Rok akademicki:		Grupa przedmiotów:		Numer katalogowy:	

Course title in polish[1)]:	Żywieniowe i technologiczne właściwości tłuszczów i olejów			**ECTS** [2)]	**1,0**
Course title in English:[3)]:	Nutritional and technological properties of fats and oils				
Major[)]:	Food technology and human nutrition				
Coordinator name[5)]:	Dr inż. Magdalena Wirkowska				
Lecturer(s)[6)]:	Dr inż. Magdalena Wirkowska, Dr inż. Joanna Bryś, Dr Agata Górska, Dr inż. Ewa Ostrowska-Ligęza				
Faculty/department[7)]:	Faculty of Food Sciences, Department of Chemistry, Division of Food Chemistry				
Faculty for which course is offered [)]:	Faculty of Food Sciences				
Status of the course:[9)]:	a) optional subject	b) level II year I or II	c) full-time study		
Didactic cycle [10)]:	Both: spring and fall	Language[11)]: english			
The aims of the course [12)]:	The aim of the course is to acquaint students with information about vegetable and animal fats, nutritional and technological properties of saturated and unsaturated fatty acids.				
Form of the course, number of hours[13)]:	a) lectures……15 hours;				
Learning activities and teaching methods[14)]:	lectures, presentation, discussion, consultations				
Full course description[15)]:	Lectures: The origin of vegetable and animal fats. The classification, nomenclature and structure of saturated and unsaturated fatty acids. Nutritional properties of saturated, unsaturated and trans fatty acids. Wanted and unwanted methods of fats modification. Stability of oils and fats. Improvement of oxidative stability of oils and fats. The use of GC to analyse of fatty acid composition. DSC as a method to assess oxidative stability and melting characteristic of fats.				
Prerequisite[16)]:	Organic chemistry, Food chemistry				
Presuppositions[17)]:	Students should know basic information in organic chemistry and food chemistry				
Learning outcomes[18)]:	01 – student is able to describe the structure of fatty acids 02 – student knows the classification and is able to give examples of n-3 and n-6 fatty acid series 03 – student characterizes nutritional properties of saturated, unsaturated and trans fatty acids 04 – student is able to describe wanted and unwanted methods of fat modifications	05 – student knows how to improve oxidative stability 06 – student knows how to use DSC to analyse thermal properties of fats and oils 07 – students knows how to use GC to characterize the composition of fatty acids			
The way of verifying learning outcomes [19)]:	The verifying of learning outcomes will be in written form (01 – 07)				
The way of learning outcomes documentation[20)]:	Exams questions with the list of students with points				
The elements influencing the final note[21)]:	Note of the exam (50 % of points is needed to pass)				
Place of course [22)]:	Audytorium				

Literature:

1. Handbook of food analysis. Vol. 1, 2, 3. Nollet L. M. L. Marcel Dekker Inc, 2004.
2. Lipids, in Food Chemistry. Belitz H.-D., Grosh W., Schieberle P. Springer-Verlag Berlin Heidelberg 2009.
3. Gunstone F.D. Fatty Acid and Lipid Chemistry. Aspen Publication. 1999.

Notices [24)]:

Quantitative indicators characterizing the course [25)] :

Summary amount of hours in contact with teacher and individual work needed to reach the learning outcomes:	**30 h**
Summary amount of ECTS credits in direct contact with teacher:	**0,5 ECTS**
Summary amount of ECTS credits in practical classes:	**0 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	student is able to describe the structure of fatty acids	K_W01, K_W03, K_W17, K_K03
02	student knows the classification and is able to give examples of n-3 and n-6 fatty acid series	K_W05, K_W11, K_W17, K_K03
03	student characterizes nutritional properties of saturated, unsaturated and trans fatty acids	K_W03, K_W17, K_K03
04	student is able to describe wanted and unwanted methods of fat modifications	K_W03, K_W05, K_W17, K_U04, K_K01, K_K03
05	student knows how to improve oxidative stability	K_W05, K_W17, K_K01, K_K03
06	student knows how to use DSC to analyse thermal properties of fats and oils	K_W02, K_W07, K_W17, K_U01, K_K03
07	students knows how to use GC to characterize the composition of fatty acids	K_W02, K_W07, K_W17, K_U01, K_K03

The summary amount of time – allocation of ECTS[2)]:

Lectures	*15h*
Consultations	*5h*
Presence during the exam	*2h*
Exam preparation	*8h*
Summary hours:	***30 h***
Summary ECTS:	***1 ECTS***