This exam is about estimating the choice of occupation. Assume that there is a small number of occupations and that occupations differ by skills necessary to work, wages, and other job characteristics.

1) [20 points] Construct and precisely describe a model of people deciding each year what occupation to work in and how much skill specific to the occupation to accumulate. Assume wages depend upon skill and skill depreciates when not being used. Use your model to show that each period, the probability of leaving an occupation in that period declines with time in the occupation.

2) [30 points] Provide detail on how to estimate the parameters of the model you constructed in (1). Be careful to base your estimation strategy on the model you described including the introduction of deviations between data and model predictions.

3) [20 points] Suggest how to use semiparametric methods to estimate a wage equation for each occupation taking into account selection into the occupation.