energy, $E$

In mechanics the sum of potential energy and kinetic energy. In thermodynamics the internal energy or thermodynamic energy increase, $\Delta U$, is the sum of heat and work brought to the system. Only changes in energy are measurable. For photons

$$E = h \nu$$

where $h$ is the Planck constant and $\nu$ the frequency of radiation. In relativistic physics

$$E = m c^2$$

where $c$ is the speed of light and $m$ the mass.

Source:
Green Book, 2nd ed., p. 12