

Numerical tool for computing beam deformation

To be delivered the day of written examination

Maximum score is 3 (added to the average of written
and oral examination)

Objective

- Program a numerical tool able to compute the deflection of a beam having:
 - ✓ Circular cross section
 - ✓ Variable diameter
 - ✓ Different type of material along its axis
 - ✓ Various load conditions
 - ✓ No limits in terms of number of different diameters and materials.

Specifications

- Input is written in an ASCII file
- Evaluation points (i.e. points where the deflection has to be computed) are written in input.
- Shear deformation can be neglected
- Provide a digital report that explains how to use the tool and verification with all schemes in appendix D of textbook
- Provide also the programmed tool
- Program the tool using MATLAB (optional)