Master Scheduler Manual  Edition 1.1

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Playbook

- Be calm and relax – you are using a great tool – enjoy the ride.
- Wait until the schedule planning is finalized.
- Lock what you like 🕵️
- **Help (Menu)->Support->Ticket**
- Almost everything that you see can be changed by double clicking on it.
- Do not over complicate the schedule!
- Watch the training videos.
- Save and make backups.
- 🔄 Undo at top left is a lifesaver.
- Make sure step 2 teacher schedules are signed off before fixing the student conflict.
The 4 Steps

Step 1: Input
Complete the planning phase (teachers, students, courses) and personal placements.

Step 2: Blocks
The program features a fully automated build phase, which uses your input and constructs the best possible blocks for your current configurations. Select the speed and then click [Start now].

Step 3: Student Conflicts
Once the blocks have been completed, often a few student course conflicts will remain, which need to be resolved. The scheduler program will show you the conflict subjects as well as the possible solutions. Fix all the conflicts.

Step 4: Export
This is the final step, where the schedules can be printed. The superintendent's report is very handy, since it contains all the relevant information on one excel file and makes it easy to have the schedule verified and signed off. The SIS uploaded file can be created, as well as the Google Drive files, etc.
In the course manager, you can define the rules, restrictions, groups and teachers for each course. Double-click anywhere on the grid to change that field.

Some of the more important fields:

- **Students**: Maximum students per group.
- **Avr**: The average students per group.
- **Groups**: Number of course sections that will be offered.
- **Core**: Core or Elective. Core courses are automatically given a higher priority.
- **Grades Valid**: The grade level(s) of students who may take the course.
• Terms: The term or terms in which a student may take a course.
  o S1 – Students can take the course the first semester.
  o S2 – Students can take the course in the second semester.
  o S1/S2 - Students can take the course in the first or second semester.
  o S1 and S2 – Students must take the course in both semesters, and at different times.
  o Yearlong – Students must take the course in both semesters, and at the same time.

Add or delete a course by clicking the icon at the top right.

Tip! Search (top right) Makes it very easy to find the correct courses and teachers.

Note: There are many fields available but only the ones needed for your schedule will have been activated for you. If you need any additional fields activated, contact support to get the correct header name.

In the top left, note that the screen can be changed between design mode and workload assignment mode.

1.1.1 Locking a Course Section in a Term

The scheduler allows you to lock specific sections into a semester, e.g. 2 sections in each semester 4 (2 , 2 ).

At the bottom, click on ‘Classes’.
Double click on the semester and change or lock.

1.1.2 Team Teach

When two teachers need to be combined to teach a course, select one of their names in the course manager. While holding the control button (ctrl on a PC, control on a Mac), drag and drop one teacher’s name to merge with the other teacher’s name in the row designated to the course they are team teaching.

1.1.3 Merging Courses

In some cases, two courses may be merged. For example, two sections of the same course may be under-enrolled, so they are combined to save resources.

To merge courses, click on the cell in the “Students” column which is relevant to one of the courses that is being merged. Drag and drop to the corresponding cell of the other course that is being merged.
1.2 Teachers’ Workload

In the course manager, top left, change the view from Courses to Teacher workload.

The groups will be shown with the estimated number of students in brackets. To change the number of groups, double click on the group total.

To assign a teacher to a particular course, double click and a list of teachers will appear.

1.3 Student Choices

- Click on the student and at the right side, the course selections will appear.
- Double click on a course to remove or assign.

Tip: If, in the course manager, the courses have been identified with specific grades, tick the valid grades on, to shortlist the courses. E.g. Eng10 will only be shown for G410 students

1.4 Rooms

If you do make use of rooms, and not every teacher has his/her own room, it can be entered under this tab.
1.5 Pre-placed

Personal placements form an important part of the planning, and the schedule is then built around these personal placements.

Personal placements can be classified into:

- **Reserving teachers**: Reserve certain periods with a subject called Meeting, to ensure that this teacher must be free for that period.
- **Locking of courses**: Some courses, like Cooking, might need to be pre-locked before Lunch (P4), so that the students would have time to finish up, should they need more time.
- **Group locking**: Courses do not need to be locked in specific periods, but need to be group locked together. Bands and Music are a very good example of where, in any period, Music, Bands, Choir and Orchestra must happen at the same time. In this case, you can pick any period and pre-lock all these courses together at that time.

**How to pre-place a course**
- Find the teacher and double click on the correct open period and semester.
- A pick box will appear with available courses that can be placed.
- Pick the correct course and it will be placed.

**To unlock or move**: double click on the course and select unlock, or move to another period.

- The search function is very useful to create a shortlist, and you only need to enter part of a course. E.g. AP or Music to shortlist only these teachers or departments.
- The courses are semester sensitive and if a course is only taught in a specific semester, make sure to double click on the correct semester.
Step 2: Build the Schedule

**Cell display:** Teachers, Rooms, Terms

**Display Select:**

- Lock: Unplace this class
- Unplace across groups

**Double click to lock or un-place**

**Build schedule**

**Move, Improve, Lock, etc.**

**Class totals**

**More Detail**

The select is a great way to get different views:
- Per teacher (popular)
- Prep balancing
- Only courses that are over
- Only personal placements

**Important numbers** to keep an eye on, in the status bar:

**Conf.**: Student Conflicts

**Deviation:** Creates total balancing or, how close the students in the classes are, to the optimum average. A deviation of zero would effectively mean that all the classes are perfectly balanced. It is not necessary to try to achieve a balance of zero. This value is normally used when moves are made to show the impact on the overall class sizes.

**Clashes:** This would refer to a teacher (or room) clash, and there should not be any clashes on the master schedule, unless there is anything that is specifically placed in this regard, e.g. Smith teaches Choir and AP Choir at the same time, and he did not want to combine the groups under the same course name.

**Cell display:** At the top left, you can select the details to be included in the cell display e.g. Subject type, Semester, Facility, etc. While working with the scheduler it is a nice option to click everything off (except the totals), and just see the subject name with the totals, as in the screen above. When you move your mouse over the pictures, the hint will display what it is referring to.
2.1 Building
2.1.1 Automated Building

Top right, click on the ‘Build Schedule’ button and select the desired speed and settings; press ‘Start’ to begin with the automated building process. This will use the intelligence and wisdom of the program to build the best possible schedule according to your information entered.

In the building graph notice:
- the peaks (new student conflicts increased) followed by
- the valleys, as the conflicts were automatically fixed.

Notice that the automated builder finishes a schedule within seconds, at a very high accuracy rate. In the example, more than 10,000 courses were placed with 99% accuracy.

One of the many advantages of having a program that can build schedules with higher student accuracy, is that it has a huge effect on the school’s performance; more students have their desired courses and a lesser amount of time needs to be spent re-negotiating with students on which other courses they may need to pick. Your personal placements will be locked in place, and the schedule will be built around this.

2.1.2 Step Building

At the bottom right, click on Course Placements to display the priority in which the courses will be placed when building.

If there are any course improvements, it will be arranged at the top, followed by the rest of the courses. Double click on the course to have the course placed.

Step building: this is a more hands-on process where a person can build the scheduler, one course at a time. Note that the courses will automatically be placed in the best position and you only need to double click on the course to have it placed. This is normally done when you want to observe a specific event or want to have more control over the building process.

Example: one of the two groups ends up with zero students after you’ve done the automated build. This would be shown at the end and it may be more difficult to move courses around on a completed schedule. In this case, you can use this Step building, and the moment that event happens, you can address it.

2.2 What If Insight

This is a very handy feature which gives insight into what would happen in a course if:
- Groups would be reduced: it might be a saving of resources - instead of having 2 groups of 14 students, to rather combine them into one group of 28 students.
- Groups would be increased: Often times this may have a significant impact on reducing the student conflicts. E.g. if a new group was added for AP English, the student conflicts would be reduced by 4.
2.3 Moving and Locking Courses

Move across semesters. If the course is only one, e.g. S1, then only S1 will be displayed but if it can be in S1 or S2 then both will be displayed.

2.4 How to Lock a Course

Double click on the course and from the pop up menu, select Lock or Unlock. Note that courses which were placed under Input-> Personal placements would automatically be locked.

2.5 How to Place or Un-place a Course

- Place: at step building, double-click on the course, to place.
- Un-place: double click on the course and then select Un-place. (Un-place does not mean the call has been scratched, merely that it’s been thrown back into the pool and still needs to be placed.)

2.6 Improving Class Sizes and Conflicts

Click on ‘Improve’
Click ‘Start’ and your schedule will be analysed and a list of all possible improvements will appear. Sometimes a good option may be to increase the conflicts by tow, but the deviation will drop dramatically by -30.
To change student courses in a class that is over, Step 3 students and from the drop down filter, select the course that is over, to shortlist those students. Then click on the student and change their courses until the class size is correct.
2.8 Modifying the Existing Schedule

There are a few ways and it is easy to remember that in the General view at the bottom. Double click on most items to change.

2.8.1 Edit a Section
Click on [Change] at the bottom and the different quick menu selection will pop up.

2.8.1.1 Change a Teacher or room

2.8.1.2 Add/Delete a Section

2.9 Other

2.9.1 Teacher Prep/Free Balance
This is typically in the AB schedule where you want each teacher to have a prep period on each of the days, instead of two preps on one day and nothing on the other.
Click settings and then teachers

2.9 Free Periods/Study Hall
The study hall, or free teachers and students, can be accessed from the bottom window, and can be very useful to find which teachers are available, and in which periods, when wanting to move courses around. The study hall is also exported into the superintendent’s report. Note the different menu options for different views.
Step 3: Student Conflicts 😊

After the master schedule has been built, there are normally a few students who did not get all the courses fitted, and a conflict is where two courses had to be placed at the same time. These conflicts need to be resolved or changed, so that the student schedule does work out. These conflict students will be sorted to the top of the list automatically.

3.1 How to Fix a Student Conflict

Click on the student and then bottom detail view, click on the ‘fix conflict’ tab

Step 1) Pick the drop course and all the workable solutions will be displayed.
Step 2) Double-click on the best solution and the conflicts will be fixed.
Normally it would be better to change an elective conflict rather than a core course. For this reason the electives are arranged first (indicated with the blue book), followed by the core course in alphabetical order.

This window can be a useful tool in one-on-one advising with students. The students may play a role in selecting solutions.

**Forced swap:** sometimes one wants to see what other solutions might be displayed by changing one of the solution courses. E.g. The conflict is between Art and Band, and even though Math does not form part of the conflict, you would like to see if Math => Math AP if more solutions might be displayed. You can use the right tab labelled [does not work] to make a forced move and then see what other solutions will appear.

As you fix the conflicts the **[Improve]** button will highlight automatically, prompting you to click on it periodically. As a rough estimate, for every seven conflicts that you fix, the improve button will fix an additional conflict.

The first priority is to fit in all of the student’s subjects. Only after all the conflicts have been fixed, will the program look at best class balance distribution.

### 3.2 Student Opportunities

This is where you can precision place a student’s schedule. Click on the student name then at the bottom, click on the ‘Opportunities’ tab. A list of all the workable student schedule course placements opportunities will appear, with some insight.

3.3 How to Precision Place Students into a Specific Course

Double click on any course and a pop up of courses will appear. Pick the correct one to make the move.
Step 4: Export and Printing

Step 4 - Export is the final step in the scheduling process.

At this section you can:
- Print the schedules and class lists
- Create the superintendent’s report
- Google Drive files
- SIS export file to update your existing SIS
- etc.

4.1 Superintendent Report

This report is also called the (Sup Report) contains all relevant information regarding the master scheduler and it’s a quick way to have all the information on one report. You can select which information you want to include in this report. It is always a good idea to have someone else sign off, that the master schedule is correct, and that this is the report that can be sent on.

4.2 Before Printing the Final Schedule.

- Do a few spot checks to verify that everything looks correct.
- The master scheduler is 100% complete.
- All student conflicts are resolved.
- Have someone else sign off on the superintendent’s report.
- Make a backup of your schedule data.
4.3 Google drive

This is another great feature to distribute the new master schedule to the teachers. Click this button and a temporary folder with each teachers’ name, as an excel file, will be created. The teacher can get his/her schedule as well as each class student list. Copy all these files onto your existing, shared Google or Network drive for the teachers to find their own file.

4.4 SIS upload

This will create the standard file to be uploaded into your existing SIS. It contains all the relevant information that your SIS would need including: Student id, Course id, Terms, Section, Teacher id, Periods, etc. You can also speak to your SIS for an API integration see 5.9.

4.5 Print Schedule and Class Lists

Note that it can also be saved into PDF.

Chapter 5: Commonly Asked Questions

5.1 How to Lock or Change a Course Semester

In the course manager -> classes at the bottom, double click $S_1(S_1/S_2)$

5.2 Do not include a Course in a Build

Input -> Course manager, double click on the course name and add a # in front of the name e.g.: Advisory => #Advisory
The subject will be displayed in grey. If you want to included it again take out the #

5.3 How to Find the Installation Location

Menu: System Information -> Installation Path
Click to open the folder directly.

5.4 How to Make a Backup

On your computer open the folder where you have saved your schedule and copy that file to a flash drive. For a full backup with internal data, copy the complete scheduler folder onto a flash drive (c:\usascheduler).

5.5 How to Load the Program onto Another Computer

There are basically two files that you need to copy over:

- Scheduler.exe
• Your scheduler data file.

Copy both of these files over onto a flash drive, and then onto a new computer; copy them into a folder called c:\usascheduler and run scheduler.exe
For a full backup with internal backups, copy the complete scheduler folder to the new computer.

5.6 Excel Data Editing

To make life easier, the data backbone has been picked as a standard Excel database, which makes it very easy to import, change and manage scheduler data. This can be used, for example, if you want to do a fresh import of your new students with the courses. Simply open this file and under the ‘Students’ tab, delete the old students and insert the new students. Make sure to keep the headers the same.

TIP

The file type to be saved must be an Excel 97-2003 Workbook.

5.7 Every Screen can be copied

Every screen can be copied and pasted into Excel, and sometimes one wants to have a customised screen exported. For example, the conflict matrix under Input->stats. Click on the grid and then top left. Click to copy the data into memory. From here it can be pasted into any other document.

5.8 New years schedule

When you start with your new schedule, only import the new student’s requests and then change the new teacher’s workload and planning. In this way we re-use a previously known template with all the rules already in place.

5.9 SIS Integration

Always try to work on your SIS course id and codes. The SIS export file is a standard export file containing the master schedule with all the SIS codes for direct import. With some SIS companies, we have an integrated API, making a direct link from within the program for importing and exporting. This becomes a very smooth process and saves a lot of time. The API is open, has already been written and is easy for the SIS to incorporate.
Chapter 6: Support

6.1 Support Ticket 😊
Menu: Support->Support Ticket

We are glad to have added into the program the submission of a support ticket which will automatically attach your latest schedule. If you need assistance with another saved schedule, open this first.

Only 1 support ticket can be submitted at a time; see the status at the bottom on the left. Your current support ticket must be answered by support before another ticket can be submitted. This is to avoid having multiple open tickets that do not tie up. Please make sure that you are ready when submitting a support ticket since you have to wait for it to be answered to add anything new. Typically you want to avoid the situation where you submit a ticket and then later remember something else to add. Planning is key!

Tip! Keep message short and in point form. Sometimes less is more.

Once the ticket has been completed you will be notified by email with the answer or the restore code.

6.2 Restore Code

Menu: Support->Restore code
In your email from support, you will find instructions and a restore code which will retrieve your new schedule.

6.3 Installing a New Update

(Menu)->Support->Download update

6.4 Restore from Internal Backups

Menu: Support->Internal backups
The program keeps internal backups that are made every time you enter the program. It is also important to make backups on a regular basis onto an external Flash drive, because if anything unforeseen would happen to the computer, the school schedule with the internal backups on that computer would be lost. Please make a backup before your restore from the internal backups.

6.5 How to run on a Mac

1) Virtual Box https://www.virtualbox.org/wiki/Downloads
2) Install Windows http://dev.modern.ie/tools/vms/windows/

Happy Scheduling!

The End!