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Nanomaterials: Magic of carbon

Friday, 19 April 2024 16:30 (1h 30m)

Syllabus outline:

Carbon. Allotropes.
Electronic structure of carbon.
Diamond: properties.
Graphite: properties.
Graphene: unique properties, crystal structure, production.
Graphene oxide and graphite oxide.
Obtaining graphene oxide.
Reduced graphene oxide.
Carbon nanotubes: synthesis, chirality, properties.
Fullerenes: synthesis, properties, application.
Applications of carbon nanomaterials.
Biochar. Porous carbon.

Objective competences:

Review of the main properties of allotropic modifications of carbon.
Graphene: unique properties and applications.
Methods for obtaining graphene oxide and reduced graphene oxide.
Overview of methods for experimental study of graphene materials.

Intended learning outcomes:

Participants will gain general knowledge about carbon materials.
Participants will distinguish between different allotropic modifications of carbon.
Participants will understand the various approaches to obtaining GO and rGO.
Participants will be able to distinguish the results of an experimental study of graphene materials.

Literature

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