CIV102F Quiz #6: Friday AM October 23, 2020
Analysis and Design of Trusses

(a) Solve for the reaction forces. Using the method of joints, solve for the forces in members CE, EF, CF and DF.

(b) Using the method of sections, solve for the forces in members AC, BC and BD.

(c) If you are to use only one type of square HSS for all of the members you analyzed in parts (a) and (b), what is the lightest HSS designation that can be safely used? Use a factor of safety of 3.0 for buckling and 2.0 for yielding. $E=200,000$ MPa, $\sigma_{yield}=350$ MPa.

Summarize the forces you obtained in parts (a) and (b) in a sketch of the structure. Indicate tensile forces as (+) and compressive forces as (-).

Make sure to attempt both questions during the allotted time. Parts (a) and (b) will be worth 7 marks and part (c) will be worth 3 marks.