

COURSE GUIDE

<u>Subject name</u>	Commodity science
<u>Course of study</u>	Quality and Production Management
<u>The form of study</u>	Full-time
<u>Level of qualification</u>	First
<u>Year</u>	IV
<u>Semester</u>	VII
<u>The implementing entity</u>	Department of Production Engineering and Safety
<u>The person responsible for preparing</u>	dr inż. Marek Krynke
<u>Profile</u>	General academic
<u>ECTS points</u>	3

TYPE OF TEACHING – NUMBER OF HOURS PER SEMESTER

LECTURE	CLASS	LABORATORY	PROJECT	SEMINAR
15	15	-	-	-

COURSE AIMS

- C1. The development of skills and theoretical foundations in identifying materials used in commodity production processes.
- C2. Qualification of the legal basis for placing goods on the market.
- C3. Develop skills and competences in the areas of certification, classification, standardization and quality assurance of raw materials and products.
- C4. Developing skills and competences in the area of packaging functions in commodity trade.
- C5. To develop the skills of comparative analysis of industrial products.

ENTRY REQUIREMENTS FOR KNOWLEDGE, SKILLS AND OTHER COMPETENCES

- 1. Student has knowledge of the basics of material engineering.
- 2. Student has knowledge of marketing fundamentals.
- 3. The student is familiar with the principles of functioning of the legal system in Poland and the EU.
- 4. Student can interpret legal regulations.
- 5. Student can use basic computer programs such as text editor and multimedia presentation.
- 6. Student has the ability to generate information (research literature, interview, ...).

LEARNING OUTCOMES

- EU1. Student demonstrates knowledge of terms of commodities.
- EU2. Student identifies used raw materials, in commodity production of industrial goods.
- EU3. The student knows the materials and technologies used in the production of packaging.
- EU4. Student demonstrates knowledge of methods, tools of assessment of properties and properties and classification of industrial articles.

COURSE CONTENT

Type of teaching – LECTURE	Number of hours
W1. Concept, essence and scope of commodity science. Goods as the subject of marketing. Commodity classification.	1
W2. Normalization and norms in commodity science. Standards organizations.	1
W3. Barcodes. History, rules of creation and application. Benefits of using codes.	1
W4. Methods of assessing the quality of industrial products for compliance with the applicable requirements. Certification. Certification organizations and their tasks.	1
W5. Security Products. Dangerous products. Mandatory and non-mandatory labeling of industrial goods.	1

W6. Pack. Function, division, technology and materials. Mandatory and nonmandatory labeling of industrial goods.	1
W7. Goods Transport. Dimensional system of packaging. Labeling of packaging. Containers.	1
W8. Materials Engineering - Types and Evolution of Industrial Applications.	1
W9. Metals and their alloys. Characteristics with regard to physicochemical and utility properties and technologies of acquisition, processing and marking. Methods of assessing the properties of metals and their alloys.	1
W10. Polymers, ceramics and composites. Characteristics with regard to physicochemical and utility properties and technologies of acquisition, processing and marking.	1
W11. Wood. Types and uses of wood. Characteristics with regard to physicochemical and utility properties and technologies of acquisition, processing and marking.	1
W12. Textile materials. Characteristics with regard to physicochemical and utility properties	1
and technologies of acquisition, processing and marking. Application of new materials in textile production.	
W13. Methods of product quality control and evaluation. Principles and techniques of sampling. Rules for describing samples.	1
W14. Organoleptic assessment. Sensory analysis. Correct sensory evaluation. Laboratory methods of sensory analysis.	1
W15. Laboratory methods in commodity science. Principles of laboratory work. Methods of presenting research results and observations. Analysis of measurement errors. Examples of laboratory exercises with commodity science.	1
Type of teaching - CLASS	Number of hours
C1. Characteristics of ceramic products.	1
C2. Characteristics of the furniture.	1
C3. The merchandise characteristics of door and window joinery.	1
C4. Characteristic of commodity insulating materials in construction.	1
C5. Characteristics of wood and wood-like flooring materials.	1
C6. Merchandise characteristics of ceramic and non-woven flooring materials.	1
C7. Characteristics of metal fasteners (nails, screws, screws, rivets).	1
C8. Product characteristics of power tools.	1
C9. Product characteristics of detergents and cleaning agents.	1
C10. Characteristics of CO radiators and portable electric radiators.	1
C11. Characteristics of commodities of cosmetic products.	1
C12. Characteristics of toys.	1
C13. Commodity characteristics of household appliances.	1
C14. Characteristics of commodity lighting products.	1
C15. Checking the message.	1

TEACHING TOOLS

1. Books and monographs.
2. Audiovisual presentation.

WAYS OF ASSESSMENT (F – FORMATIVE, P – SUMMATIVE)

- F1. Tasks implemented in written form.
F2. Evaluation of the presentation of performed tasks.
P1. Assessment test.

STUDENT WORKLOAD

Form of activity	Średnia Average number of hours for realization of the activity
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		[h]	ECTS	ECTS
Contact hours with the teacher	Lecture	15	0.6	1.2
Preparation for lecture		15	0.6	
Contact hours with the teacher	Class	15	0.6	1
Preparation of the class		10	0.4	
Getting acquainted with the indicated literature		15	0.6	0.6
Consultation		5	0.2	0.2
TOTAL NUMBER OF HOURS / ECTS POINTS FOR THE COURSE		75	3	

BASIC AND SUPPLEMENTARY RESOURCE MATERIALS

Basic resources

1. Foltynowicz Z., Witczak J. Current Trends in Commodity Science: Environmental and Market Research. Poznań, Wydaw. Uniwersytetu Ekonomicznego, 2011.
2. Czaja-Jagielska N., Szymusiak H., Jagielska N. Current Trends in Commodity Science: Packaging and Product Quality. Wydaw. Uniwersytetu Ekonomicznego, Poznań 2011.
3. Carley Garner. A Trader's First Book on Commodities: An Introduction to the World's Fastest Growing Market. Paperback 2015.

Supplementary resources

1. Borkowski S., Sygut P. Improvement Processes in Materials Engineering and Commodity Science. Croatian Quality Managers Society. 2015.
2. Poitras G. Commodity Risk Management: Theory and Application. Routledge Taylor & Francis Group, New York 2013.
3. Krynke M., Mielczarek K. Problems Concerning Product Quality Enhancement. Production Engineering Archives. Vol. 10(1)/2016. pp. 17-20.
4. Mielczarek K., Krynke M.: Production Improvement in the Enterprise from Metallurgical Branch. [in:] Borkowski S., Rosak-Szyrocka J. (eds.) Quality Improvement Practice in Different Branches. Oficyna Wydawnicza Stowarzyszenia Menedżerów Jakości i Produkcji. Częstochowa 2015. pp. 154-165.

TEACHERS (NAME, SURNAME, E-MAIL ADDRESS)

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MATRIX OF LEARNING OUTCOMES REALISATION

Learning outcome	Reference of given outcome to outcomes defined for whole program (PRK)	Course aims	Course content	Teaching tools	Ways of assessment
EU1	K_W04, K_W07, K_W09, K_U01, K_U02, K_U05, K_U10, K_K01	C2, C3	W1-W5	1, 2	P1,
EU2	K_W04, K_W07, K_W09, K_U01, K_U02, K_U06, K_U07, K_U09, K_U10, K_K01	C1, C4	W7-W15, C1-C15,	1, 2	F1, F2, P1
EU3	K_W02, K_W3, K_W4, K_W9, K_U03, K_U05, K_U08, K_U09, K_U10, K_K04	C1, C4	W6, W7, W10, W11, C1-C15,	1, 2	F1, F2, P1
EU4	K_W07, K_W9, K_U01, K_U02, K_U07, K_U08, K_U10, K_K04	C1, C2, C3, C5	W6, W7, W9-W14, C1-C15,	1, 2	F1, F2, P1

FORM OF ASSESSMENT - DETAILS

	grade 2	grade 3	grade 4	grade 5
EU1	Student does not define basic concepts in the field of commodity.	Student defines the most important concepts in the field of commodity science.	Student identifies and defines key concepts in the field of commodity science.	The student presents full knowledge of the concepts of commodity and commodity trading.
EU2	The student does not distinguish between raw materials and materials used in the commodity production of industrial goods.	Student identifies the most important raw materials and materials used in the commodity production of industrial goods.	Student can specify raw materials and materials used in the commodity production of industrial goods.	Student can specify raw materials and materials used in the commodity production of industrial goods. The student is able to identify their significant properties and ways of assessing them.
EU3	The student does not identify the raw materials and technology used in the production of packaging.	The student knows some materials and technologies in the production of packaging.	The student can indicate the materials used in the production of packaging. Identifies individual technological operations for different types of packaging.	The student knows the materials used in the production of packaging very well. He is able to analyze the technologies used in the production of packaging. He knows the performance indicators of machines used in this type of production.
EU4	The student did not prepare the selected topic of the subject.	The student is able to prepare and present the subject matter of the subject.	The student is able to prepare and present the subject matter of the subject. He can justify the choice of analyzed, representative goods.	The student is able to prepare and present the subject matter of the subject. He can justify the choice of analyzed, representative goods. The student has an in-depth knowledge of the analyzed goods.

ADDITIONAL USEFUL INFORMATION ABOUT THE COURSE

1. Information where presentation of classes, instruction, subjects of seminars can be found, etc. - presented to students during first classes, if required by the formula classes are sent electronically to the e-mail addresses of individual dean groups.
2. Information about the place of classes - Information can be found on the website of the Faculty of Management.
3. Information about the timing of classes (day of the week / time) - Information can be found on the website of the Faculty of Management.
4. Information about the consultation (time + place) - Information can be found on the website of the Faculty of Management.