DMX4202 Applied Thermodynamics I

Level	Level 4
Course Code	DMX4202
Course Title	Applied Thermodynamics I
Credit value	2
Core/Optional	Core
Course Aim/s	The aim of this course is to provide theoretical knowledge related to thermodynamic power cycles, compressible flow and air compressors.
Course Learning Outcomes (CLO):	At the completion of this course student will be able to: CLO1: Analyze different configurations of steam power plant cycles and their performance. CLO2: Analyze performance parameters of gas power plant of different configurations operating on Brayton Cycle. CLO3: Describe the phenomena of pressure and velocity compounding in impulse steam turbines. CLO4: Develop blade velocity diagrams for rotodynamic machines and predict values of different parameters. CLO5: Analyze steady state one dimensional compressible flow. CLO6: Analyze thermodynamic cycles related to positive displacement expanders and compressors.
Content	**Outline Syllabus:** Unit 01: Power cycles Unit 02: Rotodynamic machinery (Blading) Unit 03 : Compressible flow Unit 04: Compressors **Laboratory work :** 1. Steam plant experiment 2. Demonstration of a gas turbine 3. Performance of a sliding vane type compressor