

IC (209)423 Metallurgical Chemistry II

3(3/3-0/0)

Abbreviation METALLURGICAL CHEM II

Prerequisite IC 201 and CHEM 321

This course is opened for MAJOR ELECTIVE COURSE

Course Description

Review of atomic structure, bonding, crystal structure and defects, introduction to physical metallurgy, chemical processes in metal casting, chemical processes in powder metallurgy, chemical processes in metallic coating by hot dipping, chemical processes in metallic coating by vapor deposition, chemical coating, electroplating, chemical processes in metallic spraying, chemical processes in other types of metal surface modification, chemical processes in metal joining, chemical processes in coating of metals on other materials, basic chemical analysis in the metal industry, and case studies of metallurgical chemistry processes in domestic industries.

Objective

Students will be able to understand principles and processes involving metallurgical chemistry in industries.

Course Content**Lecture Hours**

1. Review of atomic structure, bonding, crystal structure and defects	2
2. Introduction to physical metallurgy	3
3. Chemical processes in metal casting	2
4. Chemical processes in powder metallurgy	2
5. Chemical processes in metallic coating by hot dipping	2
6. Chemical processes in metallic coating by vapor deposition	2
7. Chemical coating	5
8. Electroplating	5
9. Chemical processes in metallic spraying	3
10. Chemical processes in other types of metal surface modification	5
11. Chemical processes in metal joining	5
12. Chemical processes in coating of metals on other materials	2
13. Basic chemical analysis in the metal industry	5
14. Case studies of metallurgical chemistry processes in domestic industries	2

Total	45
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