Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Student number\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Assignment 3 (4p)**

Consider the plane beam of length *L* shown. Material properties *E* and *G*, cross-section properties *A*, *I* are constants, and . Write down the boundary value problem according to the Bernoulli beam model in terms of axial displacement  and transverse displacement . Start with the generic equilibrium and constitutive equations of the Timoshenko beam model

*x*

*L*

*y*



*b*

 *45*

, 

, 