h |
| <i>Presence during the exam</i> | 1h |
| <i>Exam preparation</i> | 9 h |
| <i>Project preparation</i> | 5h |
| <i>Summary hours:</i> | 30h |
| <i>Summary ECTS:</i> | 1,0 ECTS |