

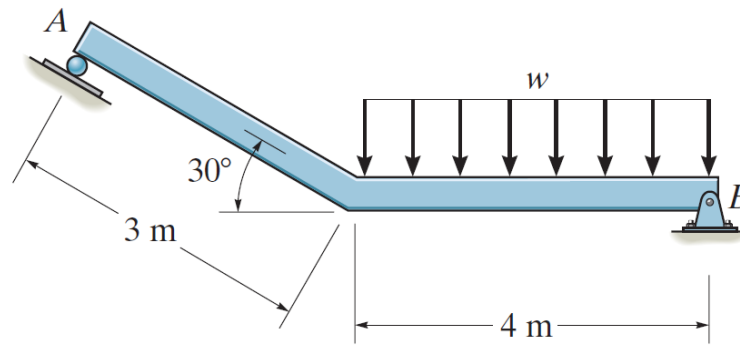
University of California, Merced

ENGR 057 Statics and Dynamics: Assignment #3

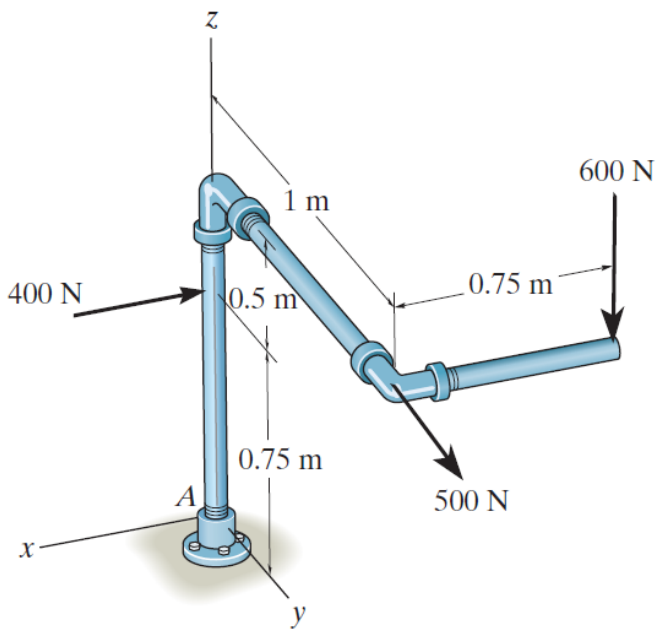
Summer - 2022

Due: July 12, 2022

Problem 1 (30 pts). If the roller at A and the pin at B can support a load up to 4 kN and 8 kN, respectively, determine the maximum intensity of the distributed load w , measured in kN/m, so that failure of the supports does not occur.



Problem 2 (30 pts). Determine the components of reaction at the fixed support A. The 400 N, 500 N, and 600 N forces are parallel to the x, y, and z axes, respectively.



Problem 3 (40 pts). The bent rod is supported at A , B , and C by smooth journal bearings. Determine the magnitude of \mathbf{F}_2 which will cause the reaction \mathbf{C}_y at the bearing C to be equal to zero. The bearings are in proper alignment and exert only force reactions on the rod. Set $F_1 = 300$ lb.

