



place_sections

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After entering all of the prescheduled courses, you can begin placing the course sections as determined by MSALGO. Although you can override the suggested courses at any time, it is recommended that you follow the MSALGO logic as closely as possible.

The first step is to display the next course to be placed. MSALGO provides you with three charts that help you in determining the periods in which to place the sections. Once you display the section to be placed, print the charts. These charts indicate conflicts, sections, and seating for each period of the day.

The first priority in placing sections is conflicts. It is important to place the section in the period that results in the least conflict. The conflict chart identifies potential conflicts. The potential conflicts per period per semester are calculated and the weighted conflict chart is produced as follows:

- The type of course (singleton, doubleton, etc.) being placed is determined.
- Each course already placed is identified. For each course, it is determined what type it is and how many potential conflicts it has with the course that is being placed.
- The following formula is calculated for the course you are trying to place with each course already placed. The result is then tallied into the semester/period(s) of the weighted conflict chart based on where each course already placed was put.

$$\text{SUM} (1 / (\# \text{ times } 1\text{st course} \times \# \text{ times } 2\text{nd course}))$$

The second priority when building the master schedule is seating balance. The seating chart shows the number of students placed by period and semester for each grade level. The number of seats in each period for each grade level must match very closely the number of students in the grade level at the end of the schedule build. Too many seats distort the load balance as much as too few seats. You must look at the number of seats per grade level rather than the total number of seats per period. The balance must occur for each grade level.

The seating chart is calculated as follows:

$$\text{SUM} ((\# \text{ seats requested per grade per period per semester} / (\# \text{ semesters in course} / \# \text{ semesters course offered})) / \# \text{ times course offered per semester})$$
 for each course by grade, semester, and period

- The courses are calculated one at a time.
- The total number of requests for each course by grade and semester is divided by the number of times the course is offered for the semester, then displayed for each period the course meets.
- If a course section has more than one meeting period, only the first period of the first meeting time will be used to divide the requests, but the rest of the meeting time periods will display requests on the seating chart.
- If the course is offered for more semesters than the length of the course, such as a one-semester course being offered in both semesters 1 and 2, the requests for the course are further divided evenly between the two semesters of the course to determine how many requests would be placed each period and semester.

The section chart is the final chart used when building the master schedule. This indicates the number

of sections per period. Compare this chart against the instructors and room charts to verify that you have resources available. Note the number of sections versus the total number of seats per period. It is important that you do not fill a period with low load sections, as the scheduler may not be able to provide a seat for each student in that period. You also run the risk of using all of your resources for the period before all students can be placed.

At some point it becomes necessary to be more concerned with the seating balance than the number of conflicts. It is important that you look at both of these values when placing a section. Relying only on conflicts or only on seating balance to place sections results in a poorly built master schedule.

Once you select periods in which to schedule the course, determine the instructor and meeting location. Use the instructor resource chart to check prior assignments and qualifications. Next, check the master schedule to see if the instructor is available for the selected period. After selecting the instructor, determine whether rooms are available for the selected sections.

After making these decisions, you must place the section on the master schedule and update all of the charts you are using as you build the master schedule.



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