

Polish course name	PODSTAWY TOWAROZNAWSTWA
English course name	BASICS OF COMMODITY SCIENCE
Course code	WIP-MDL-D1-BOCS-02
Field of study	Materials design and logistics
Level of qualification	First degree
Form of study	Full-time
Semester	2
Number of ECTS points	3
Ways of assessment	Test

Number of hours per semester

Lecture	Seminar	Classes	Laboratory	Project
15		15		

TEACHERS:

Dr inż. Anna Zawada.

COURSE OBJECTIVES:

- › **C1** Provide students with knowledge of the basics of commodity science.
- › **C2** Introducing the students to the issues related to commodity science: genesis, nomenclature, outline of the technological process, shaping and assessment of quality.
- › **C3** Obtaining by the students the practical skills in the field of certification, classification, standardization and product quality assessment.

PRELIMINARY REQUIREMENTS FOR KNOWLEDGE, SKILLS AND OTHER COMPETENCES:

1. Basic knowledge of chemistry, physics and mathematics.
2. Having the ability to use various sources of information, incl. technical documentation and manuals,

3. Ability to work independently and in a group.

COURSE CONTENT

LECTURE

- › **L1** Commodity science as a scientific discipline. Commodities and their classification.
- › **L2** Commodity classification systems: world, European and Polish classification.
- › **L3** Standardization and its importance on the goods market.
- › **L4, L5** Commodity science of industrial products.
- › **L6, L7** Commodity science of food products.
- › **L8, L9** Packaging in logistic systems.
- › **L10** Automatic identification of goods - barcodes and RFID systems.
- › **L11, L12** Factors influencing the quality of goods. Methods of assessing the quality of goods: sensory analysis, consumer evaluation methods, laboratory methods.
- › **L13, L14** Food safety systems (GMP/GHP, ISO 22000, HACCP). Standardization, accreditation, certification and their importance in the goods market.
- › **L15** Goods in the process of transport.

CLASSES

- › **C1, C2** Characteristics of selected product groups.
- › **C3, C4** Technologies for the production of metal materials.
- › **C5, C6** Technologies for the production of ceramic materials.
- › **C7, C8** Technologies for the production of polymeric materials.
- › **C9, C10** Methods of structural research of industrial materials.
- › **C11, C12** Methods for testing the mechanical properties of industrial materials.
- › **C13, C14** The essence and scope of goods standardization, basic documentation.
- › **C15** Final test.

BASIC REFERENCES

1. Beata Zembrzuska. Towaroznawstwo. Warszawa, Wydaw. Difin, 2010 r.

2. Karpień Ł., Skrzypek M. Towaroznawstwo ogólne. Wyd. AE, Kraków 2000 r.
3. Jałowicz T. (red.). Towaroznawstwo dla logistyki. Difin SA, Warszawa 2011 r.
4. Lisińska-Kuśnierz M., Ucherek M. Opakowania w ochronie konsumenta. Wyd. AE, Kraków 2006 r.

SUPPLEMENTARY REFERENCE MATERIALS

1. Dobrzański L.A. Materiały inżynierskie i projektowanie materiałowe. Podstawy nauki o materiałach i metaloznawstwo. WNT, Warszawa 2006 r.
2. Korzeniowski A. Towaroznawstwo artykułów przemysłowych. Badanie jakości wyrobów. AE, Poznań 1999 r.
3. Korzeniowski A. Towaroznawstwo opakowań. AE, Poznań 1994 r.
4. Buciewicz J., Hornik S., Ostrowski A. Towaroznawstwo przemysłowe. Towary metalowe. Wyd. AE w Krakowie, Kraków 1989 r.

LEARNING OUTCOMES

- › **EU1** Student has basic theoretical knowledge in the field of commodity science.
- › **EU2** Student is able to use the research techniques and analyse the properties of industrial materials.

TEACHING TOOLS

- › Multimedia presentations.
- › Manuals, scripts.
- › Laboratory equipment and guides.
- › CUT e-learning platform (possible use).

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

- › **F1.** Assessment of the implementation of tasks included in the curriculum.
- › **F2.** Assessment of the mastery of the teaching material being the subject of exercise tasks - final test.
- › **P1.** Assessment of the mastery of the didactic material within the lectures - final test.

STUDENT WORKLOAD

Form of activity	Number of hours	ECTS
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Contact hours with the teacher		
Lectures	15	0,6
Seminar		
Classes	15	0,6
Laboratory		
Project		
Test	3	0,12
Exam		
Total contact hours	33	1,32
Student's own work		
Getting acquainted with the indicated literature	15	0,6
Preparation for seminar		
Preparation for classes	13	0,52
Preparation for lab		
Project preparation		
Consultation	4	0,16
Preparation for the test	10	0,4
Total student's own work	42	1,68
Total number of hours/ ECTS points for the course	75	3,0

ADDITIONAL INFORMATION

Timetable of classes	https://wip.pcz.pl/dla-studentow/plan-zajec/studia-stacjonarne
Information about the consultation (time + place)	https://wip.pcz.pl/dla-studentow/konsultacje-dla-studentow

MATRIX OF LEARNING OUTCOMES REALISATION

Learning outcome	Reference of given outcome to	Course objectives	Course content	Ways of assessment
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	outcomes defined for whole program			
EU 1	K_W01, K_W04, K_U04, K_U08, K_K01,	C1, C2	L1 - L15	P1
EU 2	K_W01, K_W04, K_U04, K_U08, K_K01,	C2, C3	C1 - C15	F1, F2

FORM OF ASSESSMENT - DETAILS

EU1 Student has basic theoretical knowledge in the field of commodity science.

- › 2,0 Student does not know the basic issues of commodity science.
- › 3,0 Student partially knows the basic issues of commodity science.
- › 3,5 Student almost knows the basic issues in the field of commodity science.
- › 4,0 Student knows the basic issues of commodity science well.
- › 4,5 Student shows almost very good knowledge of the basic issues in the field of commodity science.
- › 5,0 Student knows the basic issues of commodity science very well.

EU2 Student is able to use the research techniques and analyse the properties of industrial materials.

- › 2,0 Student is not able to choose the research technique and independently analyse the properties of industrial commodities.
- › 3,0 Student is able to partially select research techniques and independently analyse the properties of industrial commodities.
- › 3,5 Student can almost select research techniques and independently analyse the properties of industrial commodities.
- › 4,0 Student is able to select research techniques well and independently analyse the properties of industrial commodities.
- › 4,5 Student is able to choose the research techniques very well and independently analyse the properties of industrial commodities.
- › 5,0 Student selects research techniques very well and independently analyse the properties of industrial commodities.