UNIVERSITY OF WARMIA AND MAZURY IN OLSZTYN

Faculty of Food Sciences

Course title: DESIGN OF NEW TECHNOLOGIES AND PRODUCTS

ECTS credit allocation (and other scores): 3,0

Semester: autumn

Level of study: ISCED-7 - second-cycle programmes (EQF-7)

Branch of science: Agricultural sciences

Language: English

Number of hours per semester: 15 Lectures/30 Classes

Course coordinator/ Department and e-mail: dr hab. inz. Justyna Żulewska, prof. UWM; Department of dairy Science and Quality Management; justyna.zulewska@uwm.edu.pl

Type of classes: classes and lectures

Substantive content

CLASSES: Independent laboratory work sessions will involve applied product development. 40 inventive principles and trends in food production will be presented and discussed. The ideas generation will involve: brain storm and market gap. The aspects related to: Food additives and labelling and Functional and ethnic food will be thoroughly discussed. The students will elaborate Product specification, together with the requirements for raw materials and additives, technological diagram with parameters of production. The methods to determine shelf life of the product will be presented.
LECTURES: Lectures will provide background on practices used in food product development. The following aspects will be discussed: New food product categories. Basis of food product development. Food product development process. Factors contributing to success or failure of new product. Development of functional foods. Food law.

Learning purpose: Provide the opportunity for students to develop a food product, using their training in Food Science and related disciplines.

On completion of the study programme the graduate will gain:

Knowledge: The student: Identifies the necessary processes and stages in a market launch of a new product and the factors which make a new product a success or a failure; Has knowledge of the latest trends in raw material production, technological and technical innovations in food production and human nutrition and health requirements of specific consumer segments; Knows the general rules of labelling food based on food law; Has extended knowledge of the technical and technological parameters which affect food quality and on trends in using new technologies in food preservation and improving its quality in terms of human nutrition and public health;

Skills: The student: Integrates necessary elements related to food production, processing and consumption in order to develop new food product specification; Knows how to use different methods in order to develop new food product;

Social Competencies: The student: Is aware of the principles of team work and of the responsibility for the tasks executed in groups; Is creative and participates actively in the discussions; Is taking critical decisions based on available information;

Basic literature:

1) Earle M., Earle R., Andersen A., Food product development , ed. Woodhead Publishing and CRC Press, 2001;
2) Mattila-Sandholm T., Saarela M., Functional dairy products, ed. CRC Press, 2003 ;
3) Earle M., Earle R., Case studies in food product development, ed. Woodhead Publishing and CRC Press, 2008.

4) Czapski J. pod red., "Food product development – Opracowywanie nowych produktów żywnościowych", wyd. Wydawnictwo Akademii Rolniczej w Poznaniu, 1995 ;
5) Sojkin B. pod red., "Wprowadzanie nowego produktu na rynek" , wyd. Wydawnictwo Akademii Ekonomicznej w Poznaniu, 2003

Supplementary literature:

The allocated number of ECTS points consists of:

Contact hours with an academic teacher: 46 hours

Student's independent work: 29 hours