



Course Description

Legend

Course Title	[A – B – C]	Course #:	Prereq.:
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A: Theoretical hrs

B: Practical hrs

C: Credit hrs

Third: Specialized requirements (109 hours)

A. Compulsory requirements (100 hours)

Renewable Energy systems [3 – 0 – 3]	Course #:0906353	Prereq.: 0906205
<p>This course covers the Global electricity demand, Structure of the Electricity Supply Industry; Grid operation; supply and demand, conventional and renewable energy sources, availability of the energy sources in the world, how electricity is made and transmitted, fundamentals of solar photovoltaic technology and the PV cell performance, determination of the PV modules efficiency, PV System components for different types of designs, solar systems types, sizing the stand-alone PV system, commercial and institutional PV systems, solar concentrators, solar hot water systems, history of biomass technology, biomass sources and biomass energy process, fundamentals of biomass combustion, introduction to geothermal energy and the principle of geothermal reservoirs, types of geothermal sources, types of hydrothermal resources, geothermal power production systems (analysis and operation), geothermal heat pumps, types of hydropower turbines, potential energy stored in the reservoir, introduction to nuclear energy and its operation principles, nuclear power plant components, wind turbine components, the power in the wind.</p>		