زانکۆی سەلاحەدین - هەولێر
Salahaddin University-Erbil

Engineering Mechanics

(Dynamics)

Second Year Students

Dr. Fakhir Aziz Rozhbiany

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References

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Contents

- Introduction to dynamic.
- Newton's law.
- Kinematics of a particle.
- Rectilinear motion.
- Rectilinear motion of a particle by the curve.
- Uniform rectilinear motion.
- Motion of several particles.
- Relative motion of two particles.
- Dependent motions.
- Curvilinear motion of the particle.
- Rectangular component of velocity and acceleration.

- Projectiles.
- Motion of a projectile.
- Normal and tangential coordinate (n, t).
- Polar coordinates (r, θ).
- Relative motion.
- Kinetic of particles.
- Rectilinear motion.
- Curvilinear motion.
- Work and kinetic energy.
- Potential energy.
- Impulse and momentum.
- Linear impulse and linear momentum.
- Angular impulse and angular momentum.

- Impact.
- Rectilinear translation.
- Curvilinear translation.
- Fixed-axis rotation.
- General plane motion.
- Absolute motion.
- Relative motion.
- Instantaneous center of zero velocity.
- Relative acceleration.