

Physics 213

Exam 1 Study Guide

1 Internal Energy

1.1 Main Concepts

- Course is a study more of internal energy, so for example in an inelastic collision, KE is lost and is converted to internal energy
- Collective variables like temperature and entropy are called macrostates
- $U_{total} = U_{Internal} + KE + PE$
- Q is heat energy
- $\Delta U = W_{on} + Q$
- $dU = dQ - pdV$
- $W_{on} = - \int_{V_i}^{V_f} pdV$
- $W_{on} = -W_{by}$
- Work on is negative when volume is increasing