## 1 | Escape Velocity and Gravitational Potential Energy

## 1.1 | Newton's Universal Gravitation Law

$$\vec{F}_g = -\frac{GM_1M_2}{r^2}\hat{r} \tag{1}$$

where,  $\vec{F_g}$  is the force of gravity on  $M_2$ ;  $M_1$  and  $M_2$  are two point masses; G the universal gravitation constant;  $\vec{r}$