

Electrochemistry in Materials Science (KDIT113)

syllabus

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Electrochemistry, long-time cornerstone of fundamental chemistry and physics, now plays an important role in many areas of applied science and technology. A very broad range of applications of electrochemical principles and technologies is found in materials science.

Electrochemical deposition of metals and alloys, formation of semiconductors, corrosion and corrosion protection, conducting polymers, and new applications in fast-evolving nanotechnologies are just some of the examples.

The first part of the class aims to give a solid understanding of the principles of electrochemistry and photoelectrochemistry, with special focus on the role of the electrode material. Subsequently, the students will be guided through an array of electrochemical applications, strategies and techniques of particular relevance in materials science.