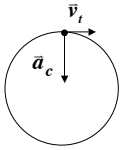
Circular Motion

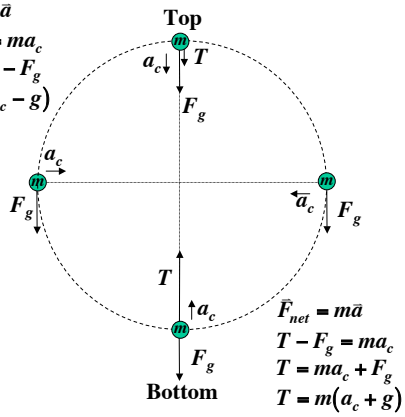
Centripetal Acceleration

$$a_c = \frac{v_t^{\,2}}{r}$$

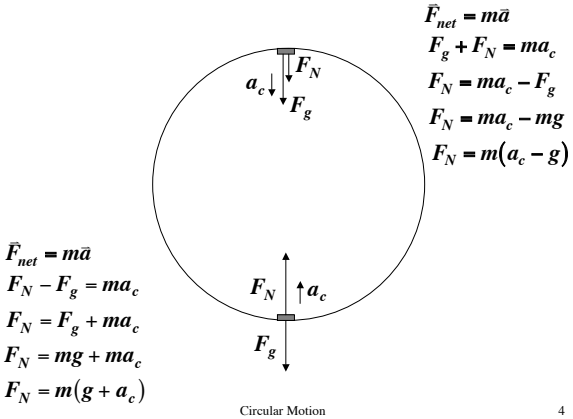


- **This component always points towards the axis of rotation.**
- **The centripetal acceleration is always perpendicular to tangential motion.**

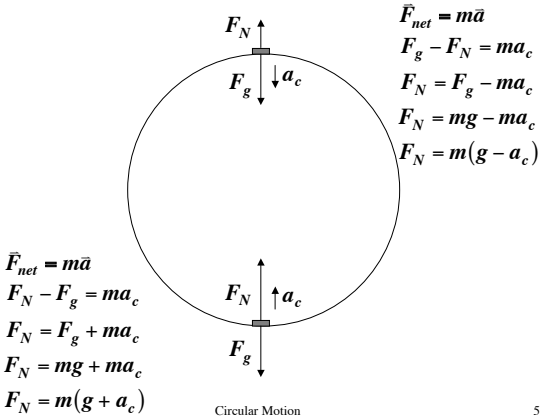
Vertical Motion of a Mass on a Cord



Roller-Coaster Loops



Ferris Wheel



Car on a Curved Road