Chapter 2
Thermal principles

Definitions

- Adiabatic Process : no heat is transferred which means $q=0$

- Compression Work : $W=\dot{m}(h_1-h_2)$

  - positive for an engine
  - negative for a compressor

- Isentropic compression : compression is adiabatic and with no friction and so occuring at constant entropy

- Heat transfer can be :

$$q=\begin{cases} h_c A \Delta T \rightarrow \text{Convection : conduction from solid surface to a fluid} \\ h_r A \Delta T \rightarrow \text{Radiation : across vaccum} \\ \frac{K}{L} A \Delta T \rightarrow \text{Conduction : through solid material} \end{cases}$$