# 1 First Law of Thermodynamics

*The net change in the internal energy of a system is the sum of the net heat transfer from or to the system and the work done by or on the system.*

$$\Delta U = \Delta Q + \Delta W \quad \text{(J)}$$

Where $\Delta U$ is the net change in internal energy, $\Delta Q$ is the net amuont of heat transferred and $\Delta W$ is the net amount of work done.

# 2 Specific Heat Capacity:

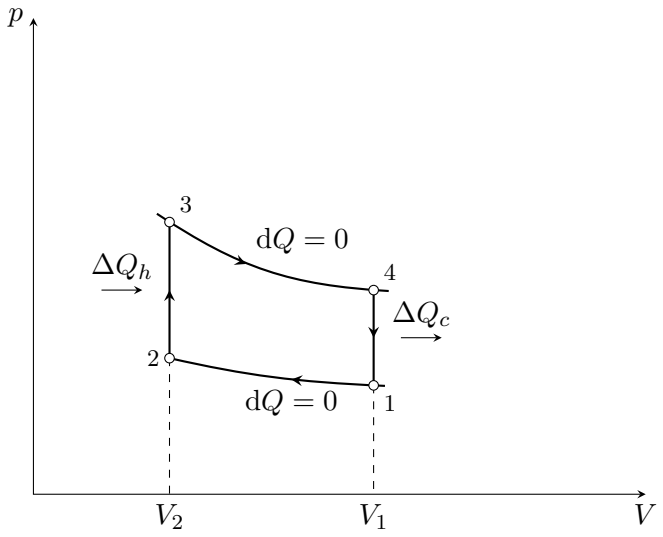
$$\Delta Q = mc\Delta\theta \quad \text{(J)}$$

# 3 Work done during volume changes:

$$\Delta W = p\Delta V \quad \text{(J)}$$

Where $p$ is the **pressure** (Pa) exerted and $\Delta V$ is the change in **volume** ($m^3$).

## 3.1 Graph:




# 4 Latent heat:

*The heat required to convert a solid into a liquid or vapour, or a liquid into a vapour, without change of temperature.*

$$\Delta Q = ml \quad (\mathrm{J\,kg^{-1}})$$