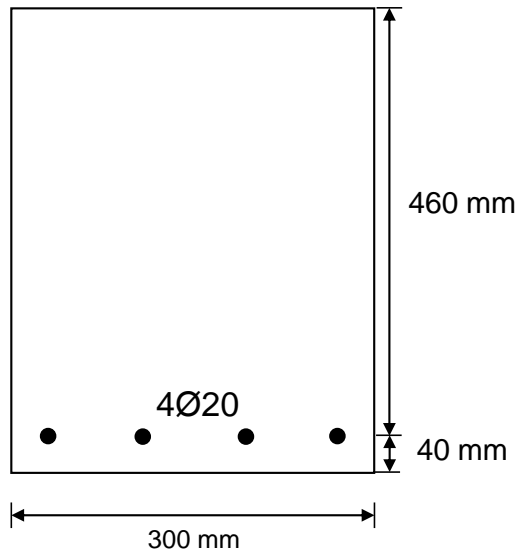


CE 382 HOMEWORK 3¹



Materials: C20 and S420.

For the given beam section,

- Find the reinforcement area required to satisfy the balanced case.
- Determine the bending moment capacity, M_r and specify the expected failure type; tension failure or compression failure.
- Consider an engineer designed the given section using the same cross-sectional properties but without following the code requirements. Although neither TS 500 nor Turkish Seismic Code allow the use of 4Ø30, he selected to use that reinforcement layout. State if there will be any change in the bending moment capacity and the expected failure type.

¹ **ATTENTION TO ALL STUDENTS**

Assignment Date and Time: April 3rd, 2012.

Due Date & Time: April 6, 2012 @ 23.00

This homework is distributed electronically via METU ONLINE CE382 website. The students should hand over their finished work via the same way electronically. The homework submissions that do not obey above conditions will be counted as void.