Module 6: Forces on an Object
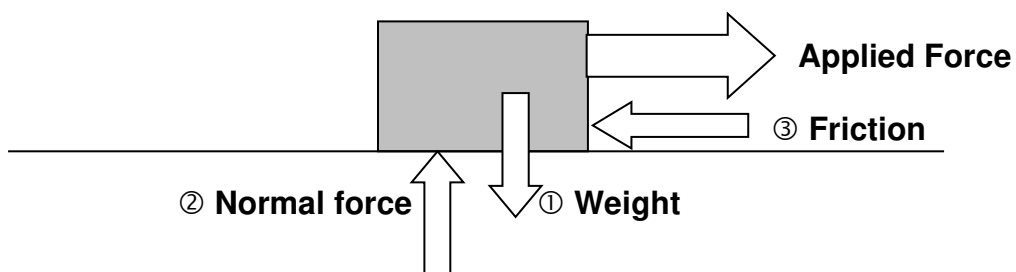
Forces on an Object on a Horizontal Surface

1. Calculate weight. $w = mg$
2. Find normal force. $F_n = w$
3. Find friction force. $Friction = \mu\, F_n$
4. Solve for the acceleration of the box.   Applied Force – Friction = ma

Forces on an Object on an Inclined Plane

1. Calculate weight. $w = mg$
2. Find perpendicular weight. $w_\perp = w\cos(angle)$
3. Find normal force. $F_n = w_\perp$
4. Find friction force. $Friction = \mu\, F_n$
5. Find parallel weight. $w_{||} = w\sin(angle)$
6. Solve for the acceleration of the box.   weight $_{||}$ – Friction = ma