



Course name	Materials Science
Entity running the course	Faculty of Interior Architecture and Design
Entity for which the course has been prepared	Department of Design
Course type	core / compulsory course
Year of study / semester, type of studies	Year I, sem. II, full-time bachelor's degree
ECTS credits	1 point ECTS
Academic tutor	sen. lect. Bogdan Kochan, MFA
Aim of the course	Students gain technical knowledge about features and qualities of classical, modern and ultramodern materials, useful for designers who independently realize their tasks in the area of industrial design.
Prerequisites	Having the 1st semester completed.
Learning outcomes:	
- knowledge	Student has advanced knowledge about the usage of classic and modern construction materials. Student knows about variety of materials with similar features as well as very similar materials with significantly different features. Can recognize them and explain the differences between them.
- skills	Student has basic ability to choose suitable materials for specific uses, consciously applies their technical and technological knowledge. Can independently compare different construction materials.

- personal and social competence

Course content

Classes are about presenting different types, features and usage of materials such as wood, paper, glass, metal, polymers, ceramics and composites. Students learn about modern materials, such as multi-functional nanopipes. Students discuss the influence of atomic structures and crystals on qualities of resulting materials. Students learn about half-crystals and multi-phase materials.

Course form and number of course hours

30 hours per semester; illustrated lectures with multimedia presentations and discussions. Classes in professional workshops which produce and use modern construction materials.

Assessment methods and criteria

10% participation in classes
15% activity during classes
75% written exam

Assessment type

graded pass

Literature

„Wprowadzenie do technologii materiałów dla projektantów”; Nawrot C. Mizera J. Kurzydłowski K.J.; WPW;
„Metaloznawstwo”; Przybyłowicz Karol; seria "Podręczniki akademickie. Mechanika";
„Technologia tworzyw sztucznych”; Pielichowski Jan, Puszyński Andrzej;
„Materiałoznawstwo”; A. Ciszewski , T. Radomski , A. Szummer; Oficyna Wydawnicza Politechniki Warszawskiej;
„Kompozyty”; A. Boczkowska, J. Kapuściński , Z. Lindemann , D. Witemberg-perzyk , S. Wojciechowski;
Oficyna Wydawnicza Politechniki Warszawskiej;
„Kompozyty metalowe”; Jerzy Sobczak; Instytut Transportu Samochodowego;

Teaching aids

computer, projector

Language of instruction

Polish, communication in English possible