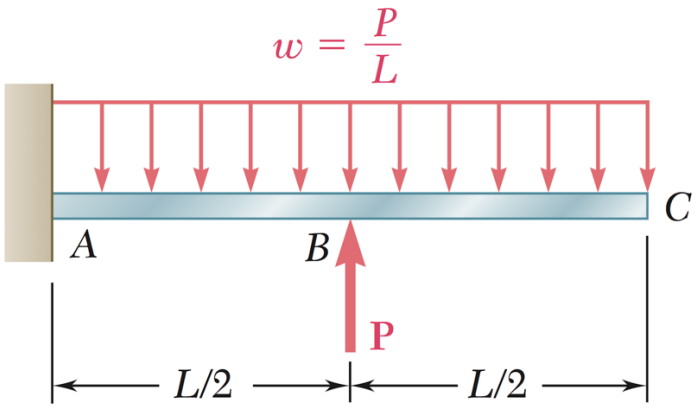
ME 202 Strength of Materials Spring 2023 Tutorial 4
06 Feb 2023

In all cases, the beam is massless, and has length L and uniform flexural rigidity EI.

1. Consider the physical situation where wet laundry is hung out to dry on a simply supported beam such that its load per unit length has a linear distribution $q(z) = q_0 \frac{z}{L}$. Find the shape of the deflection curve $u(z)$ of the beam by integrating the second order beam equation and applying appropriate boundary conditions.

2. Consider the cantilever AC loaded as shown below.



Find the deflection at C and also the slope at C.

3. A diver of (point) mass M falls through height H at the point C on the diving board AC which is pinned at A and roller-supported at B. Find the maximum deflection at C.