

# Allocating students to elective modules

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The job of assigning students to elective modules in their final study year can be tricky and time consuming. In common with many other institutions, here at the School of Psychology, University of Dundee, we like to place maximum limits on these class sizes. However, given that some subject areas tend to be vastly more popular than others, we have a tricky resource allocation dilemma.

My predecessor in this task used a heuristic of 'equal unhappiness.' After ranking all modules, students were typically assigned two of their top five choices, but everybody had one module which they ranked very low.

After experimenting with a variety of allocation algorithms, I settled on one which is simple, consumes very little time, and leads to high

student satisfaction. This works as follows:

1. Students rank order all modules available.
2. Based on these rank orderings, identify unpopular courses and (in conjunction with the Dean) determine if these courses should be run or not in the forthcoming academic year.
3. Order students in descending average exam performance.
4. Go down each student in the list and allocate them to the highest ranked module which is not yet at capacity.
5. After allocating all students to their first module, repeat step 4 to allocate their second module.

Repeat until students have been allocated the correct number of modules.

Ranking students in descending order of average grades has the advantage of providing slight rewards to high achieving students, but not excessively penalising the rest of the students.

I have now implemented this approach for two years running. While class size limits make it impossible to always provide students with their top ranked modules, it has been very effective, resulting in high student satisfaction. The whole procedure can be done quickly with pen and paper, but can also be automated in software.

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**Editor's note:** Well here's a good topic for coffee room discussion!

