

MME 511: Chemical & Electrochemical Processing of Minerals

Current hydrometallurgical practice as applied to: mineral processing, metal extraction, and recovery; Recent developments in technology; thermodynamics and kinetics of hydrometallurgical processes; leaching and solvent extraction. Thermodynamics of electrometallurgy, electrolyte, electrochemical potential, conduction of ions in solution, overpotential, absorption, phase formation: Economics of an electrolytic process, principles of cell design, Electrochemical technology: Electrowinning, electrorefining and metal electroforming, electrochemical machining, electroplating, anodizing, pickling, electrophoretic painting, electrochemical treatment of minerals, batteries and fuel cells, water treatment and environmental protection