# DMX7301 Thermal Power Generation

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| **Level** | 7 |
| **Course Code** | DMX7301 |
| **Course Title** | Thermal Power Generation |
| **Credit value** | 3 |
| **Core/Optional** | Core |
| **Course Aim/s** | To provide comprehensive knowledge and broadening the student's' abilities to analyse and evaluate thermal power generating plants. |
| **Course Learning Outcomes (CLO):** | At the completion of this course student will be able to:<br>CLO1: Evaluate thermal power plant performance and economics.<br>CLO2: Apply the principles of thermodynamics to steam, gas, and diesel power plant cycles.<br>CLO3: Explain the design and operational features Boilers, Condensers, Steam turbines, Gas turbines, Combustion chambers, Heat exchanges and Pumping system.<br>CLO4: Explain principles of nuclear power generation; differentiate reactors and their safe operation.<br>CLO5 : Analyze the operation of electrical system requirement in a thermal power plant.<br>CLO6: Assess applicability of Combined Heat & Power (CHP) technologies and waste heat recovery systems in thermal power plants.<br>CLO7: Explain environmental pollution, safety measures in thermal power plants and review strategies for mitigation of environmental impacts and safety technologies. |
| **Content** | **Outline Syllabus:**<br>Unit 01: Overview of Thermal Power Generation<br>Unit 02: Steam and Gas Power Plant<br>Unit 03: Diesel Power Cycle<br>Unit 04 : Nuclear Power Cycle<br>Unit 05 : Electrical Systems<br>Unit 06 : New Trends in Power Generation |