Outcomes Based Learning Matrix

Course: ENGT 276 Engineering Thermodynamics **Department: ENGT**

Course Outcomes	Outcome Activities	Assessment Tools
Students will be able to:		
Apply mathematical, science and engineering and techniques to solve thermodynamics problems. (WC, QL, IL, CCT, Int L)	Learn to apply thermodynamic concepts and analysis techniques to problems while using the engineering analysis technique to illustrate analysis.	Students comprehension of these topics will be assessed in homework and exams
Demonstrate an understanding of Newton's Three Laws of Thermodynamics (WC, QL, IL, CCT, Int L)	Learn how Newton's Laws apply to thermo equilibrium, the conservation of energy and the conversion of energy.	Students comprehension of these topics will be assessed in homework and exams
Illustrate an understanding of the pressure/volume relationship, the various form of work, and the thermodynamic meaning of temperature. (WC, QL, IL, CCT, Int L)	Attend lectures and discussions to learn how pressure, temperature and volume of a system interact. Calculate work done on an object in different scenarios.	Students comprehension of these topics will be assessed in homework and exams
Explain the principles of heat engines (WC, QL, IL, CCT, Int L)	Learn how heat engines apply the laws of thermodynamics and about their maximum efficiency	Students comprehension of these topics will be assessed in homework and exams
Use Matlab to preform thermodynamic analysis. (WC, QL, IL, CCT, Int L)	Solve problems in thermodynamics using Matlab.	Matlab will be used in an extended lecture/lab environment.