

Guidance for Electives Preferences

For your degree programme you are required to take a number of elective modules. The number will depend partly on your degree programme and also to some extent the sizes of the modules you choose.

We are therefore asking all students to submit a list of elective preferences which we can use to allocate a set of option modules.

There is a large range of possible electives to choose from, however not all combinations will be possible. For example, some modules have pre-requisites or co-requisites, other modules that must be taken either before or at the same time. Similarly, there may be exclusions, modules that cannot both be taken together either because of overlap in content or because of timetabling issues. Some modules also have limits on the numbers of places available.

We will try to assign you modules according to your highest preferences wherever possible. It may not be possible to assign everyone their highest preferences, but where this is not possible we will try to allocate modules as fairly as we can. To do this, we will use a picking sequence algorithm approach. The process is as follows.

The Selection Algorithm

All students are cycled through in a random order. For each student, one module is assigned from their list of preferences. Their highest preference is considered first. If this module is consistent with their existing modules and has places available, then they are allocated a place. Otherwise, their next highest preference is considered and so on until a valid module is found. By the end of the cycle, every student will have been assigned one module, the highest available from their list of preferences.

The cycle is then run a second time (with a different random order of students), assigning each student another module from their list of preferences. This is repeated until every student has been assigned a full set of options based on their preference list.

Notes for the Selection Algorithm

Modules that are core on some programmes: Some modules are electives for some programmes but are core or compulsory for others. For example, ACP is compulsory in Year 3 for F390 and F325 but is an elective for F303 and F300. Similarly, the Year 3 Project is compulsory for F300 and F325 but is an elective for the other programmes. In these cases, we will allocate places to students for whom the module is compulsory or core before we run the main selection algorithm above. These will not be counted as one of their elective choices for these students.

Modules with alternative versions: Both Year 3 Lab and Year 3 Project are offered in both Term 1 and Term 2. Places in each term are limited. If you want to take one of these modules you can include multiple options in your list of preferences. For example, for Year 3 project, you can include both Term 1 and Term 2 versions in your list of preferences. If you

would prefer to do a project in Term 2, place this higher on your list. Then the selection algorithm will consider the Term 2 preference before it reaches the Term 1 preference. If or when the selection algorithm subsequently gets to the Term 1 preference, it will only try to assign this if the Term 2 preference was not already assigned to you.

Level-7 modules: Most programmes allow Year 3 students to take up to one level-7 (Year 4 MSci, or Master's-level) elective module. You may put more than one level-7 module in your list of preferences, however once one of these has been assigned to you by the selection algorithm, the lower preference ones will not be considered. Where places are limited on a level-7 module, priority will be given to students who are in the final year of a Master's-level programme.

Co-requisites, pre-requisite and mutually exclusive modules: A few modules can only be taken provided other modules are also taken. For example, FQM requires ACP. If you wish to take FQM, you must make sure that you include ACP (unless you have already done it). When the selection algorithm gets to your FQM preference it will only assign this to you if you have already been assigned ACP (or have already done it). You should include ACP above FQM in your list. Conversely, there are some combinations of modules cannot be taken together. You are free to include more than one of these in your list of preferences. Once one of them has been assigned to you the selection algorithm will not allocate any that are excluded by it. Pre-requisites, co-requisites and mutually excluding modules are shown in the [electives diagram](#).

Choosing and Ordering Your Preferences

You should list as many preferences as possible. Because of limits on some courses, some of your preferences might not be available so it is sensible to include extra preferences. The way the selection algorithm is designed, a lower order preferences will ONLY be taken into account once your higher order preferences have been dealt with. Adding more preferences than the minimum will not affect in any way the allocation to your higher preferences, but if you do not list enough preferences then we might need to ask you for additional preferences after the main allocation process, at which time the choice of remaining modules may be more limited. It is therefore better to list more preferences now.

The selection algorithm is designed to consider your preferences in the order you specify. In each cycle, it will consider your remaining module preferences to find the highest one that is available, and which is consistent with your programme and any other modules that are already assigned to you. You should therefore rank your preferences in order of importance to you. There are limits on numbers for most modules, but competition for places is higher on some modules than others. Where places are limited, they are more likely to be allocated to students who have placed the module higher on their list of preferences.

Note that non-standard electives outside the Department are not included in this process. If you are considering taking a non-standard elective, you should still list a complete set of Physics preferences now.