

Faculty of Engineering & Technology
Economics of Generation and Operation

Information :

Course Code : EPR 412

Level : Undergraduate

Course Hours : 3.00- Hours

Department : Specialization of Electrical Power Engineering

Instructor Information :

Title	Name	Office hours
Lecturer	MARIAM AHMED SAMEH MOHAMAD AHMED ABBADI	5
Teaching Assistant	Abeer Tharwat Said Awad	

Description :

Load curves, Variation in demand, Load diversity. Power plant layout: thermal power plants, Hydro electric plants, Diesel and gas turbine plants, Main equipment, Auxiliaries, Bus-bar arrangements. Power plant economics: Capital cost, Operating cost, Fixed charge rate, Selection of plant and size and unit size, Operation and economics of spinning reserve. Tariffs, Effect of low power factor, Power factor improvement, Most economic power factor. Optimal operation of power systems: Modeling of fuel cost for thermal generation, Optimal operation of thermal system, Accounting for system losses, Optimal operation of hydro-thermal system. New energy sources: Solar energy, Wind energy, Other energy sources: Tidal, Geothermal.