

EG3111 Finite Element Analysis and Design

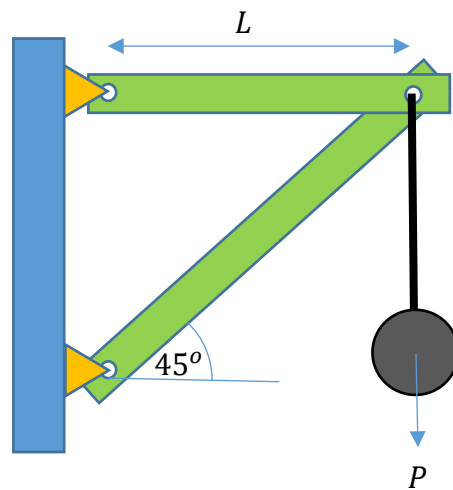
COMSOL Practical #1: Simple frameworks

Aim

To introduce the COMSOL software and simulate simple frameworks

Tasks

1. Watch the video “COMSOL Practical #1” which shows you how to simulate the following framework



using the parameters $L = 0.45m$, $E = 70 GPa$, $A = 2 cm^2$ and $P = 10kN$.

2. The second part of the video shows how you can investigate how changing the angle from 45° affects the stresses and displacements in the structure using a “parametric analysis”.

Conduct the same COMSOL analysis by repeating the steps yourself. In doing so, try to understand how the software works.

3. Analyse the two framework structures in Example Sheet #3 and check that you get the same result as found in your hand calculations.