

Place (MSALGO)

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This tab is used to place the sections in the master schedule. You must enter and save the information on the Build tab prior to using this tab.

Section placement guidelines:

Place Sections Using MSALGO

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, click **View Chart**. This chart indicates 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.

SUM (1 / (# times 1st course x # times 2nd 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:

SUM ((# seats requested per grade per period per semester / (# semesters in course / # semesters

course offered)) / # 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 to look at both values when placing a section. Relying only on one or the other 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.

Place sections:

1. View the chart as you place courses:

When placing a course, click **View Chart** to review the report and identify the best period to place the course at that time.

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2. Place all pre-placed courses:

❑ Select the course to be placed:

Course to be Placed	Type or click ⋮ to select the first pre-placed course to be placed.
View Chart	Click to view the placement charts, which will help you determine the periods in which to place sections. Review, save, or print the report.

❑ Under **Sections**:

Sec	Type the number of sections for the course.
Seats	Type the number of seats available for the section.
Team Code	(Optional) Type the one-character team code for the section. When MSALGO determines which sections meet all of a student's restriction criteria, if there is a team code in the section record, it will check the student demographic team code for a match.

Section placement:

MSALGO uses the following rules for the order of placement:

Singletons (i.e., courses that are only offered once) are placed first. Within the singletons, the sections are placed sequentially from highest to lowest number of total potential conflicts.

Example: Courses 1004 and 2003 are both singletons. Course 1004 shows 223 conflicts, while course 2003 shows 145 conflicts. MSALGO selects course 1004 to be placed before course 2003.

Once all of the singletons are placed, MSALGO moves on to the doubletons, and so on.

This process continues until all sections have been placed on the master schedule.

❑ Under **Meeting Times**:

The meeting times for the selected section are listed. A course-section must have at least one meeting time and can have up to four meeting times.

❑ Click **+Add** to add a meeting time. A row is added to the grid.

Sec-Meet	A sequential number is displayed for each meeting time you add.
Sem	Select the code indicating the semester(s) the class meets.
Frm To	Select the beginning and ending periods when the class begins and ends.
Instr	Click ⋮ to select an instructor.
Room	Type the room number in which the class meets, up to four characters.
Days	Select the code indicating the day(s) the class meets.
	Delete a meeting time. 1. Click  to delete a row. The row is shaded red to indicate that it will be deleted when the record is saved. You can select multiple rows to be deleted at the same time. 2. Click **Save**. You are prompted to confirm that you want to delete the row. Click **Yes** to continue. Otherwise, click **No**. You can save edits and delete records in the same step (i.e., the changes are all committed when the record is saved). Meeting time 1 cannot be deleted. At least one meeting time is required for each section.

❑ Click **Save**.

This updates the **Courses to be Placed** ellipsis lookup with information about any sections that are now placed. It also automatically retrieves the next course to be placed, as determined by MSALGO.

You can save data at any time.

Next Crs to Place	Click to retrieve the next course to the **Course to be Placed** field, which will be the first course not completely placed that has the highest priority for placement, as determined by MSALGO. A section is considered placed if meeting time 1 has a semester code, beginning period, and ending period. The information must be saved. All sections of a course must be placed for MSALGO to consider the course completely placed. The next course to place is not accurate unless all meeting time information entered is saved. **KEEP IN MIND:** You can override the suggested courses at any time. However, it is to your advantage to follow the MSALGO logic as closely as possible.

3. Place all singleton courses:

❑ The course with the most conflicts is displayed first.

Course to be Placed	A course number is automatically displayed. This is the course that MSALGO determines should be placed first. To select another course, click ⋮ to select the course. The courses in the ellipsis lookup are sorted by the ranking in an algorithm: from the least number of sections and greatest number of conflicts within the number of sections, to the greatest number of sections and number of conflicts, from greatest to least, within the number of sections. For each course, the course number and title, number of conflicts, and the number of sections placed are displayed. (The lower the number of conflicts, the more difficult to place.) If all sections of a course are placed, the message “Placed” is displayed. Otherwise, the number of sections placed out of the number of sections available is displayed (e.g., 0 of 1). The algorithm ranks the most difficult courses to place first, but any course can be selected for placing. Data for the selected course is displayed, including the course title, number of semesters and periods, number of conflicts, number of sections placed, and number of requests.

❑ Place all singleton courses as described previously.

❑ Click **Save**.

This updates the **Courses to be Placed** ellipsis lookup with information about any sections that are now placed. It also automatically retrieves the next course to be placed, as determined by MSALGO.

You can save data at any time.

Next Crs to Place	Click to retrieve the next course to the **Course to be Placed** field, which will be the first course not completely placed that has the highest priority for placement, as determined by MSALGO. The next course to place is not accurate unless all meeting time information entered is saved. **KEEP IN MIND:** You can override the suggested courses at any time. However, it is to your advantage to follow the MSALGO logic as closely as possible.

4. Back up MSALGO tables before continuing:

Before continuing, it is recommended that you back up the MSALGO tables in case you need to start over from this point.

Scheduling > Maintenance > MSALGO > Process > Utilities

❑ Select **Backup MSALGO Tables**:

This option backs up MSALGO tables. This process creates a zipped file.

The **Password** and **Verify Password** fields are displayed.

Password	Type a password for the file. To restore this file using the Restore MSALGO Tables utility, the user must type this password.
Verify Password	Retype the password to confirm that you typed it as intended.

❑ Click **Run Process**.

❑ You are prompted to open or save the zipped file. Save the file in a known location.

CAUTION:

- Remember your password and the location of the saved file.
- Files saved on the same day will overwrite previously saved files.

5. Place all doubleton courses:

❑ Place all doubleton courses as described previously.

CAUTION: When changing section numbers, the updated section number must be unique.

❑ Click **Save**.

This updates the **Courses to be Placed** ellipsis lookup with information about any sections that are now placed. It also automatically retrieves the next course to be placed, as determined by MSALGO.

You can save data at any time.

Next Crs to Place	Click to retrieve the next course to the **Course to be Placed** field, which will be the first course not completely placed that has the highest priority for placement, as determined by MSALGO. The next course to place is not accurate unless all meeting time information entered is saved. **KEEP IN MIND:** You can override the suggested courses at any time. However, it is to your advantage to follow the MSALGO logic as closely as possible.

6. Back up MSALGO tables again before continuing:

Before continuing, it is recommended that you back up the MSALGO tables in case you need to start over from this point.

Scheduling > Maintenance > MSALGO > Process > Utilities

❑ Select **Backup MSALGO Tables**:

This option backs up MSALGO tables. This process creates a zipped file.

The **Password** and **Verify Password** fields are displayed.

Password	Type a password for the file. To restore this file using the Restore MSALGO Tables utility, the user must type this password.
Verify Password	Retype the password to confirm that you typed it as intended.

❑ Click **Run Process**.

❑ You are prompted to open or save the zipped file. Save the file in a known location.

CAUTION:

- Remember your password and the location of the saved file.
- Files saved on the same day will overwrite previously saved files.

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7. Place all tripleton courses and so on:

   ❑ Place all tripleton courses as described previously, and so on.


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