Lecture 4 – The First Law (Ch. 1)
Monday January 14th

- Finish previous class: functions of state
- Reversible work
- Enthalpy and specific heat
- Adiabatic processes

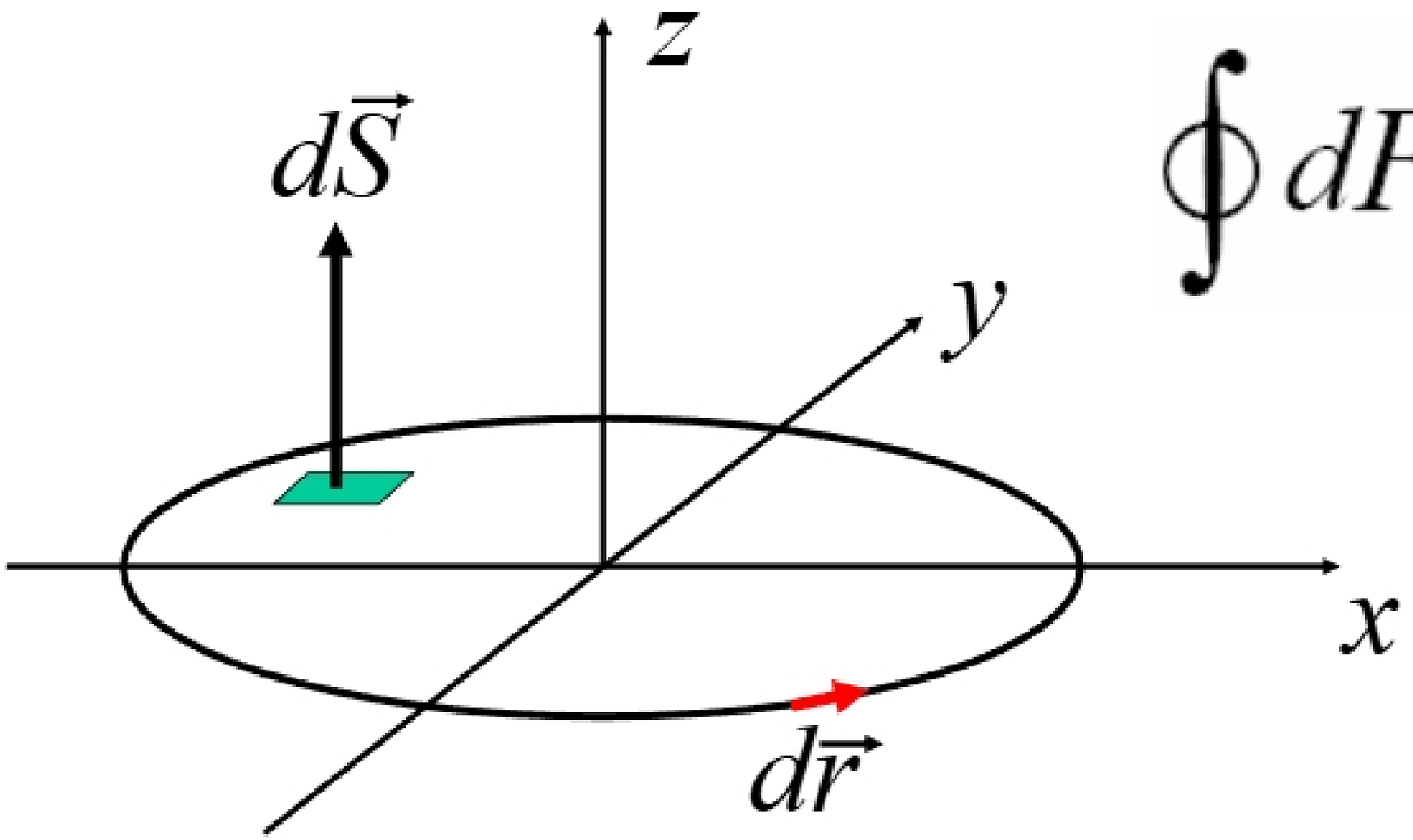
Reading: All of chapter 1 (pages 1 – 23)
1st homework set due next Friday (18th).
Homework assignment available on web page.
Assigned problems: 2, 6, 8, 10, 12

How to know if quantity is a function of state

There is a mathematical basis.....

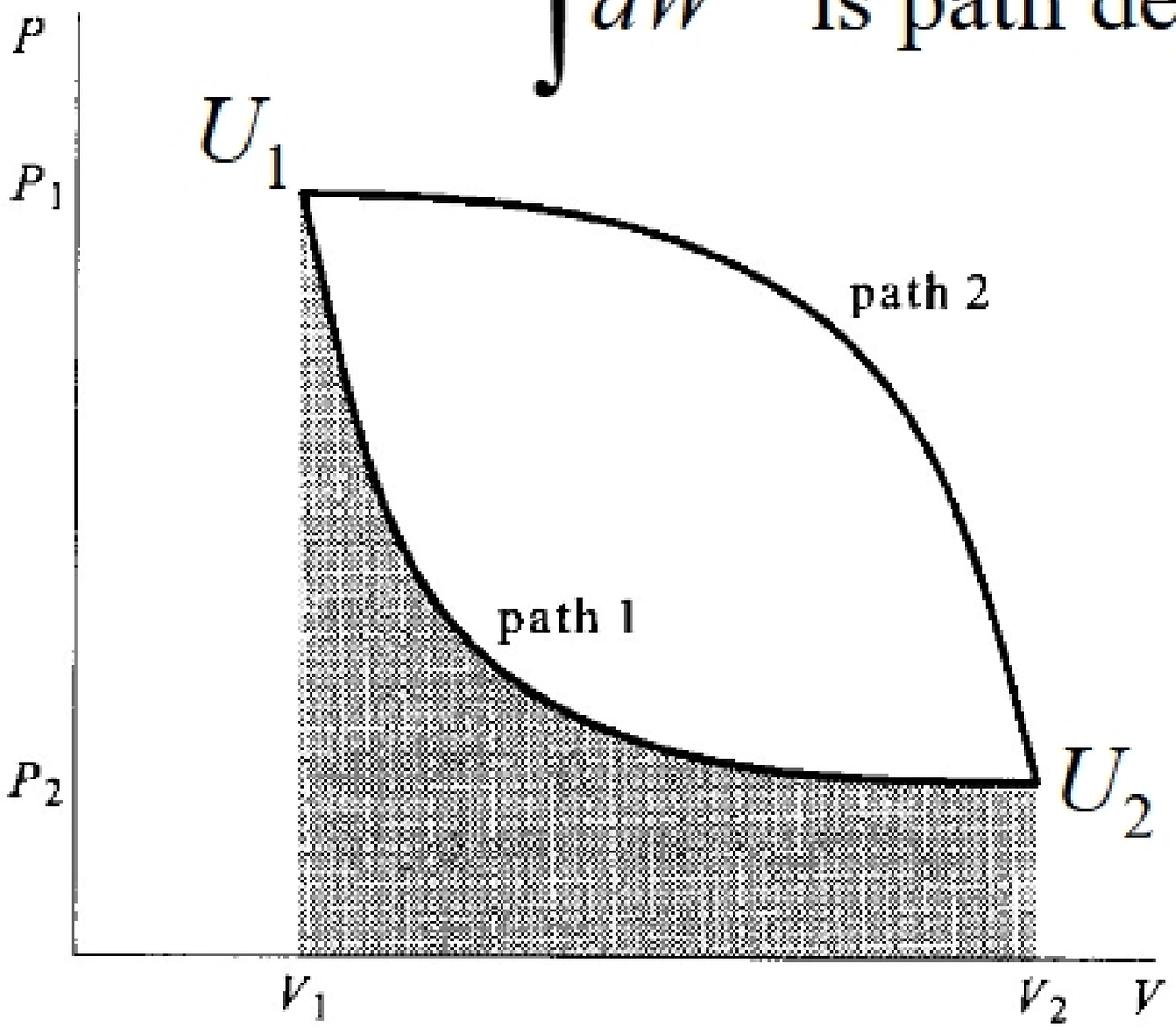
Consider the function $F = f(x,y)$:

$$dF = \left(\frac{\partial f}{\partial x}\right)_y dx + \left(\frac{\partial f}{\partial y}\right)_x dy$$



How to know if quantity is a function of state

$\int đW$ is path dependent



$\Delta U = \int (đQ + đW)$ does not depend on path