

IC (209)322 Metallurgical Chemistry I 3(3/3-0/0)

Abbreviation METALLURGICAL CHEM I

Prerequisite IC 201 and CHEM 321

This course is opened for MAJOR ELECTIVE COURSE

Course Description

Introduction of metallurgy and ores, ore dressing, metallurgical thermodynamics, Richardson-Ellingham diagram, predominance diagram, kinetics of chemical reactions in changing of ores to metals, fuels in metallurgy, slags, pyrometallurgical processes, case studies of pyrometallurgy, hydrometallurgical processes, case studies of hydrometallurgy, electrometallurgical processes, case studies of electrometallurgy, and case studies of domestic metal industries

Objective

Students will be able to understand principles and chemical processes involving in changing ores to metals and refining of metals.

Course Content**Lecture Hours**

1. Introduction of metallurgy and ores	3
2. Ore dressing	3
3. Metallurgical thermodynamics	3
4. Richardson-Ellingham diagram	3
5. Predominance diagram	3
6. Kinetics of chemical reactions in changing of ores to metals	3
7. Fuels in metallurgy	3
8. Slags	3
9. Pyrometallurgical processes	3
10. Case studies of pyrometallurgy	3
11. Hydrometallurgical processes	3
12. Case studies of hydrometallurgy	3
13. Electrometallurgical processes	3
14. Case studies of electrometallurgy	3
15. Case studies of domestic metal industries	3

Total	45
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