

(0401744) Electrical Systems Management and Energy Economy (3 credit Hours)

Basic structure of liberalized electrical markets, principles of deregulation, competition and market architecture, market power, wholesale trading, risk management, bilateral and multilateral contracts, hedging, eligible customers, national and cost based tariffs. Price cap and revenue cap techniques, stranded costs, balancing and settlement task, spare-reserve capacity, marginal costs, quality of electricity, conditions for quality, retail wheeling, regulation of retail prices, demand management, regulation of transmission system, congestion management, implicit and explicit auctioning, ancillary services, regulation of distribution system, electricity trading by renewables, back-up and capacity trading by renewables, energy regulatory authorities, licensing, Electrical Energy Management System, market monitoring, market monopoly, crossmonopoly, oligopoly, dominant position and abuse. Models of energy markets, relationship between technical and economical features of how energy market works and form prices, uncertainty in market prices and resources availability with a basis in financial theory and in methods of operation research