

**3D Truss Optimization (8 points)**

Use the 3D truss analysis code provided to you and write a topology optimization code in Matlab for minimizing the mean compliance subject to a volume constraint. Note that you need to first define the ground structure of desired grid size. Use the optimality criteria method. If you prefer, you may also use *fmincon* or you may also do it using the dual method. Whatever method you use, please make it general so that any loading and fixed boundary conditions could be specified.

The efficacy of your code should be demonstrated with at least two examples. It will be nice if you compare your truss solutions with COMSOL's 3D continuum topologies.

Include figures and other details of the examples when you submit in paper form. Please also submit your code in one zip file by email. **Please name the zip file with your name so that it can be easily traced.**