



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)

Solar pv Energy systems [3 – 0 – 3]	Course #:0906552	Prereq.: 0906353
<p>This course covers the fundamentals of Solar Radiation; sun energy, sun position, potential of solar radiation, Solar calculations of the global horizontal irradiation, determination of the solar angles, fundamentals of photovoltaic energy and its main components: (Semiconductor materials, pn-junction, pn junction solar cell under illumination, current voltage characteristics of solar cells, equivalent circuit of solar cells, electrical connection of PV modules (series, parallel), mismatch effect (mismatch losses), the effect of soft shading and hard shading on array performance, PV system components, Diodes in PV Systems, DC/AC inverter topologies, Maximum power point tracking, ON grid photovoltaic system connection, PV overcurrent protection, Module inter-row spacing.</p>		