

3 Economics, Law and Ethics (ah793)

The new Master of (fictional) Porterhouse would like to modernise the college’s room ballot. Previously, the Head Porter assigned rooms based on ‘social standing’ and family connections to the college, which the new Master deems opaque and inefficient. The Master proposes a new Centralised Allocation Algorithm, where students can bid on different rooms according to their preferences. As a member of the College Council, you are asked to provide input on the design. In your answers, explain and define all relevant concepts.

- (a) It is suggested that students should be able to voluntarily swap rooms after the allocation. Does this meet the Pareto efficiency aims of the college? [3 marks]

- (b) The student representative proposes that students are able to bid on a ‘bundle’ of room attributes, e.g. a north-facing room near the library with an ensuite. Argue for or against this proposal, outlining the type of auction that would be required if it were to be accepted. [5 marks]

- (c) A ‘group ballot’ has been proposed to allow students to bid with their friends as a block on ‘groups’ (clusters of rooms). Model the decision of four friends to bid together as a Stag Hunt. Create an illustrative payoff table and identify the Nash Equilibria in this scenario. [7 marks]

- (d) It is well-known that some rooms in Porterhouse are decrepit, whereas others are splendid. However, the students are only shown photographs of the best rooms during the application process. If students cannot distinguish good rooms from bad rooms, what impact might this have on the ballot system? [5 marks]