MEC-7010 Post graduate course
Introduction to higher-order continuum models

1. exercise

1. Starting from the balance equation of momentum derive the equations of motion for a straight bar loaded by an axial force density $f$ and by normal forces $N_0$ and $N_L$ at both ends. The length of the bar is $L$.

2. Starting from the balance equations of momentum and moment of momentum, derive the equations of motion for a straight beam loaded by an transverse force density $q$ and by shear forces $Q_0, Q_L$ and bending moments $M_0$ and $M_L$ at its ends. The length of the bar is $L$.

Return at latest 4.4.2013