

## **103 Physics course description (Mechanics)**

### **Text book:**

**Physics for Scientists and Engineers with Modern Physics**

**6<sup>th</sup> edition**

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**Units, Dimensions and Vector quantities, Motion in one and two dimensions, Newton's laws of motion and their applications on static and uniformly moving objects. Work and Work-Energy Theorem, Conservative Forces and Potential energy. Isolated and Non-isolated systems, Non-conservative forces and changes in mechanical energy. Linear momentum, collisions in one and two dimensions. Rotation about a fixed axis, Rotational velocity, acceleration and rotational kinetic energy. Moment of inertia, torque and work sum of a rotational object.**