STUDY MODULE DESCRIPTION FORM

Name of the module/subject **Science of Commodities**		Code **1011101341011111292**

Field of study **Logistics - Full-time studies - First-cycle studies**	Profile of study (general academic, practical) **general academic**	Year /Semester **2 / 4**

Elective path/specialty **-**	Subject offered in: **Polish**	Course (compulsory, elective) **obligatory**

Cycle of study: **First-cycle studies**	Form of study (full-time,part-time) **full-time**

No. of hours				No. of credits **4**
Lecture: **30**	Classes: **30**	Laboratory: **-**	Project/seminars: **-**	

Status of the course in the study program (Basic, major, other) **other**	(university-wide, from another field) **university-wide**

Education areas and fields of science and art
 	
technical sciences
    Technical sciences
	ECTS distribution (number and %**)**
	
	4 100%
	        4 100%

Responsible for subject / lecturer:

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Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	Basic knowledge of chemistry, physics and mathematics after high school basic course
2	**Skills**	Knowledge and understanding of the connection of natural phenomena
3	**Social competencies**	Readiness to deepen knowledge and to train your skills

Assumptions and objectives of the course:

- Presenting the place of commodity science among natural, technical and economic sciences.

- Understanding and understanding the importance of logistics in shaping the quality of goods.

Study outcomes and reference to the educational results for a field of study

Knowledge:

1. Has knowledge that allows the classification of products and services and their quality criteria - [K1A_W11]

2. He knows the basic issues of materials engineering affecting the quality of goods - [K1A_W07]

Skills:

1. He can present any product group based on information from producers obtained from databases - [K1A_U05]

2. He knows how to use the methods and techniques of quality management to identify the basic areas for improvement in the logistics chain that improve the quality of products - [K1A_U09]

Social competencies:

1. Awareness of the need to constantly update knowledge in the field of natural, technical and economic sciences as well as the ability to pass knowledge in the field of subordinate commodity science - [K1A_K01]

2. Willing to solve, in a problem group, projects related to the quality of goods - [K1A_K03]

3. It uses quality management methods and techniques as well as laboratory tests to plan and manage logistics processes - [K1A_K06]

Assessment methods of study outcomes

Applies to lectures and exercises:

The summary grade is the weighted average of the ratings forming:

  - 60% preparation of a technical or scientific study in the field of a selected commodity industry in the aspect of commodity science, including the process of storage and distribution (project divided into two partial assessments),

- 20% preparation for the subject (checking the knowledge of each student at least once in oral or written form during the semester)

- 20% activity during classes (assessed during each class)

Course description

Goods and their classification, Quality of goods and conditions, Quality management of goods, Research and evaluation of goods quality, Logistics of goods, Functions of packaging, Logistic function of packaging. Marking of goods, Ecology in commodity science.

DIDACTIC METHODS:

Lecture: 50% informative lecture and 50% conversational lecture.

Exercises: 30% exercise method and 70% project method.

Basic bibliography:

1. Towaroznawstwo dla logistyki, Tomasz Jałowiec, Difin, Warszawa 2011.

2. Towaroznawstwo - opakowania ? logistyka, Zenon Foltynowicz, Jan Jasiczak, Grzegorz Szyszka (red.), Wydawnictwo Akademii Ekonomicznej, Poznań 2008.

3. Current Trends In Commodity Science - New Trends in Food Quality, Packaging and Consumer Behavior, Krzysztof Juś, Joanna Jasnowska-Małecka, Olga Bińczak (red.), Wydział Towaronzawstwa Uniwersytetu Ekonomicznego w Poznaniu, Poznań 2015.

4. Towaroznawstwo żywności przetworzonej z elementami technologii, Franciszek Świderski (red.), Wydawnictwo SGGW, Warszawa 2010.

5. Hanna Śmigielska, Jacek Lewandowicz, Quality determinants of tomato ketchups available on Polish market w: Alfred Błaszczyk (red.), Current trends in Commodity Science : Innovations and product quality, Faculty of Commodity Science, Poznań 2013, s. 53-63.

Additional bibliography:

1. Towaroznawstwo artykułów przemysłowych Cz. 1, Badanie jakości wyrobów , Andrzej Korzeniowski (red.), Wydawnictwo Akademii Ekonomicznej, Poznań 206. (cześć teoretyczna)

2. Mikrobiologia żywności i materiałów przemysłowych, Izabela Steinka, Wydawnictwo Akademii Morskiej, 2011.

3. Current Trends In Commodity Science ?Challenges In Food Development and Processing, Urszula Samotyja, Wojciech Zmudziński (red.), Wydział Towaronzawstwa Uniwersytetu Ekonomicznego w Poznaniu, Poznań 2017.

Result of average student's workload

Activity	Time (working hours)
1. Lectures	30
2. Classes	30
3. Literature studying	25
4. Preparation for classes	14
5. Consultation	1

Student's workload

Source of workload	hours	ECTS
Total workload	100	4
Contact hours	61	2
Practical activities	30	1