



SYLLABUS TEMPLATE

Course Number Course Name	ME 301 Thermodynamics
Credit Value (Breakdown of theory and lab credits)	3 (3 Theory)
Catalog Course Description	You will study thermodynamic equilibrium, thermodynamic properties and equations of state; first and second laws of thermodynamics and their applications to engineering systems; reversibility and irreversibility, and their application to second law analysis. <i>Prerequisites:</i> CHEM 121/L, PHYS 216/L. (3, 3T + 0L)
Student Learning Outcomes/Objectives /Competencies of the Course	<ol style="list-style-type: none"> 1. Understand thermodynamic concepts and definitions. 2. Solve problems related to energy systems using first and second laws of thermodynamics. 3. Evaluate properties of pure substances using equations of state. 4. Apply entropy and exergy concepts to design energy systems. 5. Solve problems related to gas and vapor power systems and cycles. 6. Solve problems related to refrigeration and heat pump systems. 7. Understand the importance of thermodynamic relations. 8. Learn to solve engineering problems related to ideal gas mixtures; psychrometrics; reacting mixtures; and combustion.
College-Wide Student Learning Outcomes	ME 301 learning objectives align with the following NNMC College Wide Goal: Critical Thought