RM Asia-Pacific

Timetabling Advanced Training Notes

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RM Asia-Pacific

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Table of Contents

Trainers use Datafile 2

1 Introduction

These Training Notes provide a reference during and following RM Asia-Pacific's Advanced Timetabling training. They cover all of the main sections of the Timetabling Module. The Timetabling Manual provides a comprehensive guide to the software.

During training we will be working with fictitious data and all the exercises contained within this user guide refer to that data.

The training is designed to start with a review of Administration Manager and the Timetabling module. The training will then progress through some of the more advanced functions and features of the Timetabling module.

1.1 Timetabling Advanced Training Program

Time	Contents
9.00 am	Housekeeping Introductions
9.15 am	Timetabling Parameters Timetable Setup Timetable Cycles Defining Grids
10.30 am	Morning Tea
10.50 am	Individual Grid Parameters Student Preferences Subject Load Table Grid Modelling
12.30 pm	Lunch
1.10 pm	Grid Modelling Student Placement Resource Allocation
2.40 pm	Afternoon Tea
3.00 pm	Review

1.2 Training Outcomes

At the end of the Advanced Timetabling Training program participants should be able to:

- Enter and edit timetabling parameters
- Create and edit cohorts
- Enter and edit staff preferred subjects and subject preferred rooms
- Edit Period Structures
- Make staff and rooms available to timetabling cycles
- Define timetabling grids
- Allocate subjects to grids
- Allocate grid bands to schedules
- Enter student preferences
- Complete subject load tables
- Copy grid bands
- Place and remove teaching sets in the grid
- Complete an inter-grid linkage table according to a plan
- Complete a time slot map according to a plan
- Use the auto-scheduler
- Use the grid modelling tools
- Allocate teachers and rooms to teaching sets.

1.3 What is the Timetabling Module?

The Timetabling Module assists schools to produce and maintain a comprehensive timetable of teaching and learning programs using the information entered in the Administration and Timetabling modules. The system provides a comprehensive set of tools to manage the entry of student subject preferences, construction of grids, creation of school timetables and management of student courses and resource allocation.

The Timetabling module is one component of a suite of modules that comprise the School Information System. The Timetable module both draws information from and provides information to the other Integris modules including Administration Manager, Lesson Attendance and Transitional Reporting.

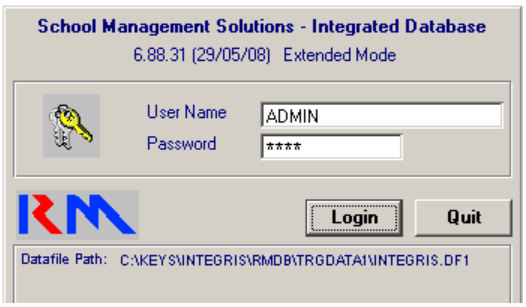
1.4 Logging On

Activity: Logging On

- Double click on the *Integris* icon on your desktop.

The Omnis Studio window opens and after a short delay the user login dialog box is displayed:

- Type *ADMIN* into the *User Name* field
- Press <*Tab*>
- Type *KEYS* into the *Password* field



- Click on *Login*, or press <*Enter*>

Note: In schools, each user has their own user name and password, which enables access to particular sections of the software as determined by the school administration.

It is strongly recommended that you change your password regularly

1.5 The File Menu

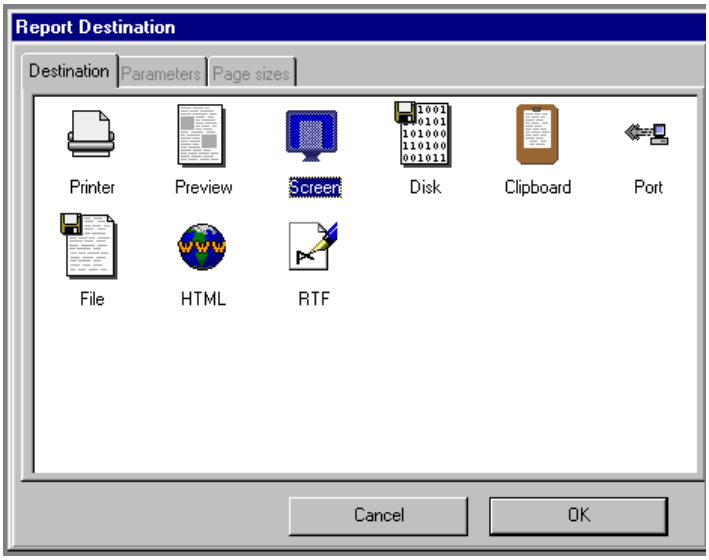
The file menu may be accessed by clicking on ***File*** in the top left of your screen.

Password enables the user to change his or her password. For security purposes, it is recommended that this is done regularly.

Change User should be used to ensure that each person accessing Integris does so under their own user name and with their personal levels of access.

Lock Terminal may be used if the user needs to leave his or her computer temporarily, does not want to log off and does not want to allow access to anyone else. Unlocking the terminal requires the user to enter his or her password again

Report Destination allows the user to choose where to send any report created in Integris. The options are displayed below.



Activity: The File Menu

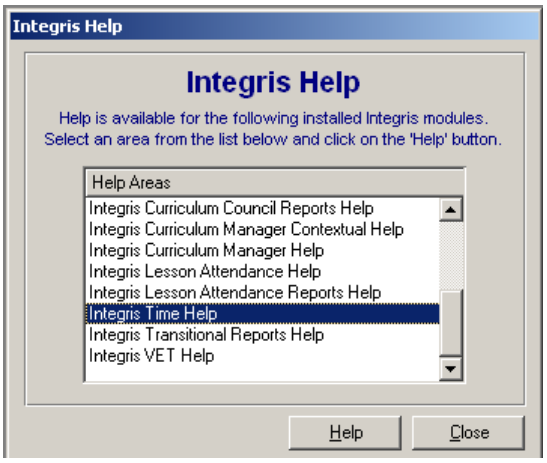
Top Toolbar > File

- View each of the following items in the File menu
  - Password
  - Change User
  - Lock Terminal
  - Report Destination

1.6 Help Contents and Index

Activity: Accessing Help

Help > Help Contents and Index



- Select *Integris Time Help*
- Click *Help*

The Timetabling Manual will be displayed.

- View the manual
- Close the Help window

2 Constructing the Timetable

Construction of the timetable may be broken down into the following stages of development. Please note that not all of these steps are required every year. Those that do need to be completed each year are indicated with an asterisk. *

General > School Details

1. Set up Timetabling Year *
2. Define Timetable Periods *
3. Setting Parameters

- Campuses
- Physical
- Logical

General>Parameters

- Faculties
- Departments *
- Room Types and Rooms *
- Subject Areas, Classification and Type, and Subjects *

Timetabling>Set Up

- Campuses
- Define Cohorts *
- Staff Preferred Subjects
- Subject Preferred Rooms
- Course Promotion Table
- Period Types

4. Define Cycle

- Add a Cycle *
- Master Period Structure *
- Staff Availability *
- Room Availability *

5. Define Grids

- Grid Cohort of Students *
- Grid Period Structure *
- Grid Subjects *
- Grid Subject Groups
- Grid Rooms
- Grid Staff

Timetabling>Preferences

6. Student Preferences *

- Individual Entry
- Bulk Entry
- Promote Student Courses

7. Subject Load Table *

- Edit

8. Manual Teaching Set Allocation

Timetabling>Grid Modelling

9. Grid Modelling *

- Manual Set Allocation to Grid
- Enter constraints
- Inter-grid Constraints
- Auto-schedule Process

10. Refining Student Placement *

- Fit unplaced students
- Balance sets

11. Map time slots to teaching periods (Functions>Timeslot Mapping) *

12. Save grid to the timetable (Functions>Save As Timetable) *

Timetabling>Timetable

13. Allocate Staff and Rooms *

- Manual allocation
- Auto allocation

14. Lock Timetable

3 Review of Administration Manager

Administration Manager comprising of the Admin and General modules is the basis of the Integris software. Users of the Timetabling module will need to be aware of particular functions within the Administration Manager to be able to work effectively in the Timetabling module.

The functions or sections that timetablers should be familiar with are

- School Details
- Student Details
- Staff Details

Other areas that should be investigated are certain parameters that also impact on the timetabling process. These are

- Departments
- Room Types
- Rooms
- Subjects

3.1 Timetable Periods

General > School Details > Timetabling Periods

Timetable periods define the start and end dates for the operation of a grid or schedule within the timetabling year. For example a grid or schedule may operate for a term, semester, year or any user definable period.

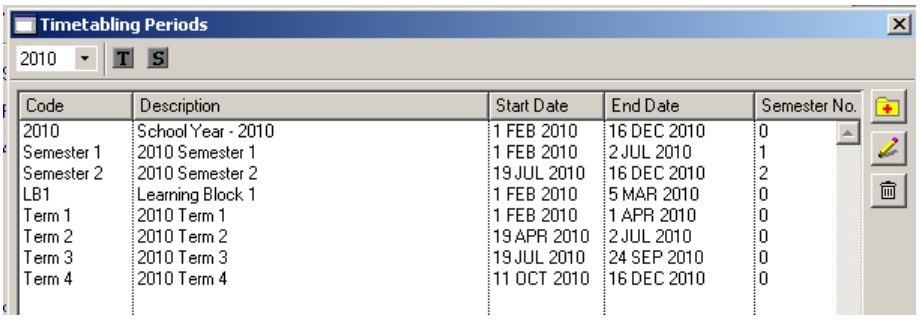
A default timetabling period will be created automatically which spans the whole timetabling year. If the school operates on terms or semesters and these dates have been entered in the school year, default timetabling periods based on the entered dates will be created. The user may accept these defaults or create other timetable periods such as learning blocks. The user must enter the start and finish dates of the timetable periods. Dates must be entered prior to creating a new timetable.

ACTIVITY: Defining Timetabling Periods

General > School Details

Define Terms 1 to 4

- Click on *Timetabling periods* 
- Ensure *2010* is selected
- Click on  to create term periods



Note: In WA it is not necessary to assign terms to semesters.

3.2 Staff Details

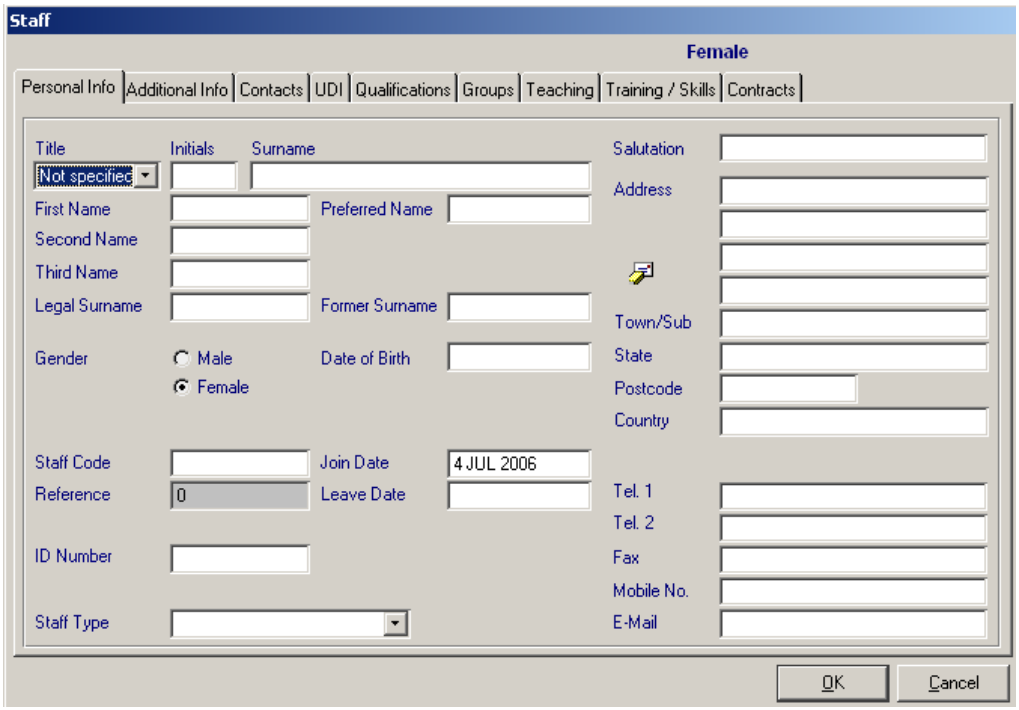
General > Staff Details

Administration Manager can hold details on both students and staff. The staffing section of the system is accessed via the Staff Details icon on the General side bar. Functionally it is very similar to the student window, using many of the same icons.

3.2.1 Entering Staff Details

General > Staff Details > Add

To add a new member of staff click on the Add icon.  The following window will appear, enabling users to enter the relevant information.



Mandatory fields are:

- Surname
- First Name
- Date of Birth
- ID Number
- Staff Code

It is also good practice to include:

- Title
- Gender
- Staff Type
- WACOT number

To edit a staff member's details, display their record by either scrolling through or using the Find facility and then click on the Edit icon.

ACTIVITY: Entering a new member of staff

General > Staff Details

- Enter yourself as a new member of staff, complete only the mandatory fields, title, gender, staff type and WACOT number (on the *UDI* tab)

3.3 Parameters

General > Parameters

Parameters enable the user to define a list of acceptable options that will be available when data is entered. Appropriate use of parameters will enable the timetabler to search, sort and print data relevant to the school's structure. It is recommended that parameters are locked once they are set.

The following parameters will be useful to the Timetabling Module. Secondary schools may need to set up some or all of the parameters below, depending on the structure of each school and other factors, for example migrated data.

Faculties provide an organizer for school activity and assists with sorting, searching and grouping of data. Faculties may be physical or logical entities.

Departments provide a secondary organizer for school activity and can be physical or logical entities. Departments can be linked to a faculty but the use of faculties is not mandatory. For example an Arts faculty may contain Art and Drama departments. **This is a mandatory parameter for timetabling purposes.**

Room Types define the different categories of rooms available in the school, for example Science Labs, Art rooms, Classrooms etc. These rooms can be linked to specific subjects. While the Room Types parameter is not mandatory for timetabling, it is very useful and users are recommended to take advantage of it.

Rooms define the actual individual rooms available within the school. The user must enter in all rooms of the school if rooms are to be listed on the timetable. **This is a mandatory parameter for timetabling purposes.**

Subject Areas provide an additional means of grouping subjects. For example by defining a "food" subject area the timetabler can identify all subjects relating to food. While this parameter is not mandatory for timetabling, it is **essential for Formal Reporting** as it enables the linking of contexts to learning areas.

Subject Classifications are ways of classifying subjects for monitoring purposes, for example. TER List 1. While this parameter is not mandatory for timetabling, it is very useful and users are recommended to take advantage of it.

Subject Types are ways of identifying subjects for Curriculum Council purposes, for example TEE, WSA. While this parameter is not mandatory for timetabling, it is **essential for reporting to the Curriculum Council.**

Subjects may define an individual subject for example, English or the components of courses offered by the school. They will contain the default values such as class size, frequency etc. **This is a mandatory parameter for timetabling purposes.**

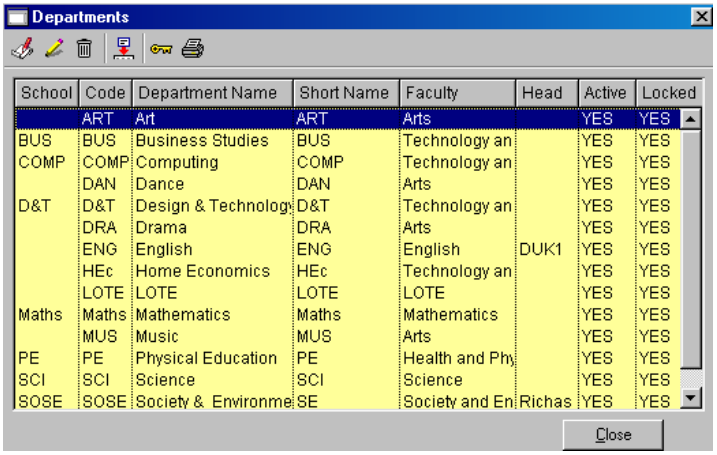
All Parameters may be added or edited, printed, locked, made active or inactive and/or made the default parameter.

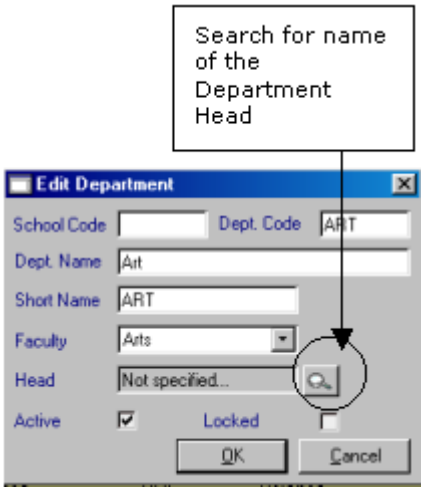
The parameters to be created need to be set up in the preceding sequence.

3.3.1 Departments

General > Parameters > Departments

Use the Add  function or Edit  as required.





Use Copy Selected Parameter  to quickly create similar departments. Highlight the Department to be copied.

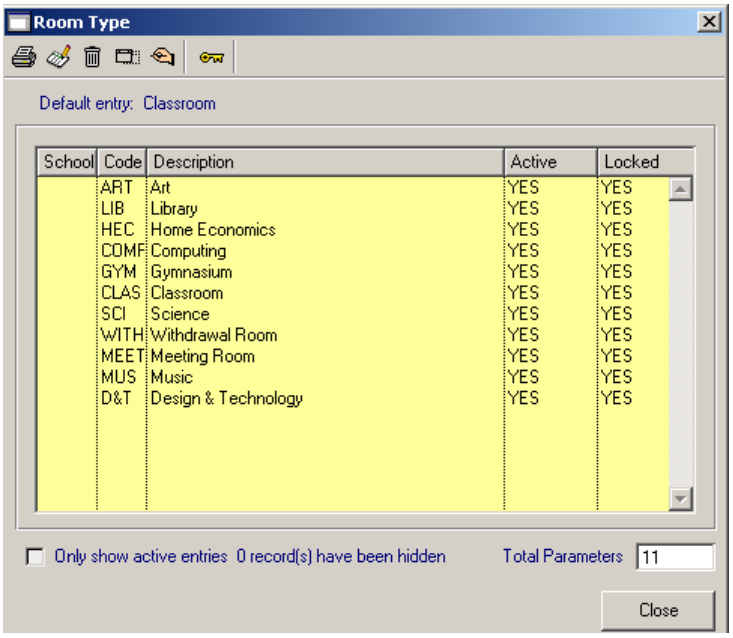
Note: Faculties and Departments may be set up when the school's data is migrated from their current school administration system.

3.3.2 Room Type

General > Parameters > Room Type

It is not mandatory to set up room types but it is useful to be able to organise rooms by type.

Use Modify and Add Parameters  to add and edit room types.



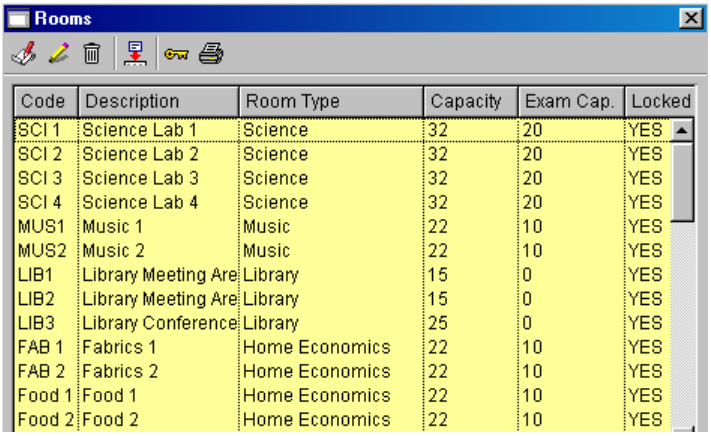
3.3.3 Rooms

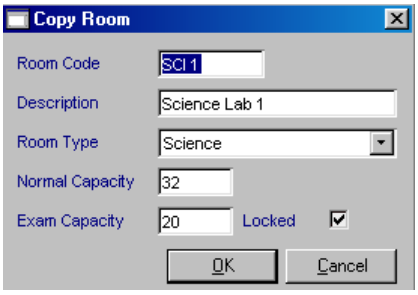
General > Parameters > Rooms

Use Add  to add rooms.

Once a room has been set up, details of similar rooms can be quickly set up.

Highlight the Room to be copied and use Copy Selected Parameter 



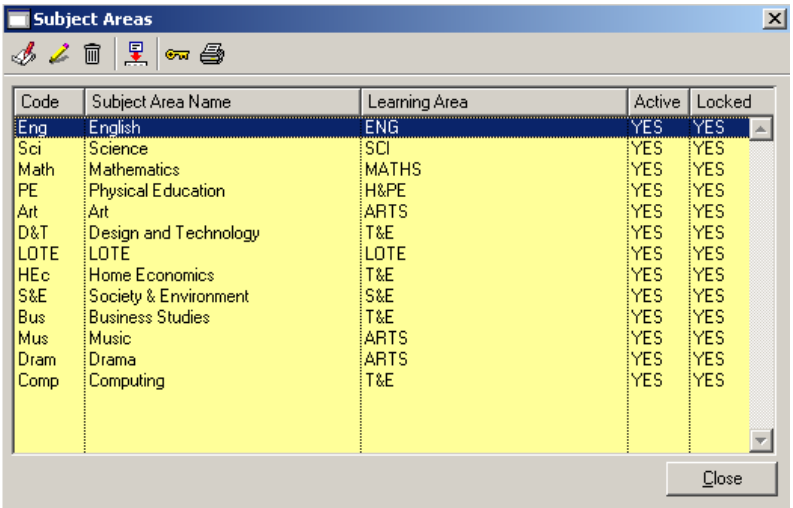


Note: Rooms will be set up when the school's data is migrated from their current school administration system.

3.3.4 Subject Area

General > Parameters > Subject Area

Use the Add  and Edit  to add or edit subject areas.

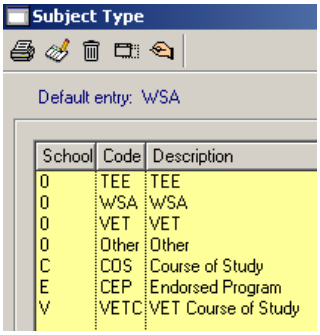


Note: While Subject Area is an optional parameter for Timetabling, it is crucial for Reporting to Parents that each Subject is linked to a Subject Area and each Subject Area is linked to a Learning Area.

3.3.5 Subject Type

General > Parameters > Subject Type

Use the Modify/Add Parameters button  to add subject types.



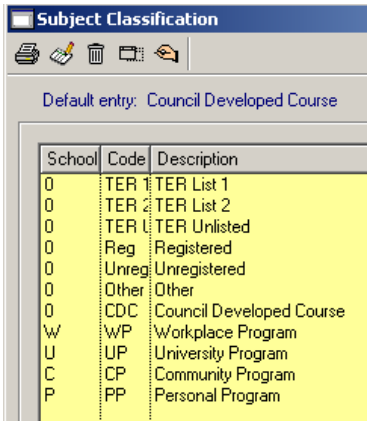
Note: Only subjects with the type TEE, WSA, COS, VETCOS or CEP will be included when reporting to the Curriculum Council.

Only Year 12 subjects which include the Tertiary Entrance Examination may be given the type TEE.

3.3.6 Subject Classification

General > Parameters > Subject Classification

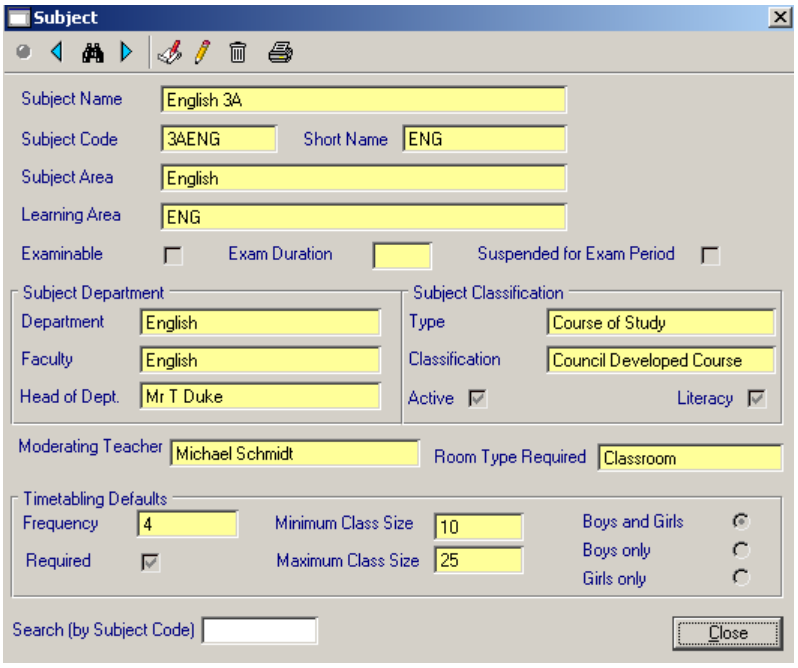
Use the Modify/Add Parameters button  to add subject classifications.



3.3.7 Subjects

General > Parameters > Subjects

Use the Add and Edit buttons to add and edit subjects.



It may not be necessary to use all of the fields for all subjects. Fields which should be entered are:

- Subject Name
- Subject Code
- Short Name

Note: For WACE Courses the Short Name *should be the three digit Course code.*

- Subject Area, which will also load Learning Area provided that has been entered in Subject Area
- Department, which will also load Faculty and Department Head if these have been entered in Department
- Frequency
- Maximum Class Size

For Curriculum Council accredited subjects, other necessary fields are:

- Subject Type
- Subject Classification
- Moderating Teacher (Contact Teacher in the Subject Register)

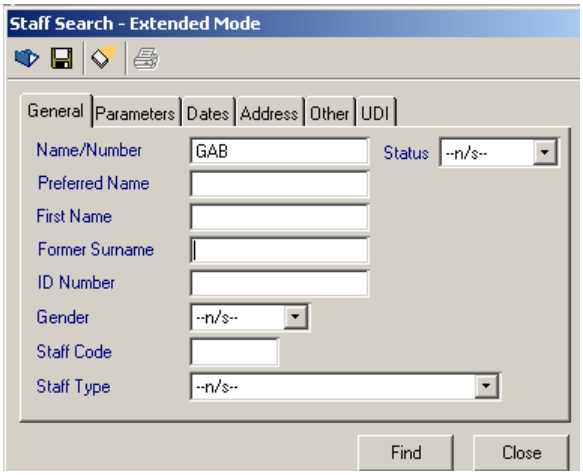
Timetabling defaults should be entered here. They can be edited in the Timetabling module but global parameters are entered here.

ACTIVITY Setting Parameters

General > Parameters > Departments

Make Paul Gabelich the Head of Administration

- Click *Department Name* to sort departments alphabetically
- Highlight *Administration* and unlock 
- Click **Edit** 
- Click **Find** 
- Enter the *GAB* in the Name/Number field

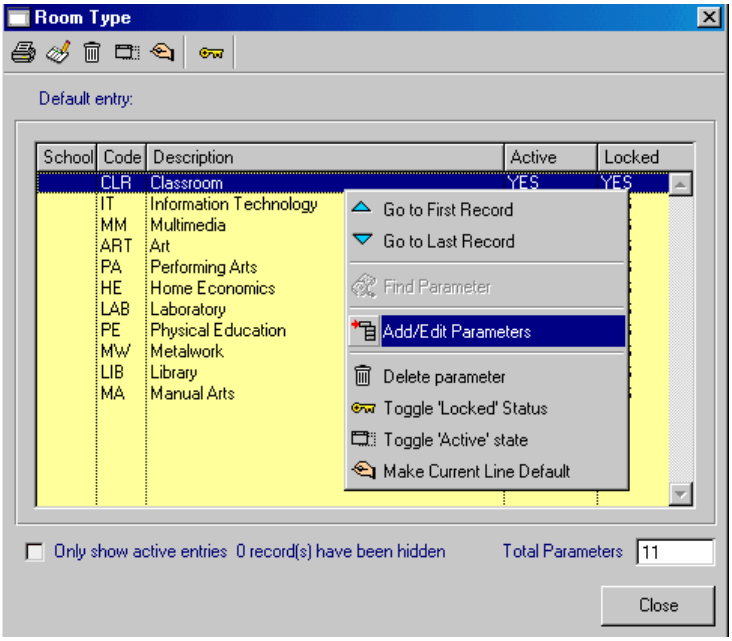


- Click *Find*
- Check *Locked* and click *OK*
- Close the *Departments* window

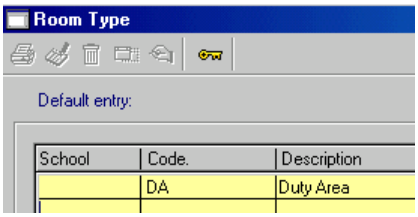
General > Parameters > Room Types

Enter a new room type: Duty Area.

- Right click on the yellow screen
- Select *Add/Edit Parameters*



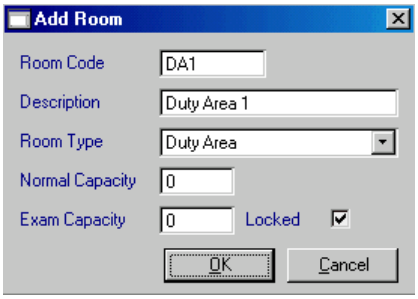
- Enter a code and description



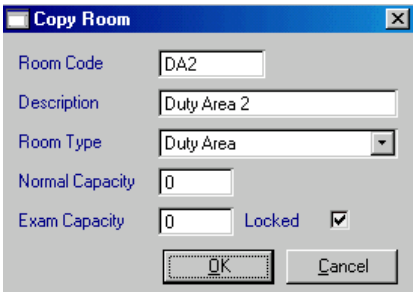
- Click *OK*
- Lock the new parameter 

General > Parameters > Rooms

- Add Duty Area 1



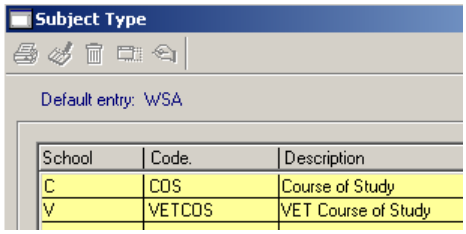
- Copy to Duty Areas 2 to 6



- *Close* the Rooms window

General > Parameters > Subject Type

- Click Modify Parameters
- Enter *V, VETCOS* and *VET Course of Study*



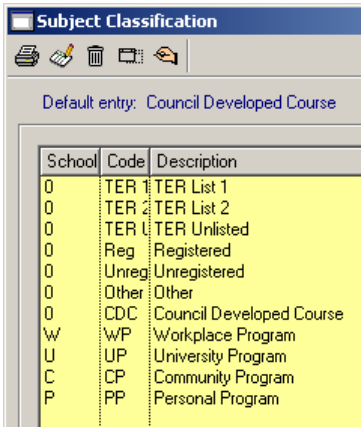
- Click *OK*

Note: Only subjects with the type TEE, WSA, COS, VETCOS or CEP will be included when reporting to the Curriculum Council.

Only Year 12 subjects which include the Tertiary Entrance Examination may be given the type TEE.

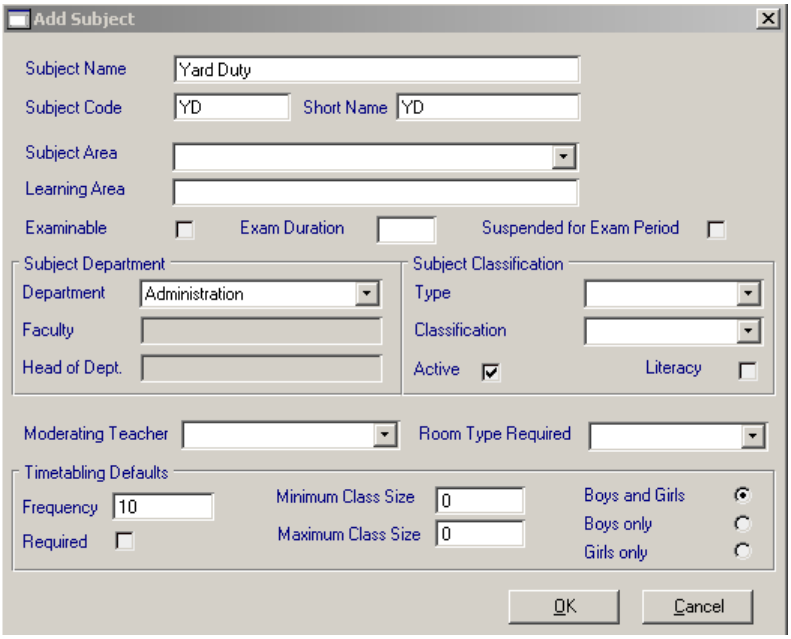
General > Parameters > Subject Classification

- View the parameters



General > Parameters > Subjects

- Add  *Yard Duty* as a subject



4 Timetabling

The Timetabling Module must perform two important functions. It must facilitate the creation of a timetable, which satisfies the educational requirements of the school, and also provide an environment for the efficient day-to-day maintenance of the timetable.

4.1 Using the Timetabling Sidebar

The Timetabling sidebar allows users to set up, create and maintain the school's timetable for current and future years.

Student Course displays for each student a list of preferences, the student's timetable and the relevant grid for the student with his or her teaching sets highlighted.

Timetable displays the current whole school timetable that may be filtered by year, cycle, schedule, grid or department.

Grid Modelling allows the user to either manually manipulate the grid or define constraints and use the auto-scheduler to model the grid or a combination of both.

Preferences refers to the entry of student's subject preferences which may be entered either on an individual or group basis.

Reports allows the user to access a list of timetable reports divided into three main areas: Data Validation Reports, Planning and Preparation Reports and Operational and Maintenance Reports.

Timetable Set-up allows the user to define all aspects of the timetable prior to creation of a new timetable. Timetable set up can be completed at any time for future timetables.

4.2 Timetabling Terminology and Concepts

The **TIMETABLE** is a tool that enables the resource needs of the school to be managed. A school's timetable is a plan of the student's time, which indicates the subject being studied, its location, the teacher taking the class and the frequency of the subject. The subject choices of students need to be satisfied within the constraints imposed by the limited resources of teachers and rooms.

The **TIMETABLING YEAR** holds all of the school's timetabling activity within the school year. Integris will store past, present and future timetables enabling users to move between timetables. Within a timetable year, a **CYCLE** contains information regarding Cycle dates and period structures drawn from the school calendar and connects with the Lesson Attendance module. Cycles can be defined for each logical or physical **CAMPUS**. Students grouped together for timetabling reasons are identified as a **COHORT** and students may belong to multiple cohorts.

GRIDS are the focus of timetabling activity and can be created or cloned from previous years. All Staff, rooms and subjects can be made available or unavailable, where required, to a grid. The grid provides the framework within which the teaching sets required to satisfy the selections of students within the grid will be placed.

Grids are made up of **BANDS**, which are similar to gridlines, but are divided up into **BAND RECORDS**. Band records can be individually manipulated and ultimately represent a single occurrence of that combination of teaching sets on the timetable.

Student **PREFERENCES** (subject selections), as well as reserve preferences, may be allocated, individually or in bulk, selected from groups or promoted from the previous year.

Grids may be created manually or by using the **AUTO-SCHEDULER** or using a combination of the two to add some fixed elements. The auto-scheduler can take into account a wide range of constraints when determining the optimal solution.

Grid manipulation is referred to as **MODELLING**, and a comprehensive set of tools is available to assist with the modelling process from horizontal and vertical representations of the grid. Modelling can be used to construct a grid manually, as in Fixed Grid schools or to manipulate the output from the auto-scheduler.

Grids are assigned to one or more **SCHEDULES**. Schedules have a defined period of activity and a **TIMETABLE** will be a combination of all events active at a particular time.

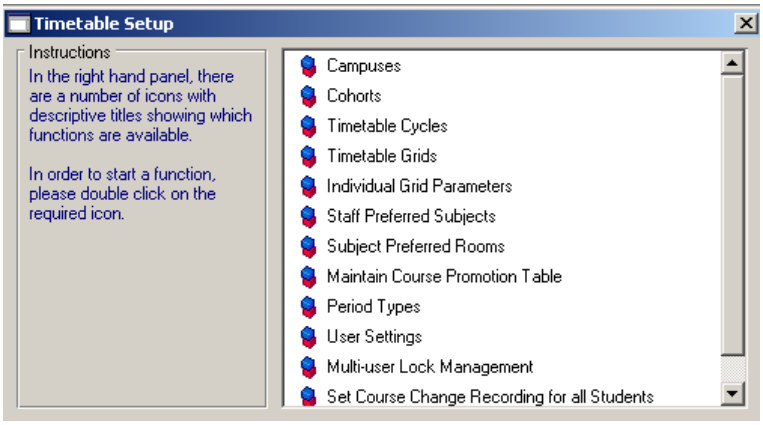
Each period of time for which the timetable remains unchanged is known as a **TIMESLICE**. The timeslices required by the timetable are calculated automatically by the system by examining each of the schedules linked to grids.

The timetable applicable to any date during the year can be selected by choosing the appropriate timeslice from a list of date ranges provided.

4.3 Timetable Set Up

Parameters created in Timetable Set Up may apply to more than one timetabling year. These parameters need to be entered once and are then modified as required prior to creating a new timetable. These functions may be modified during the year if necessary.

The following screen shows the Timetable Set-up menu:



4.3.1 Cohorts

A cohort is a group of students who will be timetabled within a grid. Usually a cohort will consist of a year level or class, for example all year eight students may be included in a cohort. However the students who may be included in a cohort is only limited by the constraints of the school. Cohorts may be associated with more than one timetabling period e.g. the same Year 9 cohort may be associated with Semester 1 and Semester 2.

Students will be selected for a cohort using the student FIND tool or by cloning a cohort from a previous timetabling period and renaming it. It is also possible to define cohorts within Groups if the user wishes.

Students may be added to the cohort as required. They may also be removed from the cohort if necessary. However if the student has subject preferences or teaching sets attached the user will be warned of this when removing the student. If a student is removed from a cohort the class totals will reflect this change and the student will be removed from any associated teaching sets.

Students listed on the admissions roll may be added to cohorts at any time. However as a student is moved from admissions to the current roll, the user will not be prompted to add the student to a cohort even if he or she is not already in a cohort.

Note: Users entering students after the timetable has been created will be prompted to select a cohort at time of enrolment. Users moving students to the former roll will be prompted to remove the student from the cohort. However the user will also have the option to have the leaving student remain in a current cohort. These students will be highlighted in red on class rolls to distinguish them from current students.

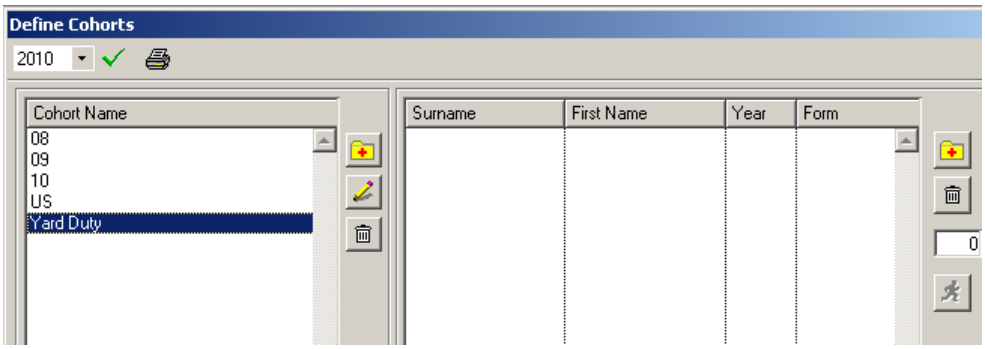
ACTIVITY: Cohorts

Note: Before creating cohorts, consider the grids that you will be using. For example, many schools have an Upper or Senior School grid that includes both Years 11 and 12.

Timetabling > Timetable Set-up > Cohorts

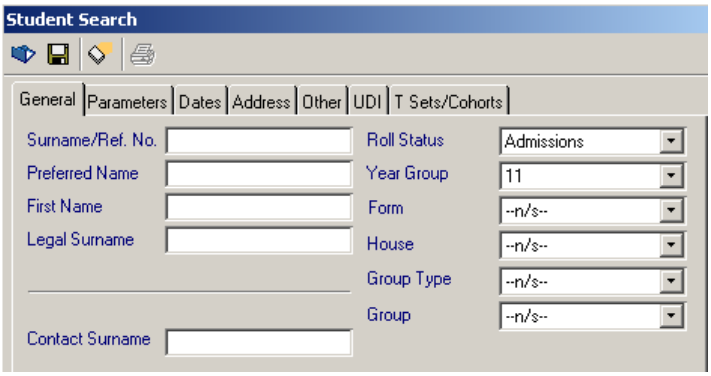
Add a Duty cohort

- Ensure *2010* school year is selected
- Add  a Yard Duty cohort, do not add any students



Add the Year 11 student on the Admissions roll to the Upper School cohort.

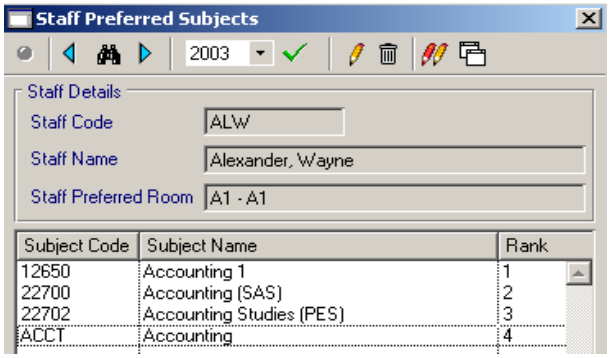
- Highlight *US*
- Click *Find Students*  on the right
- *Find* the Year 11 student on the Admissions roll



- Scroll down to check that *George Pyatt* has been added

4.3.2 Staff Preferred Subjects

The Timetabling module is able to manage and monitor the allocation of staff to the timetable. This will only be possible if the subjects that a staff member is able to or designated to teach are recorded. This is an optional process and if no preferred subject information is recorded for staff then the timetabler must manage staff allocation manually.



Staff preferred subjects might be based on qualifications, experience and/or preference. This information may vary from year to year but can be cloned from a previous year and then modified. The preferred subject(s) may be prioritised using a ranking system between 1 and 10. A staff member may also nominate a room as the preferred room. If resource monitoring is enabled, the auto-scheduling process will take into account the preferred subject(s) for staff as an additional factor when determining the placement of subjects on the grid.

Activity: Staff Preferred Subjects and Rooms

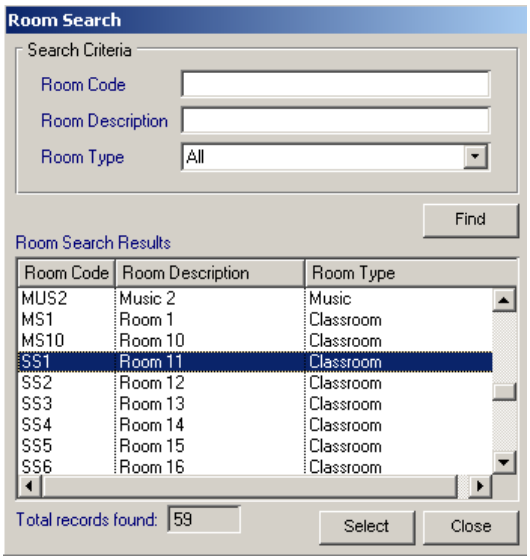
Timetabling > Timetabling Set-up > Staff Preferred Subjects

Allocate your preferred subjects and room

- Find  your records
- Click *Edit* 
- Click *Subject Name* to sort subjects alphabetically
- Holding down *<Ctrl>,* highlight your preferred subjects
- Click *Add Selected Subjects* 
- Highlight one of the subjects in your list and in the bottom right hand corner type *2*
- Press *<Enter>*
- Give another subject a ranking of *3*

Add your preferred room

- Click *Edit Preferred Room* 
- Click *Find*



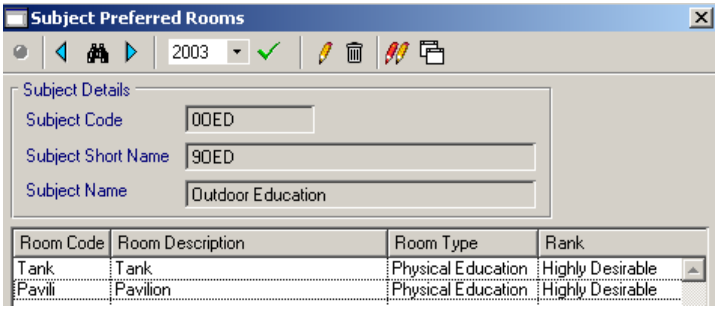
- Highlight a room in the list
- Click *Select* and *OK*

4.3.3 Subject Preferred Rooms

The user may wish to define one or more preferred rooms for a subject. If preferred rooms are assigned to a subject, the room allocation process will offer these rooms for manual allocation, automatically assigning those flagged as 'must have' first. Only one room for each subject may be flagged as 'must have'. Rooms that are allocated 'Must not have' will not be allocated to the linked subject. Preferred rooms may be cloned and/or edited for use in future timetables.

Preferred rooms may be ranked as

1. Must Have
2. Highly Desirable
3. Desirable
4. Take if Necessary
5. Must Not Have

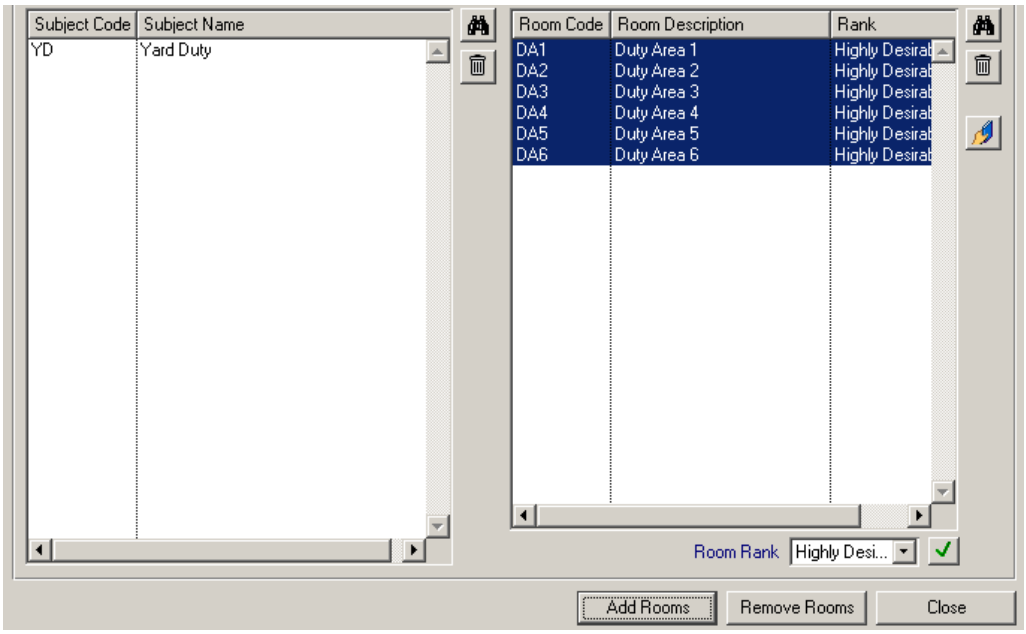


Activity: Subject Preferred Rooms

Timetabling > Timetable Set-up > Subject Preferred Rooms

Make the Duty areas *Desirable* for Yard Duty

- Click *Bulk Allocation* 
- Use Subject Find to find *Yard Duty* by its code *YD*
- Use Room Find to find the *Duty Areas* by their *Room Type - Duty Area*



- Change the *Room Rank* to *Highly Desirable* and click Update Selected Rooms 
- Click *Add Rooms* and *Yes*
- *Close* the Bulk Allocation window

4.3.4 Promoting Student Courses

Timetabling > Timetable Set-up > Maintain Course Promotion Table

Promotion of a student's course is a tool designed to make entry of subject preferences easier. Students who studied a pre-requisite subject in one timetabling period may want to list the subsequent subject as a preference for the next timetabling period. By using the promote student course function entry of the preference is automatically updated for selected students.

If the user wishes to promote a student's courses from one timetabling period to another, the promotion path for the subject must be defined showing how students will be moved from a subject in one timetabling period to a subject in a subsequent period. The *Course Promotion Table* performs this function and will need to be set up prior to the course promotion function being invoked. The *Course Promotion Table* will apply to all timetabling years and grids so need only be set up once and then edited as required.

The table will be used to take all students studying a subject in one timetabling period to be promoted to a different subject in a subsequent timetabling period. For example, students studying Year 8 English could be promoted to Year 9 English in the following year. Not all subjects within a student's course need be promoted. When applying the course promotion table, the timetabler is able to selectively enable or disable the promotion of each subject or, if appropriate, individual students within each subject.

Editing the Course Promotion Table

The *Course Promotion Table* is accessed from the Timetabling > Timetable Set-up > Course Promotion Table.

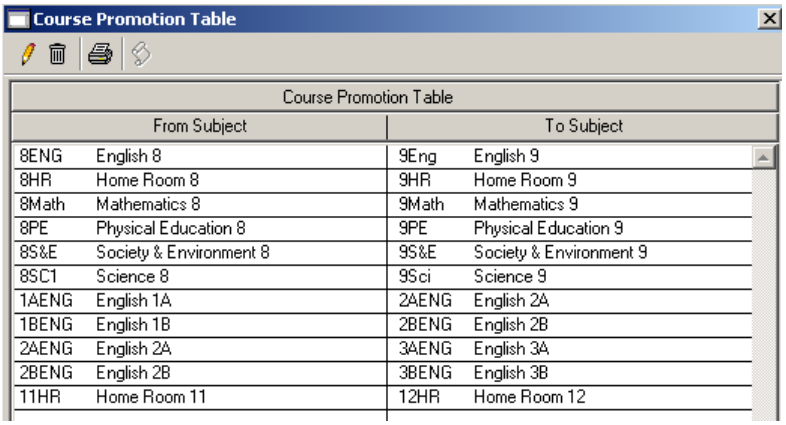
Note: Only those subjects used for promotion need be defined. The Promote Student Course *function is only available and initiated from the* Bulk Student Preference *window.*

ACTIVITY: Promoting Courses

Timetabling > Timetable Set-up > Maintain Course Promotion Table

Enable the promotion of students of Year 11 English subjects to the same subjects in Year 12

- Click *Edit* 
- Click *Show available subjects* 
- Drag the Available Subjects window to the right of the Course Promotion Table
- Drag and drop *Home Room 11* into the *From* column
- Drag and drop *Home Room 12* into the *To* column
- Repeat for all the English courses, as shown below



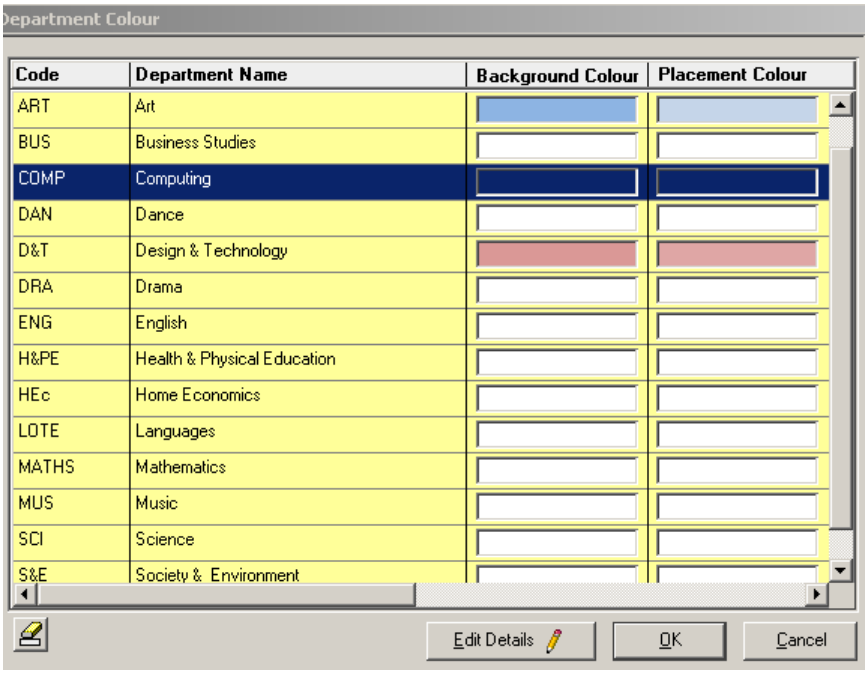
- Click *OK* and *Yes*
- Close

4.3.5 Department Colours

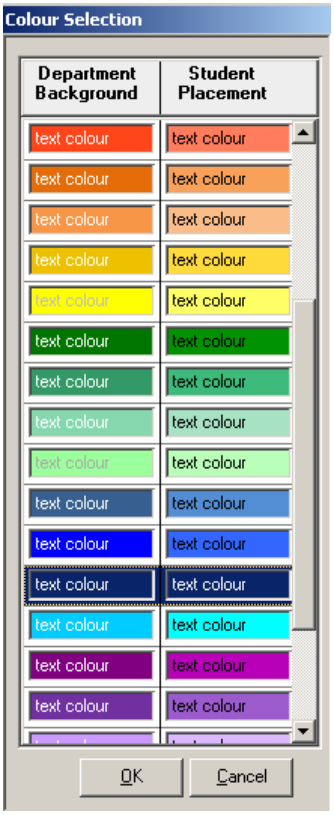
Users have the ability to identify Departments with colour to simplify the identification of the location of Teaching Sets on the grid. Once assigned, these colours will appear wherever a grid view is available, that is in Student Course, Grid Modelling and in reports showing the grid.

Activity: Assigning Department Colours

Timetabling > Timetable Set-up > Department Colours



- Highlight *Computing* and click *Edit Details*



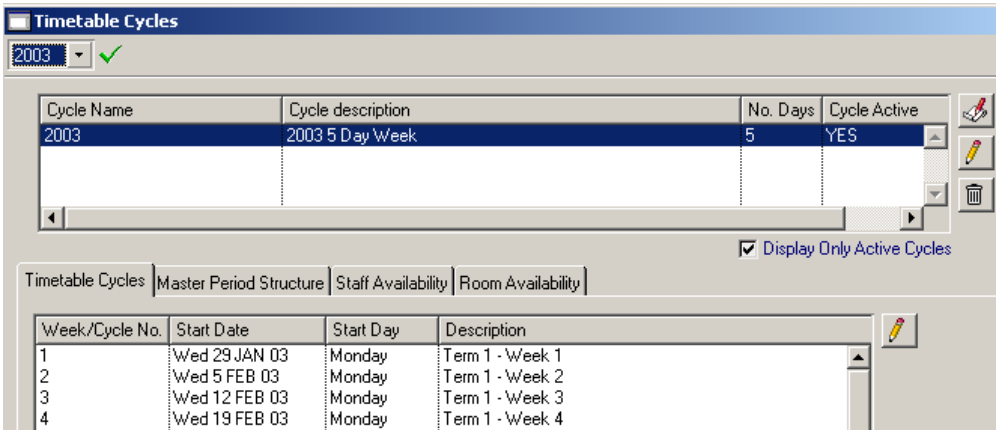
- Select a colour and click *OK*
- Repeat for the other departments, if you wish
- Click *OK* to close

Note: The colours may be turned off by clicking Clear Colour Scheme. 

4.3.6 Timetable Cycles

At least one timetable cycle must be defined for each timetabling year and contains the details of the cycle dates and period structures the school will use. The timetable cycle draws details from the school calendar and forms the connection to the Lesson Attendance Year.

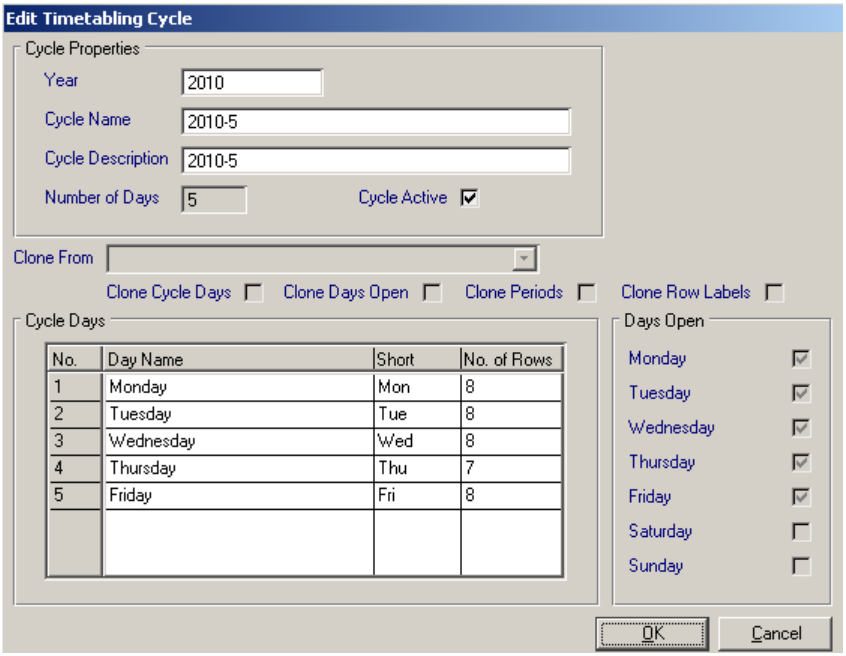
- Cycles may remain in use for a number of years or may change from year to year.
- A cycle will be linked to the timetabling year via the grids that use it and may be cloned and/or edited for use in future years.
- The number of days within a cycle is unlimited. If a 5-day cycle is chosen the day names will default to Monday, Tuesday etc. If any other cycle is chosen the day names will default to Day 1, Day 2 etc. The day names are editable if required.
- Cycle details may be added progressively over time.
- A row refers to a line on the timetable and this may be a teaching period or a break, for example lunch. Therefore 5 rows per day may indicate 5 teaching periods or any combination of teaching periods and breaks, for example. 3 teaching periods and lunch and recess.



Activity: View the Cycle for 2010

Timetabling > Timetable Set-up > Timetable Cycles

- Click *Edit Cycle* 
- View the cycle for *2010*



- Click *Cancel*

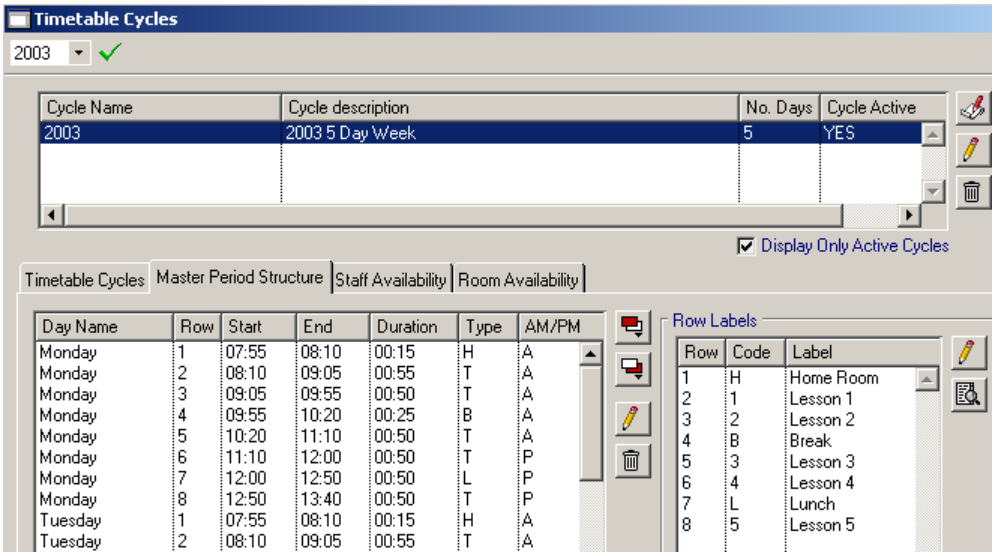
Master Period Structure

The maximum number of periods and the timing of the periods required by any cohort using the cycle must be defined. Where cohorts use variations on the default structure, grid definition will allow masking of unused periods for a particular cohort.

Note: The master period structure can be edited at the time of cycle creation or at a later point if required.

If the user would like to show breaks, e.g. lunch, recess and/or sporting activities these must be included when calculating the number of rows per day and then include these breaks and/or activities when inserting the timing of periods. Rows may be added to the Master Period Structure following the creation of the timetable to accommodate breaks, form or other changes using the Add Above or Add Below buttons.

Variations to the day structure across grids, such as early starts, late closing or staggered lunch breaks, can be accommodated by marking those periods as unavailable (masked) within Individual Grid Parameters. For example, if the Year 8 students have lunch from 12 noon to 1pm, and all other Years have lessons at that time, this period can made unavailable (masked) for the Year 8 grid only.



ACTIVITY: Editing the Master Period Structure

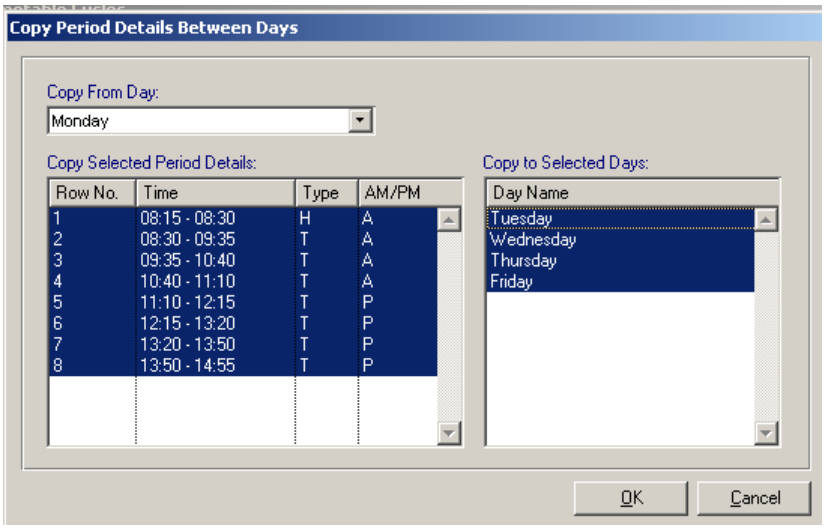
Timetabling > Timetable Set-up > Timetable Cycles > Master Period Structure

- Click *Edit* near the centre of the window
- Change the Period Types for rows 4 and 7 to *T* for Monday

Day	Row No.	Start Time	End Time	Duration	Type	AM/PM
Monday	1	08:15	08:30	00:15	H	A
Monday	2	08:30	09:35	01:05	T	A
Monday	3	09:35	10:40	01:05	T	A
Monday	4	10:40	11:10	00:30	T	A
Monday	5	11:10	12:15	01:05	T	P
Monday	6	12:15	13:20	01:05	T	P
Monday	7	13:20	13:50	00:30	T	P
Monday	8	13:50	14:55	01:05	T	P

Note: This will allow us to timetable yard duty.

- Click *Copy*
- Copy Day 1's period times to Days 2 to 5

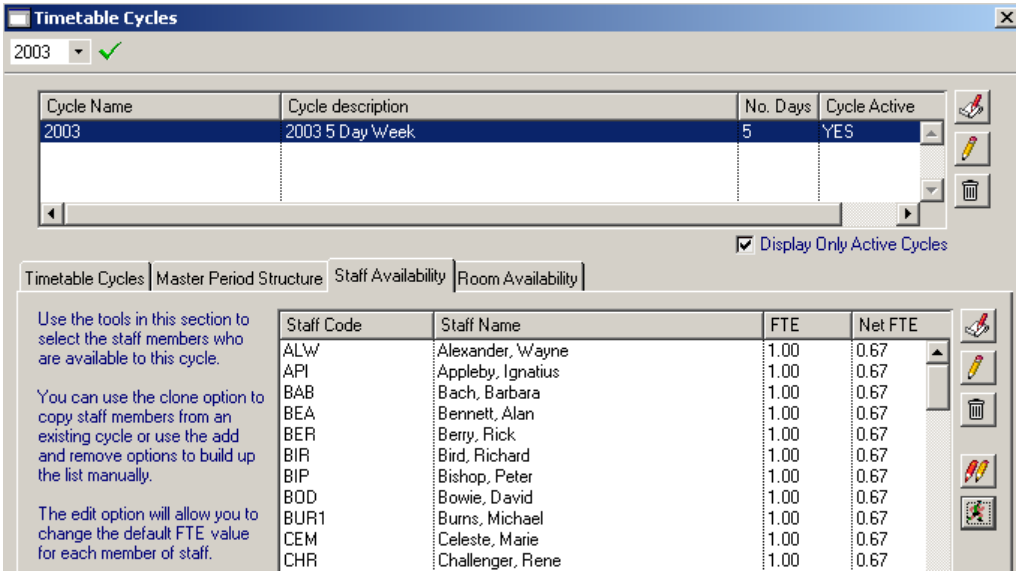


- Click *OK* twice

Staff Availability

Staff must be made available to the cycle to be allocated classes within the grids. The Full Time Equivalency (FTE) of the staff must be added, edited or cloned in this window. The FTE is drawn from the Default FTE in School Details that should be marked as 1.00. Non-teaching activities e.g. DOTT may be defined for staff and are used to calculate Net FTE which is used by the auto-scheduling process. The Net FTE is important as the auto-scheduling process takes this into account when allocating classes to staff. Net FTE for timetabling purposes is defined as the contact time for each teacher, that is a Net FTE of 1.00 means that the teacher is available to teach all teaching periods.

Note: If any staff member has an FTE of 0.00 the auto-schedule process will not be able to allocate that staff member to any class.

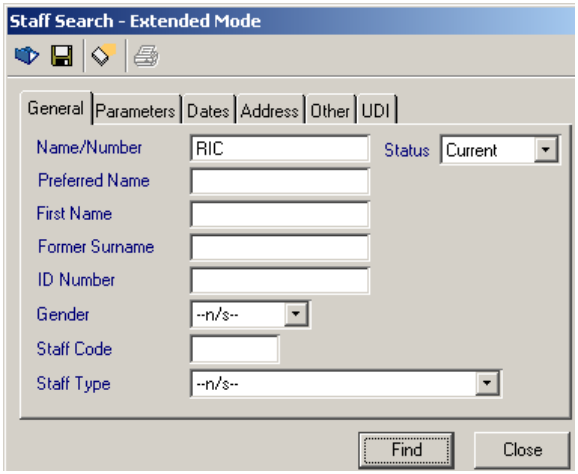


ACTIVITY: Adding Staff to a Cycle

Timetabling > Timetable Setup > Timetable Cycles > Staff Availability

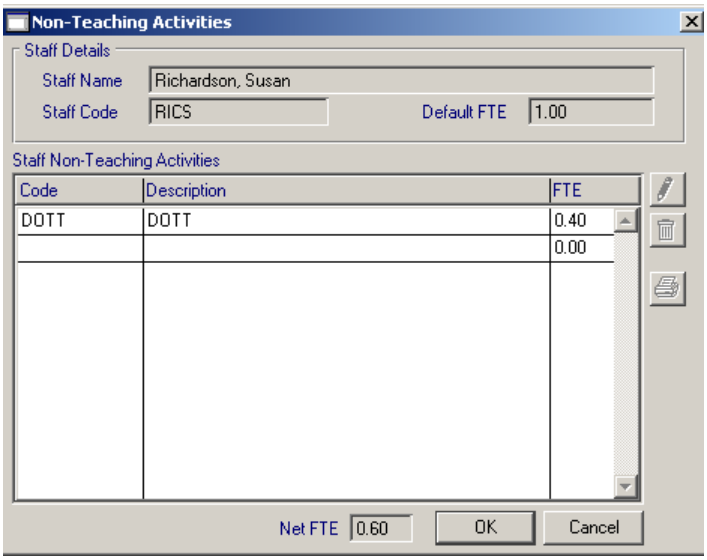
Allocate yourself to the 2010 cycle

- Click *Add* 
- Enter the first three letters of your surname into the *Name/Number* field and click *Find*



Edit your *Net FTE*

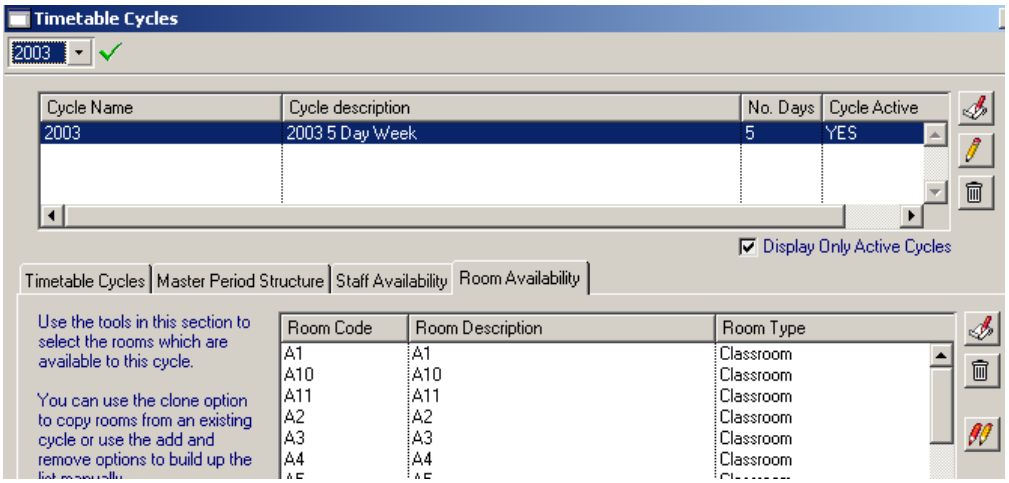
- Highlight your name in the list and click *Non-teaching Activities* 
- Click *Edit* 
- Enter a Code, Description and FTE



- Click *OK*, *Yes* and *Close*

Room Availability

A set of rooms must be made available to the cycle. They may be shared between campuses using the same cycle. Rooms must first be entered within the Administration Manager to be able to be allocated to a cycle. Rooms may be cloned from one cycle to another. Rooms cannot be shared between cycles in the same timetabling year.

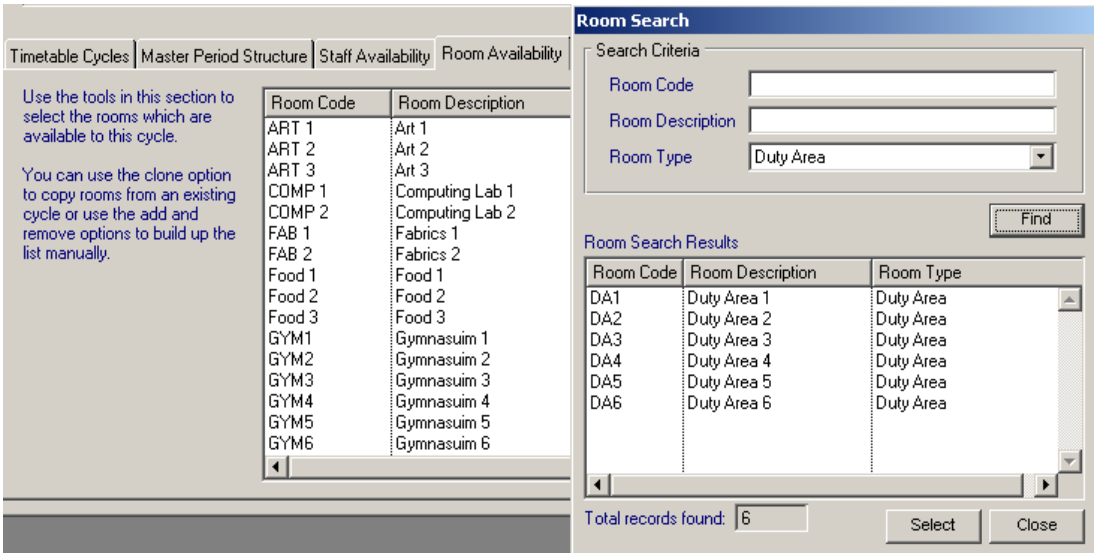


ACTIVITY: Allocating Rooms to a Cycle

Timetabling > Timetable Set-up > Timetable Cycles > Room Availability

Allocate Duty Areas to the 2010 5 Day Cycle

- Click *Add* 
- Find by *Room Type: Duty Area*

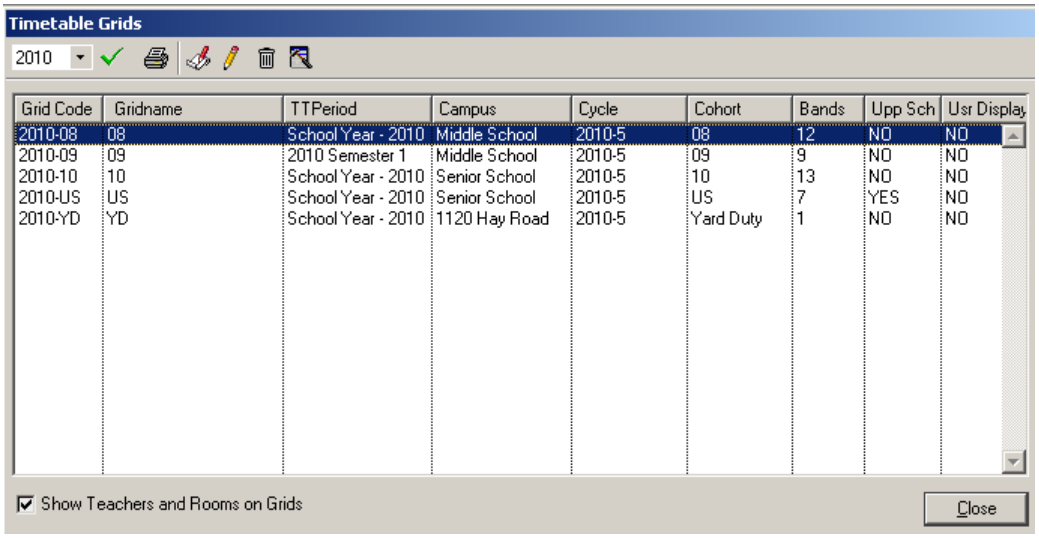


- Click *Select* and *Yes*
- Close *Timetable Cycles*

4.3.7 Defining the Grid

Timetabling > Timetable Set-up > Timetable Grids

Grids are the frameworks for development of the whole-school timetable for a timetabling year, ensuring the best use of available resources. Grids may be created or cloned from a previous year and renamed and linked to a campus, a cycle, staff, rooms and subjects. The grid is linked to a timetable period that identifies the length of time the grid remains active. Grids may be linked to one or more schedules, for example the Year 12 grid may be linked to the Semester 1 and 2 schedules.



Note the option to Show Teachers and Rooms on Grids.

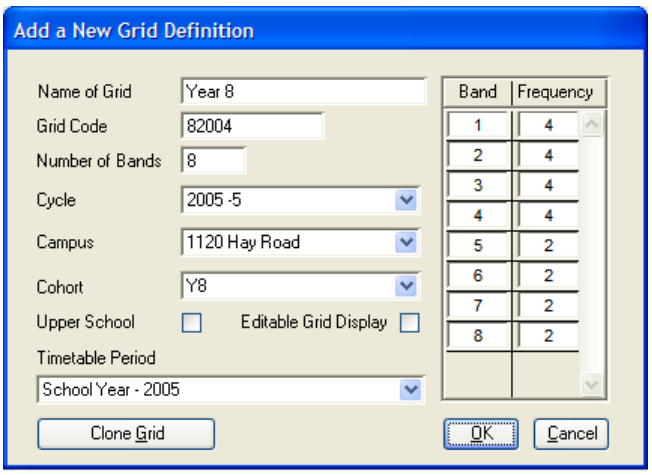
Adding or Cloning a Grid

Timetabling > Timetable Set-up > Timetable Grids

Grids may be created or cloned from previously defined grids.

Adding a Grid

- Click Add 



- Enter *Name of Grid, Grid Code* and *Number of Bands*

The number of bands will usually reflect the number of subjects students study during the timetabling period linked to the grid. This is a starting value only and may be changed later, provided teaching sets have not yet been placed on the grid concerned. The frequency for the bands should relate to the number of times students will attend the classes placed on that band during a cycle, for example, four times per week

Note: These values may also be edited at a later date, provided teaching sets have not yet been placed on the grid concerned.

- Select the appropriate *Cycle, Campus, Cohort* and *Timetabling Period* using the drop down boxes

It is strongly recommended that a timetable period of the school year is always selected, at least initially, to allow for maximum flexibility

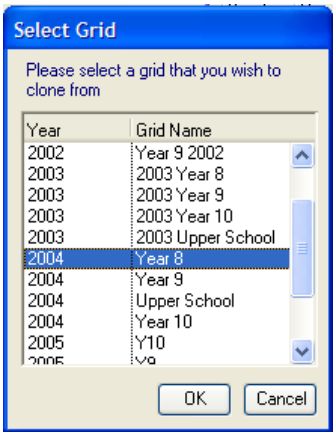
- Indicate whether this grid is linked to Upper school by checking the *Upper School* tick box

- To have the ability to leave Teaching Sets on the Grid in the positions in which they are placed in Grid Modelling tick the box next to the field *Editable Grid Display*

- Click *OK* and then click *Yes*

Cloning a Grid

- Click Add 
- Click *Clone Grid* and select an appropriate grid



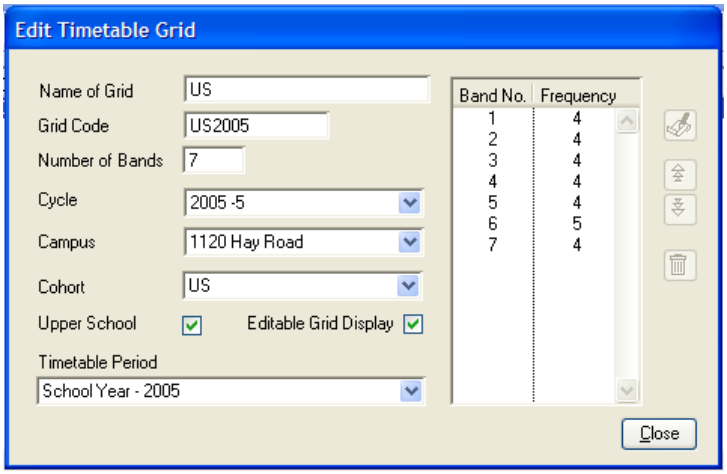
- Change the name, cycle etc. for the new grid
- Click *OK*
- Click *Yes*

Editing a Grid

Timetabling > Timetable Set-up > Timetable Grids

Note: Grids may be edited in this view only before teaching sets have been placed on the grid concerned. After this, grids may still be edited in Grid Modelling.

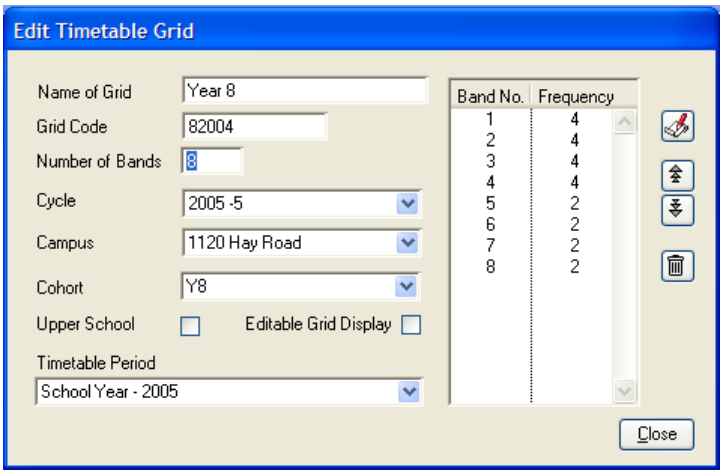
- Highlight the appropriate grid
- Click *Edit* 



- Amend fields as required
- Click *Close*

Adding a Band

- Click Edit 



- Change the number of bands to the new value
- Highlight the new band in the pane on the right
- Enter the appropriate frequency by clicking on the grey arrows to the right

- Click *Close*.

Deleting a Band

- Highlight a band
- Click on Delete 
- Confirm your selection

Increasing/Decreasing a Frequency of a Band

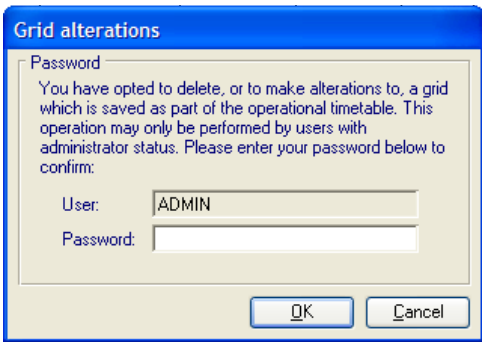
- Highlight a band.
- Click on  to increase the frequency
- Click on  to decrease the frequency

Note: Band frequencies can only be edited within this screen prior to the placement of teaching sets on the grid. Following this, changes can only be made within the Grid Modelling screen. It is suggested that where possible, the band frequencies be defined at this point.

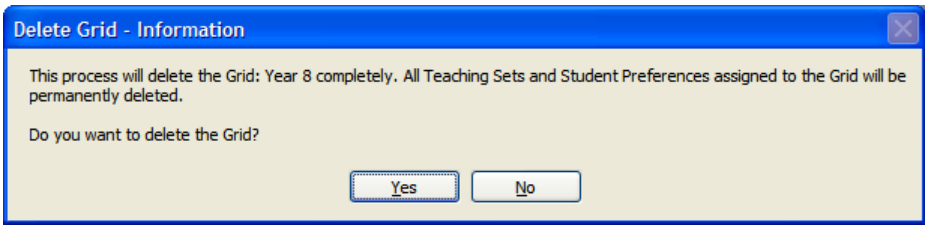
Deleting a Grid

Timetabling > Timetable Set-up > Timetable Grids

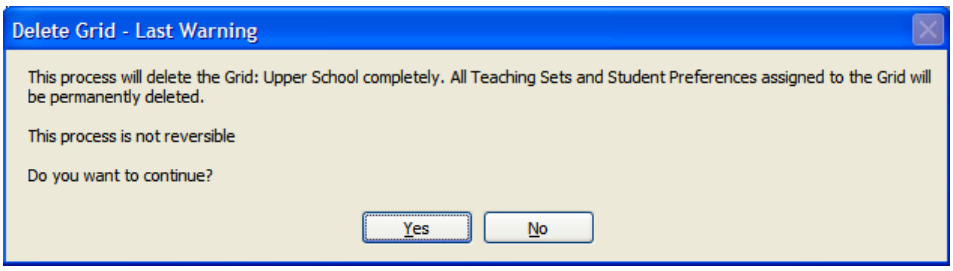
- Highlight the appropriate grid
- Click Delete 
- If the highlighted grid has been saved to the timetable you will be required to enter a password



- Enter the password and click *OK*



- If you click *Yes* another warning message will appear:



- Click *Yes* to delete the grid
- Click *No* to cancel the selection

Note: If the Grid has been saved to the timetable only those users with an administrator status may delete the grid. The user will be asked to confirm their password before continuing with the above process.

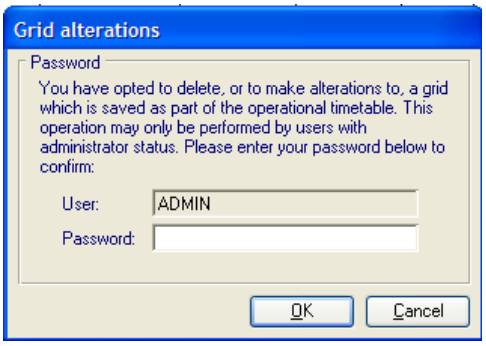
Important:

Deleting a grid will remove all grid elements including subjects allocated to the grid and student preferences, as well as the placement of these in grid modelling.

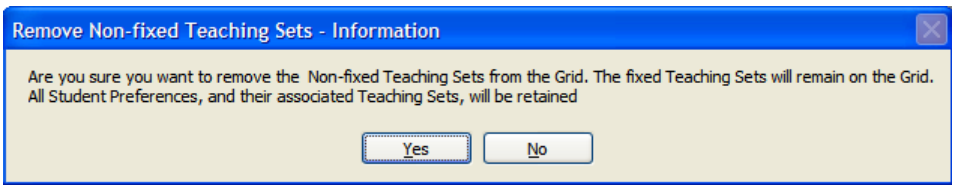
Remove Non-fixed Teaching sets

This feature allows for any non-fixed teaching sets to be removed from a grid. They will not be deleted and will retain their students.

- Highlight the appropriate grid
- Click Remove Non-fixed Teaching Sets 
- If the highlighted grid has been saved to the timetable you will be required to enter a password



- Enter the password and click *OK*
- The following message will display

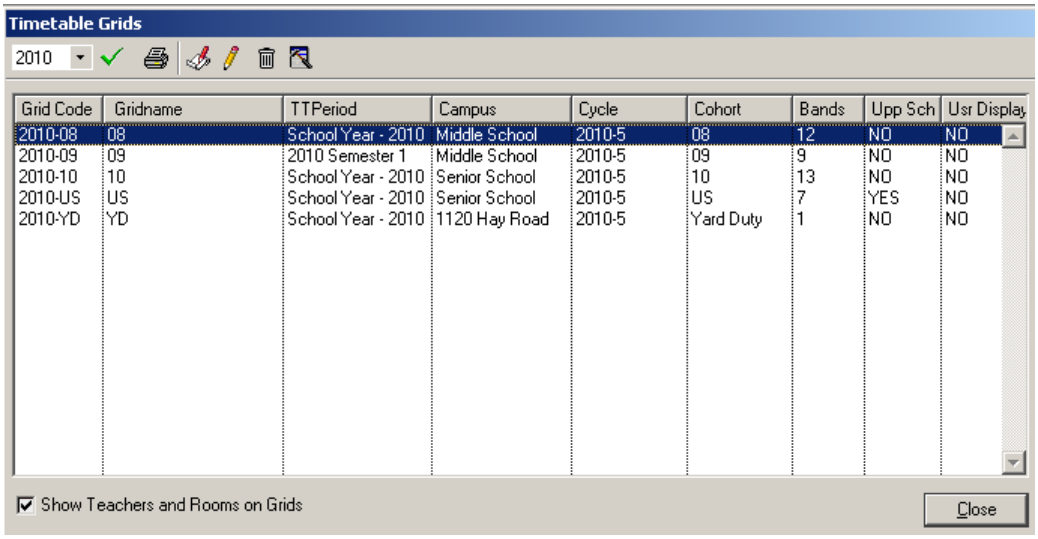


- Click ***Yes*** to remove Non-fixed Teaching Sets from the Grid
- Click ***No*** to cancel the selection

Note: If the grid selected had been saved to a timetable only those teaching sets that were fixed on the grid would still maintain staffing and room allocations on the timetable.

ACTIVITY: Creating/Editing Grids

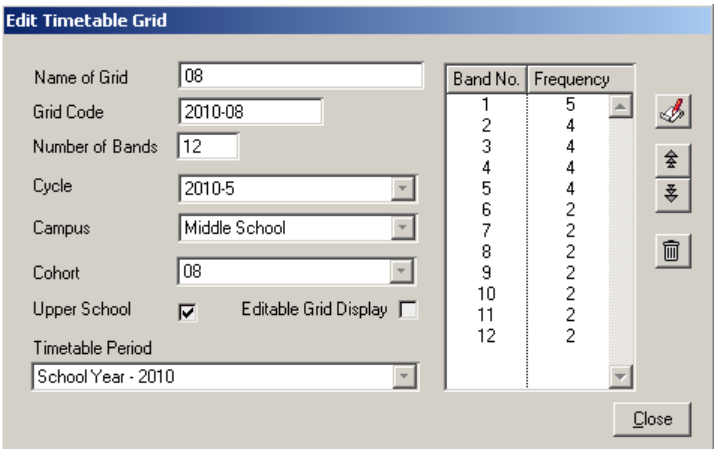
Timetabling > Timetable Set-up > Timetable Grids



Note the option to Show Teachers and Rooms on Grids.

Complete the Upper School grid

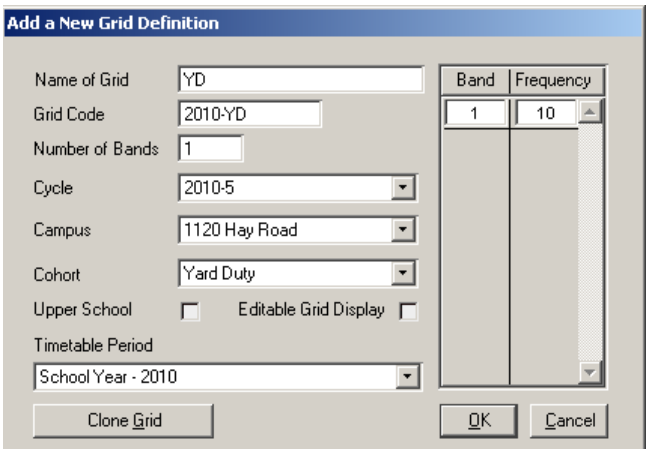
- Highlight the Upper School grid and click *Edit* 
- Check *Upper School*



- *Close*

Define the Yard Duty grid

- Click *Add* 
- Enter the following information:



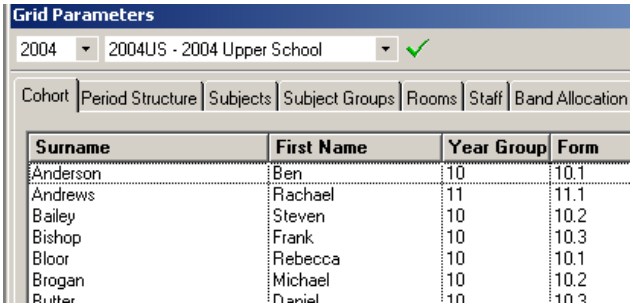
- Click *OK* and *Yes*

4.4 Individual Grid Parameters

Once the user has created or cloned a grid, parameters for each individual grid can be viewed and refined further. If the parameters have not been previously selected in the grid definition screen the panes will appear blank.

Grid Cohort of Students

A list of member students in the cohort will be displayed. A cohort may be linked to several grids in one year. However, only one grid may be attached to one cohort.



Note: If a cohort has not been selected for the grid this pane will be blank.

Students cannot be added or removed from the cohort within this screen. This function is performed within the Cohort parameter.

Grid Subjects

A list of subjects should be made available to the grid so that student subject preferences are validated upon data entry.

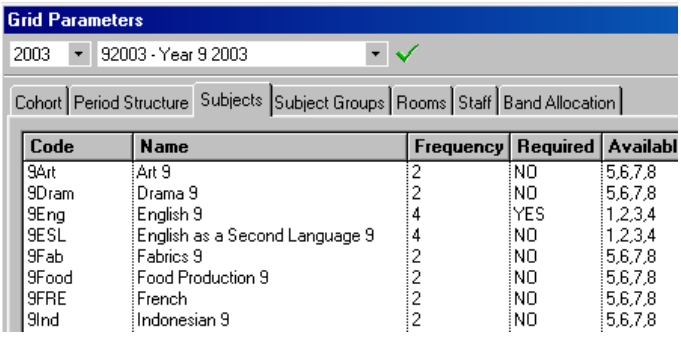
The subject tab will allow a list of subjects to be selected using a subject FIND tool and linked to the grid. For subjects to be available they must have been previously defined in the Administration module (General>Parameters>Subjects). The subjects may be selected for the grid at any time prior to the entry of subject preferences. Subjects may be cloned or edited for use with future grids. Subjects may be deleted from the grid subject list if no preferences have been recorded for that particular subject.

Subjects made available to the grid will inherit default information from the subject parameter table or grid from which they are cloned. This information will need to be verified and modified where there are differences applicable to an individual grid,

Aspects of subject information that should be checked are:

- **Subject Frequency** - the subject frequency will usually indicate the number of times a teaching set will meet during a cycle – for example, four times per week (in a five day cycle).
- **Minimum** and **maximum** class sizes
- Gender mix
- **Required Subject -** ensure that the required box is checked. A required subject means any student with this subject listed as a preference must be allocated the subject, examples of required subjects could be English, Maths etc.

If any of the above defaults are edited they will only affect the selected grid. If the changes are to be global the information should be edited in General>Parameters>Subjects.



Code	Name	Frequency	Required	Availabl
9Art	Art 9	2	NO	5,6,7,8
9Dram	Drama 9	2	NO	5,6,7,8
9Eng	English 9	4	YES	1,2,3,4
9ESL	English as a Second Language 9	4	NO	1,2,3,4
9Fab	Fabrics 9	2	NO	5,6,7,8
9Food	Food Production 9	2	NO	5,6,7,8
9FRE	French	2	NO	5,6,7,8
9Ind	Indonesian 9	2	NO	5,6,7,8

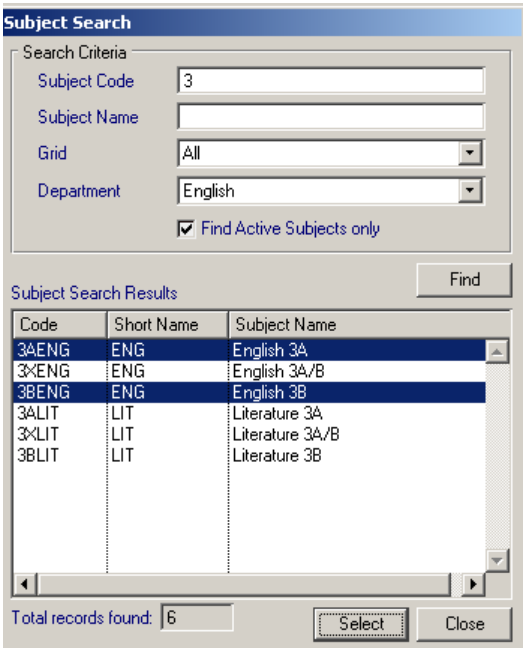
Grid subjects will be made available to bands that have a frequency that matches the subject frequency. The available bands for the subject can then be individually edited. Planning of band and subject frequencies prior to selecting subjects for a grid will simplify this process.

Note: Subjects cannot be deleted from this list if preferences have been recorded for the subject.

ACTIVITY: Allocating subjects to a grid

Timetabling > Timetable Setup > Individual Grid Parameters > Subjects

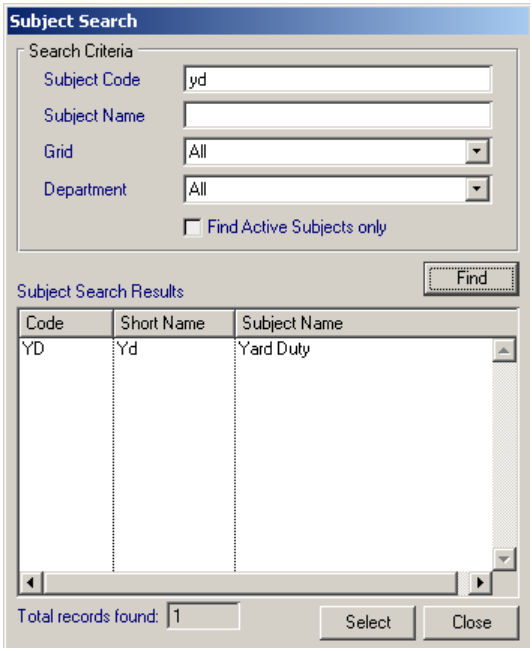
- Select the Upper School grid
- Click *Set grid as default*
- View the subjects added to the Upper School Grid
- Click *Add Subjects*
- Enter the following and click *Find*



- Click *Select* and *Yes*

Add Yard Duty as a subject to the Yard Duty grid

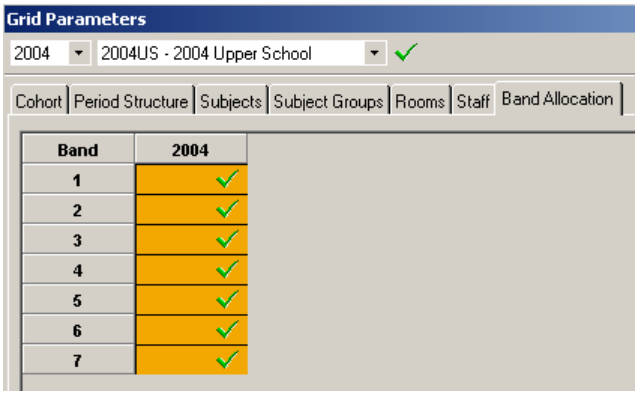
- Select the *Yard Duty* grid
- Click *Add Subjects* 
- Enter the *Subject Code YD* and click *Find*



- Click *Select* and *Yes*

Grid Band Allocation

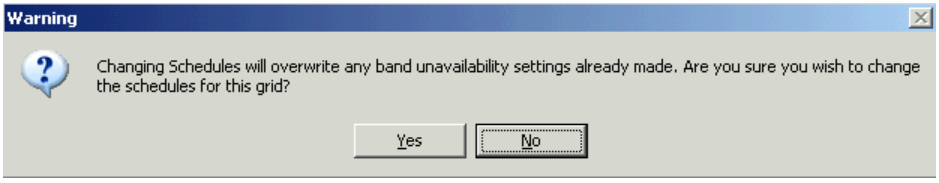
Band Allocation allows the user to change or add schedules to the grid. Once the grid has been saved to the timetable, band allocation may not be changed. Common band allocation may show two semesters within the same grid.



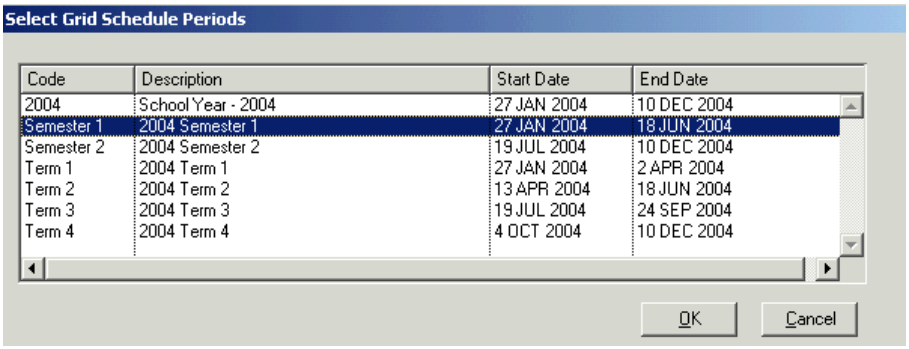
Changing Schedules

- Select the appropriate school year and grid.
- Click on the *Band Allocation* tab.
- Click on 

- Confirm your intention.



- Highlight an appropriate schedule.

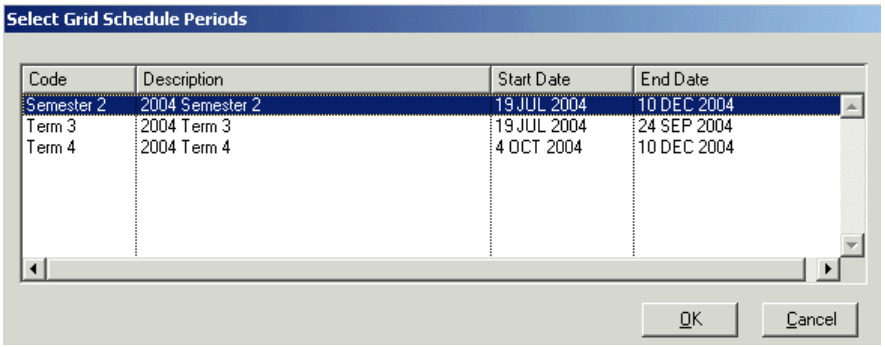


- Click *OK.*

Adding Schedules

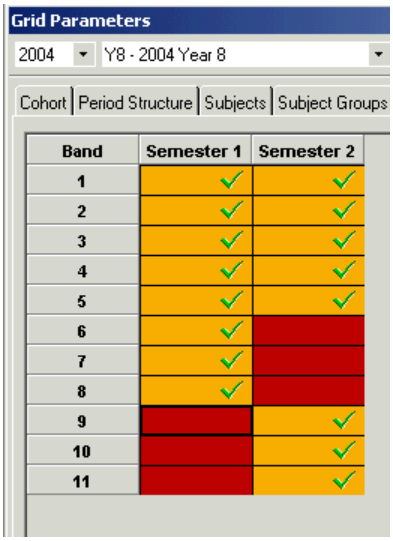
- Select the appropriate school year and grid.
- Click on the Band Allocation tab.
- Click on 

- Highlight an appropriate schedule.



- Click OK

- Click in the appropriate bands to indicate which bands are allocated to which schedules.

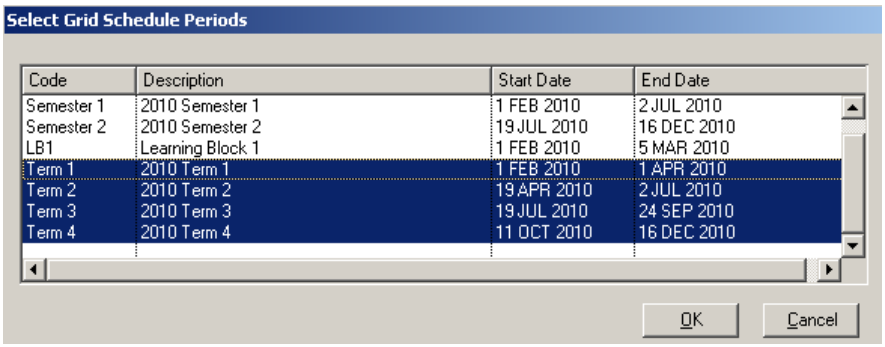


Note: You may only add future schedules to Band Allocation. Bands may be allocated to all schedules or to one only.

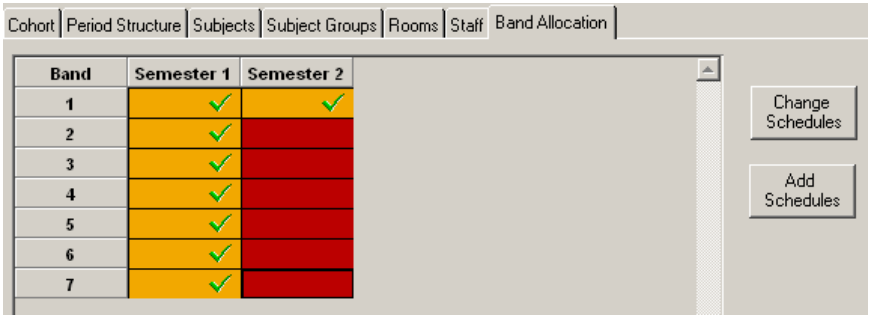
ACTIVITY: Allocating Grid Bands to Schedules

Timetabling > Timetable Setup > Individual Grid Parameters > Band allocation

- Select the *Yard Duty* grid
- Click *Change Schedules* and *Yes*
- Highlight *Terms 1* to *4* and click *OK*



- Select the Upper School grid
- Click ***Change Schedules*** and ***Yes***
- Highlight ***Semesters 1*** and ***2*** and click ***OK***
- Click in ***Band 2*** for ***Semester 2*** to make it unavailable to that semester
- Repeat for ***Bands 3*** to ***7***



Note: Later we will copy Bands 2 to 7 into Semester 2

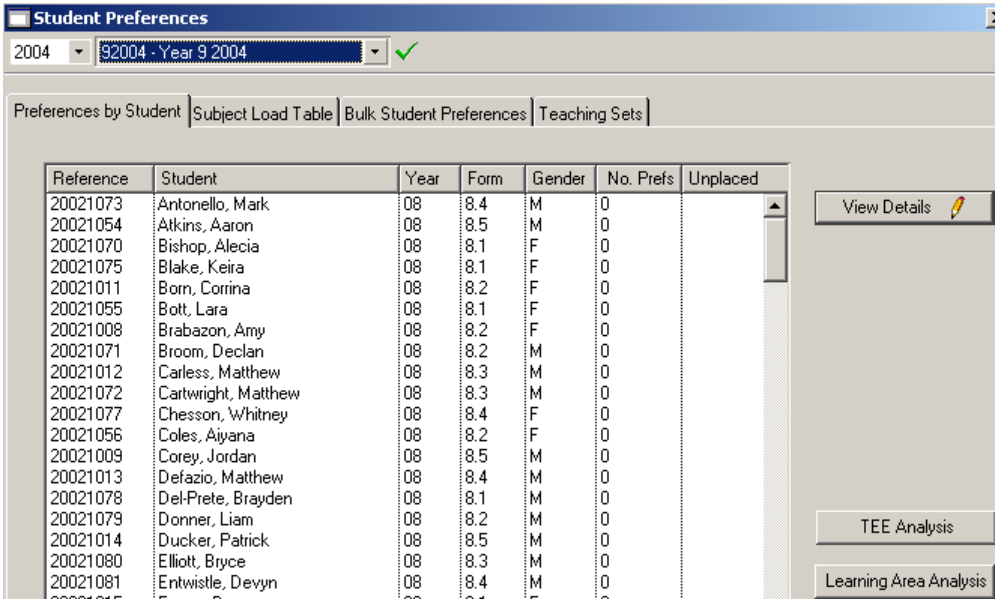
4.5 Student Preferences

Student Preferences are a list of subjects in a ranked order that a student has selected to study.

Preferences may be entered and maintained either for individual students or groups of students. Once the timetable has been created student courses may be altered individually if required. Preferences will be ranked by the following classifications:

- Required – all ranked as *1*. Required subjects must be allocated to a student e.g. English
- Primary Electives – ranked in ascending order. Primary Electives are those the student considers most important.
- Reserve Electives – ranked in ascending order. Reserve Electives are those subjects nominated by the student in case any of his or her primary electives are disallowed.

Preferences for a student will apply to a grid. If a student is a member of more than one cohort, preferences will have to be entered for each grid. Student preferences may be allocated via a combination of both bulk and individual entry. For example all required subjects may be entered via the bulk entry screen and electives may be entered individually.



Note: Prior to entry of student preferences, subjects and/or subject groups must be defined for the associated grid. If no subjects have been defined for the grid the user will be unable to enter student preferences.

Student Preferences may be entered by

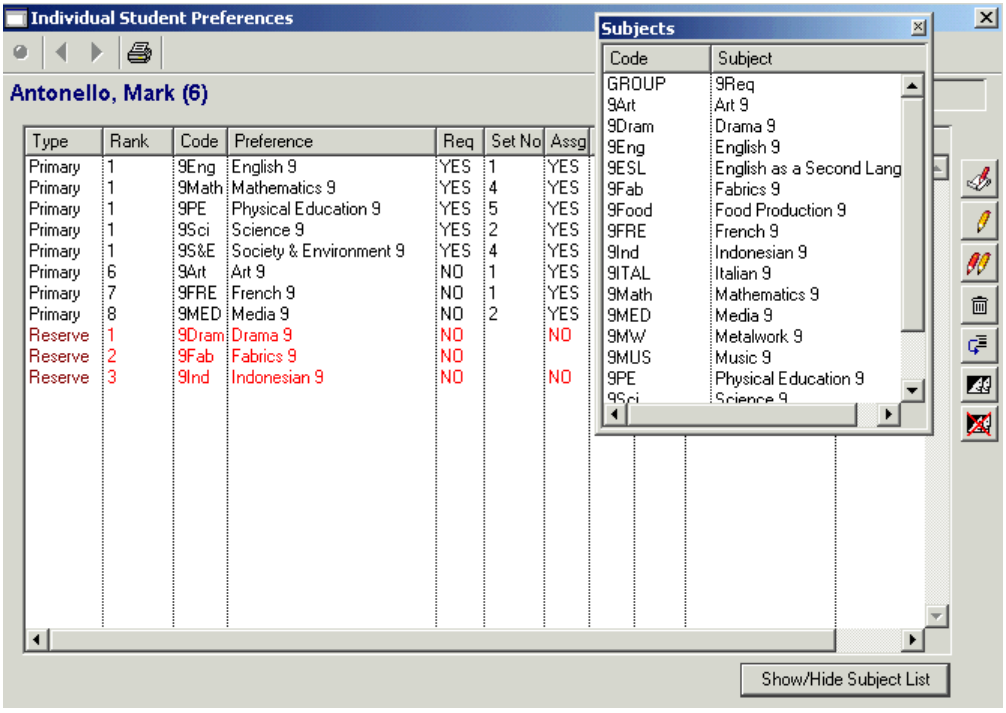
- Individual entry;
- Bulk entry of preferences or
- Promotion of some or all of a student course from any earlier grid

4.5.1 Individual Entry of Student Preferences

Timetabling > Preferences > Preferences by Student

To select one or more students for individual entry of preferences, highlight the students within the Preferences by Student window and click on the View Details icon.

For each student individual preferences are entered by dragging subjects from the subject list or typing the subject code and ticking the required box as necessary. Preference order may be changed up or down as required. If a browse set has been chosen i.e. a group of students highlighted from the cohort list, use the blue arrows to move between the selected students.



Add preference

Edit Preference

Add subject group

Delete preference

Toggle Reserve/Primary

Place in T-set

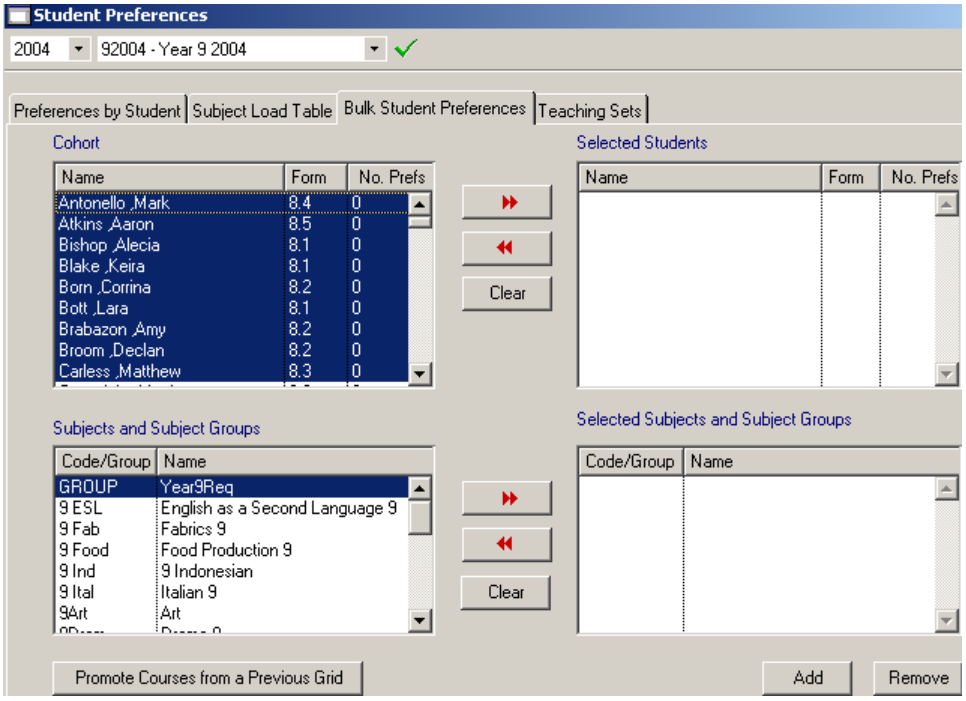
Remove from T-set

Note: Students must be included in a cohort and subjects allocated to the grid prior to entry of preferences.

4.5.2 Bulk Entry of Student Preferences

Preferences may be entered in bulk by defining a list of subjects or subject group and groups of students to which they may be allocated.

Courses may be promoted from last year via the course promotion screen. To be promoted these courses must have been previously defined in Timetabling>Timetable Set-up>Maintain Course Promotion Table. Courses may be promoted from a previous year or semester grid.



Adding preferences in bulk to a group of students

- Highlight students in the cohort and click on the arrows
- Highlight the required subjects and click on the arrows
- Click ***Add***

Removing preferences in bulk from a group of students

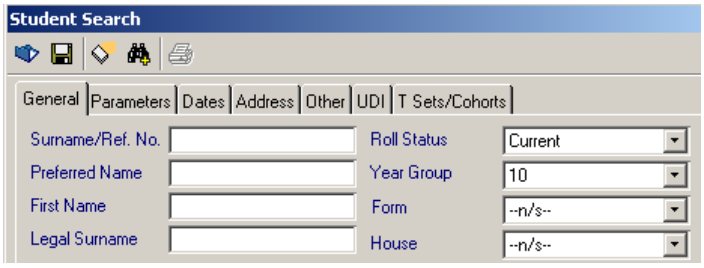
- Highlight students in the cohort and click on the arrows
- Highlight the required subjects to be removed and click on the arrows
- Click ***Remove***

Activity: Adding Preferences in Bulk

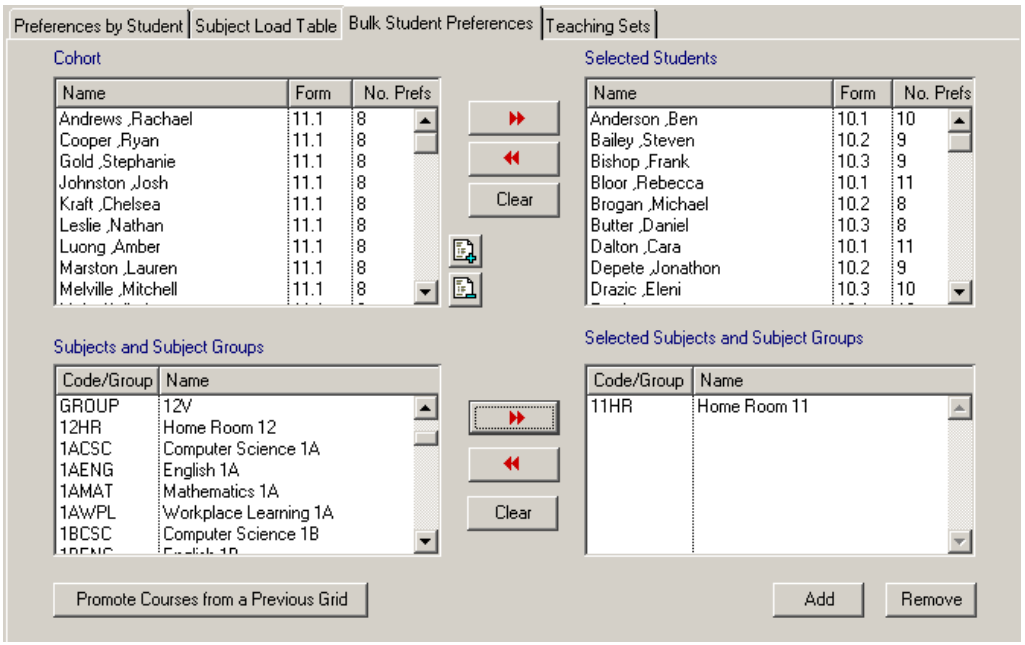
Timetabling > Preferences > Bulk Student Preferences

Add Home Room 11 as a subject for all current Year 10s

- Click *Select students* 
- Find the current *Year 10* students



- Move the selected students to the right 
- Move *Home Room 11* to the right

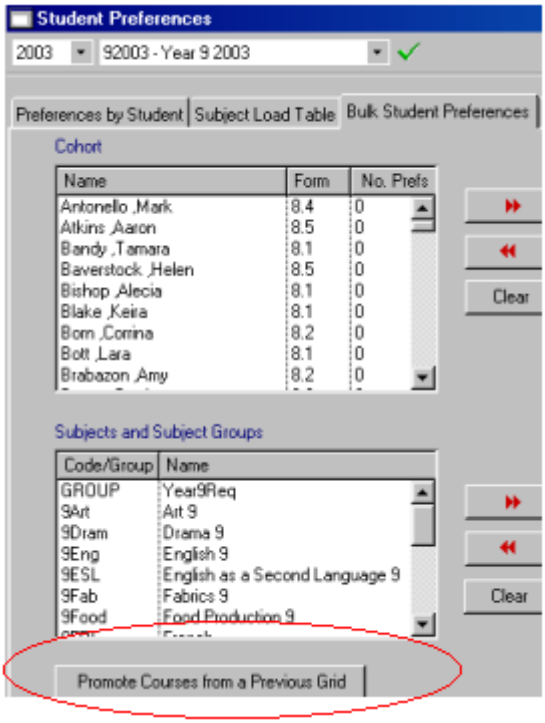


- Click *Add*

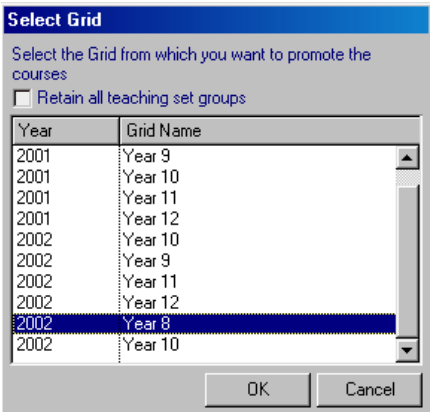
4.5.3 Promoting Student Courses

The promotion of student courses from a previous grid is initiated from within the Student Preference > Bulk Entry Window

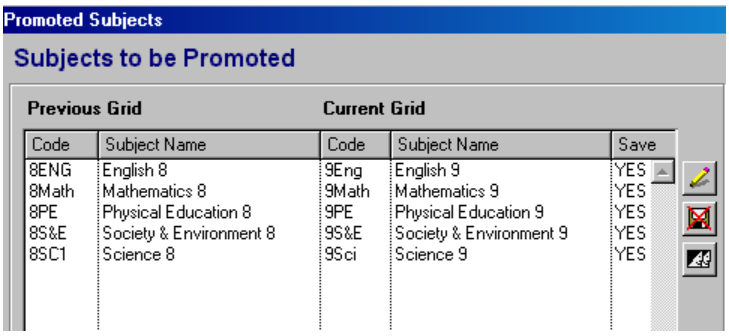
- Click *Promote Courses from a Previous Grid*



- Highlight the appropriate grid and click *OK*



Note: There is an option to retain all teaching sets.



- Edit as required
- Click *OK*

Allows the user to deselect students from course promotion

Allows the user to deselect subject from course promotion

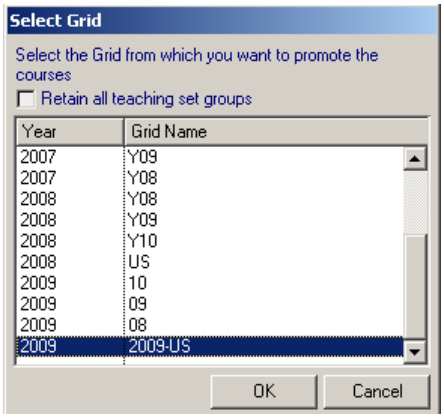
Allows the user to select which teaching sets are to be retained

ACTIVITY: Student Course Promotion

Timetabling > Preferences > Bulk Student Preferences

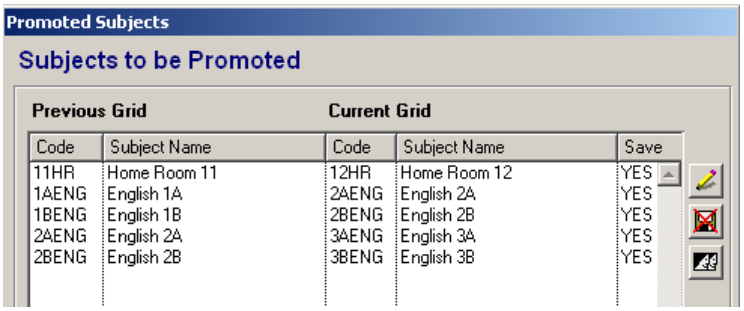
Promote all Year 11 students to selected Year 12 courses

- Click on *Promote Courses from a Previous Grid*
- Highlight *2009 US*

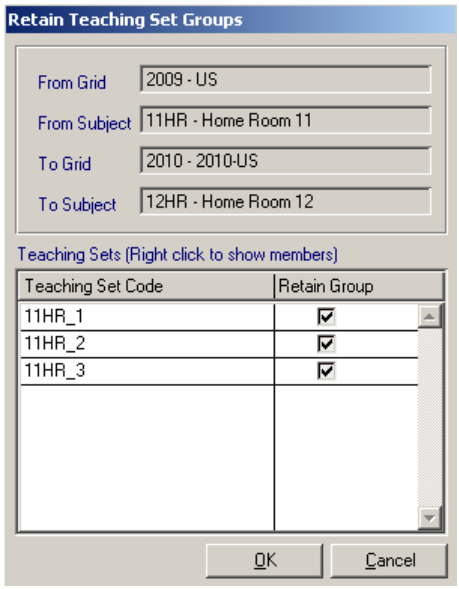


- Click *OK*

- Highlight the first line in the table



- Click Retain Teaching Sets 
- Check ***Retain Group*** for each Home Room

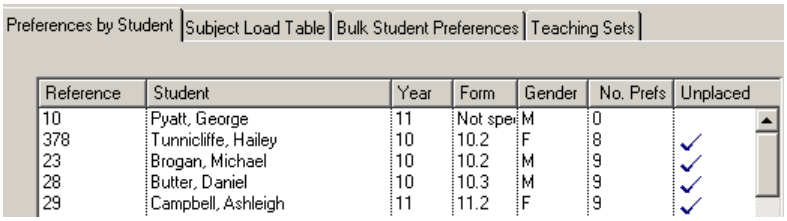


- Click ***OK*** twice

ACTIVITY: Individual Course Entry

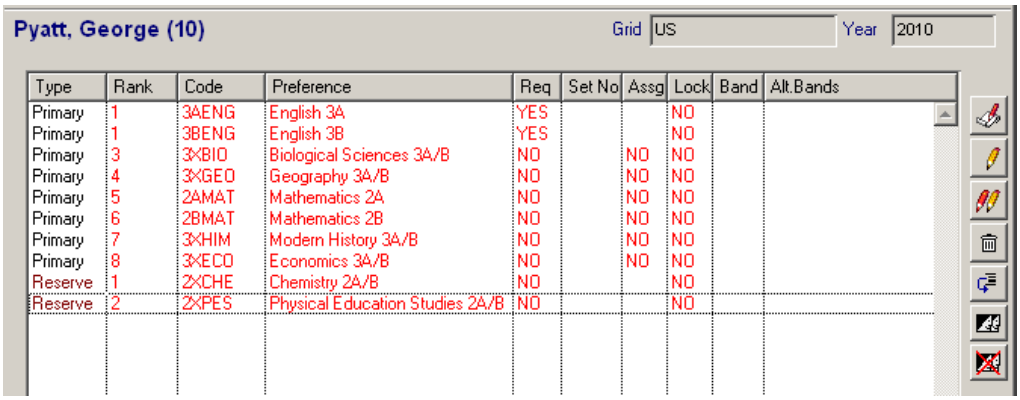
Timetabling > Preferences > Preferences by Student

- Click on to column heading *No.Prefs*



George Pyatt has no preferences

- Highlight his name and click *View Details*
- Click *Show/Hide Subject List*
- Drag and drop the equivalent of eight year-long subjects into his preference list
- Toggle two of these subjects to Reserves 



- Close *Individual Student Preferences*

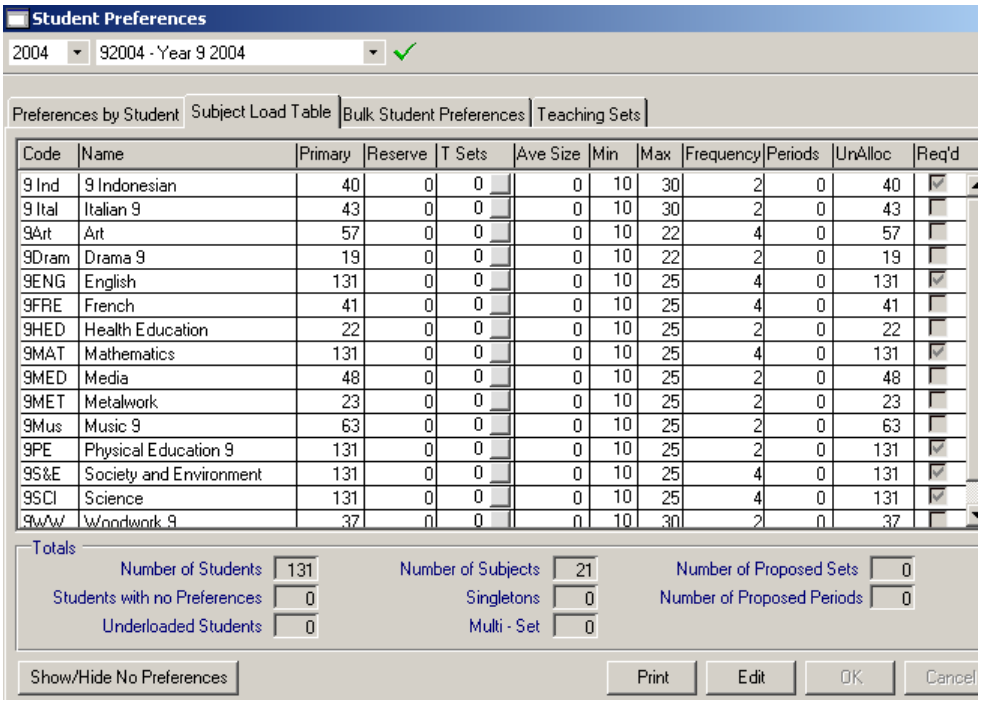
4.5.4 Subject Load Table

A subject load table will be maintained for each grid and contains a summary of the information relating to each subject made available to the grid.

The major function of the Subject Load Table is to present information that will allow the number of sets for each subject to be appropriately set. This decision will be based upon the number of primary and reserve preferences selected by students and the availability of staff and room resources. Non-viable subjects may also be identified in this process with the resultant need to refit affected students.

Note: Grid modelling of teaching sets is not possible until the number of teaching sets to be made available has been defined

By default the table will display subjects made available to the grid that have student preferences recorded. By clicking on the Show/Hide No Preferences button all subjects made available to the grid will be displayed.



The table will display all defined subjects for the grid including such information as how many students have elected the subject as a primary or reserve preference, the default minimum and maximum class size, the default frequency, whether it is a required subject and an amount of unallocated places left in the class. Using this information, the number of teaching sets for each subject may be planned and edited. **From this screen, the number of teaching sets required, default class sizes, frequency of the class and whether the subject is a required subject, may also be edited.** The other fields are populated based on information from this screen and the student preferences screens.

Next to the number of teaching sets for a subject is a button which if clicked will display a list of teaching sets for that subject. The maximum and minimum class size for each set can be individually edited. To edit the subject details click on the Edit button and type information into a selected cell.

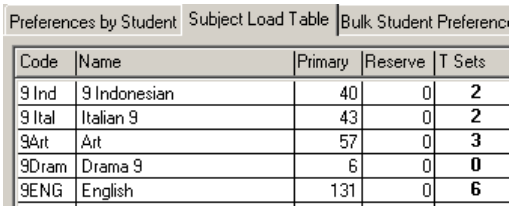
At the bottom of the screen a series of totals are displayed. The *Number of Students* is the total of students defined in the cohort. *Students with no Preferences* shows the number of students in the cohort but with no preferences listed. *Underloaded Students* lists the number of students who do not have a full study load. *Number of Subjects* lists the total number of subjects defined for the grid. *Singletons* lists the number of subjects with only one teaching set. *Multi-Set* shows the number of subjects with more than one teaching set. *Number of Proposed Sets* lists the number of all teaching sets defined for this grid. *Number of Proposed Periods* shows the number of all teaching periods defined for this grid.

The confirmation or editing of subject frequencies may be defined in one of three places. The frequency may be entered when defining the subjects for a particular grid (Timetabling>Timetable Set-up>Individual Grid Parameters>Subjects) or it may be edited in the subject load table (Timetabling>Preferences>Subject Load Table) or within the vertical grid view of grid modelling (Timetabling>Grid Modelling>Vertical View).

Note: The Auto scheduler makes use of maximum and minimum teaching set sizes to determine the placement of teaching sets on the grid. Always check that entered values are correct. Once the grid has been modelled and saved as a timetable, changes made to the minimum and maximum class sizes will not affect the number of teaching sets. Any changes to class sizes must be completed prior to grid modelling either manually or using the auto-schedule process.

Collapsing Non-Viable Subjects

The timetabler may identify subjects that have been made available to the grid but are considered not viable to operate within the timetable being constructed. A number of factors will be considered, one of which is the number of students selecting the subject as a primary or reserve preference.


Preferences by Student | Subject Load Table | Bulk Student Preferenc

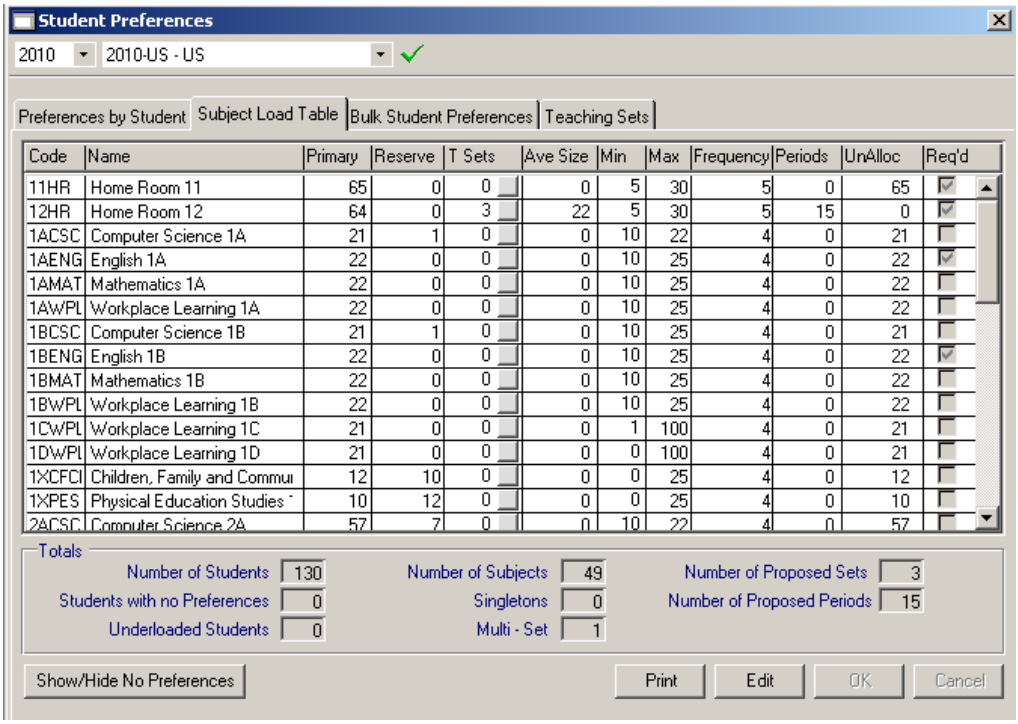
Code	Name	Primary	Reserve	T Sets
9 Ind	9 Indonesian	40	0	**2**
9 Ital	Italian 9	43	0	**2**
9Art	Art	57	0	**3**
9Dram	Drama 9	6	0	**0**
9ENG	English	131	0	**6**

If the number of sets for these subjects is set to zero within the load table, then teaching sets of these subjects will not be available to the grid modelling process for manual or auto scheduler placement. However if student preferences are not adjusted then the student will ultimately remain unplaced. To identify the students involved, print the report 'Students Choosing a Subject' from the reports menu within the timetabling sidebar. These students can then be individually selected and edited within the Preference function or the subject can be removed from all students using the Bulk Allocation window, Remove function.

ACTIVITY: Editing Subject Load Tables

Timetabling > Preferences > Subject Load Table

- Click *Edit*

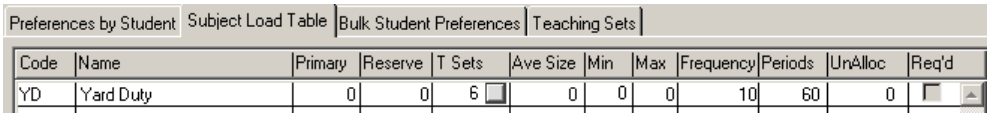


- Enter the number of teaching sets for each subject

Note: Leave the number of teaching sets for all 1B, 1D, 2B and 3B subjects at zero.

- Click *OK* to save

- Select the *Yard Duty* grid
- Click Show/Hide No Preferences
- Click *Edit*
- Enter the number of teaching sets as six (one for each duty area)



- Click *OK*

4.6 Grid Modelling

Construction and manipulation of the grid is referred to as grid modelling.

A comprehensive set of tools is available to the user to assist with the modelling process.
The Grid Modelling screen will allow definition of constraints to be applied to a particular grid and the construction of the grid allowing for defined constraints.

The grid may be developed in one of three ways:

- Manually placing all elements on the grid and generating nothing (that is creating a fixed grid)
- Manually placing some elements on the grid and automatically generating the rest of the grid around the fixed elements or
- Automatically generating the entire grid.

Although each grid is modelled individually, the grid modelling process will also consider the links between different grids and the allocation of grids to schedules. Each of these processes can be manually controlled or in some cases can be left to the auto scheduler and then edited.

Note: Timetablers constructing a Fixed Grid Timetable will create the grid using manual construction without the need for the auto scheduler and many of the features described below will not be needed.

The following reports may be useful in the execution of grid modelling:

- Student Fit Report
- Load Table
- Conflict Matrix Report

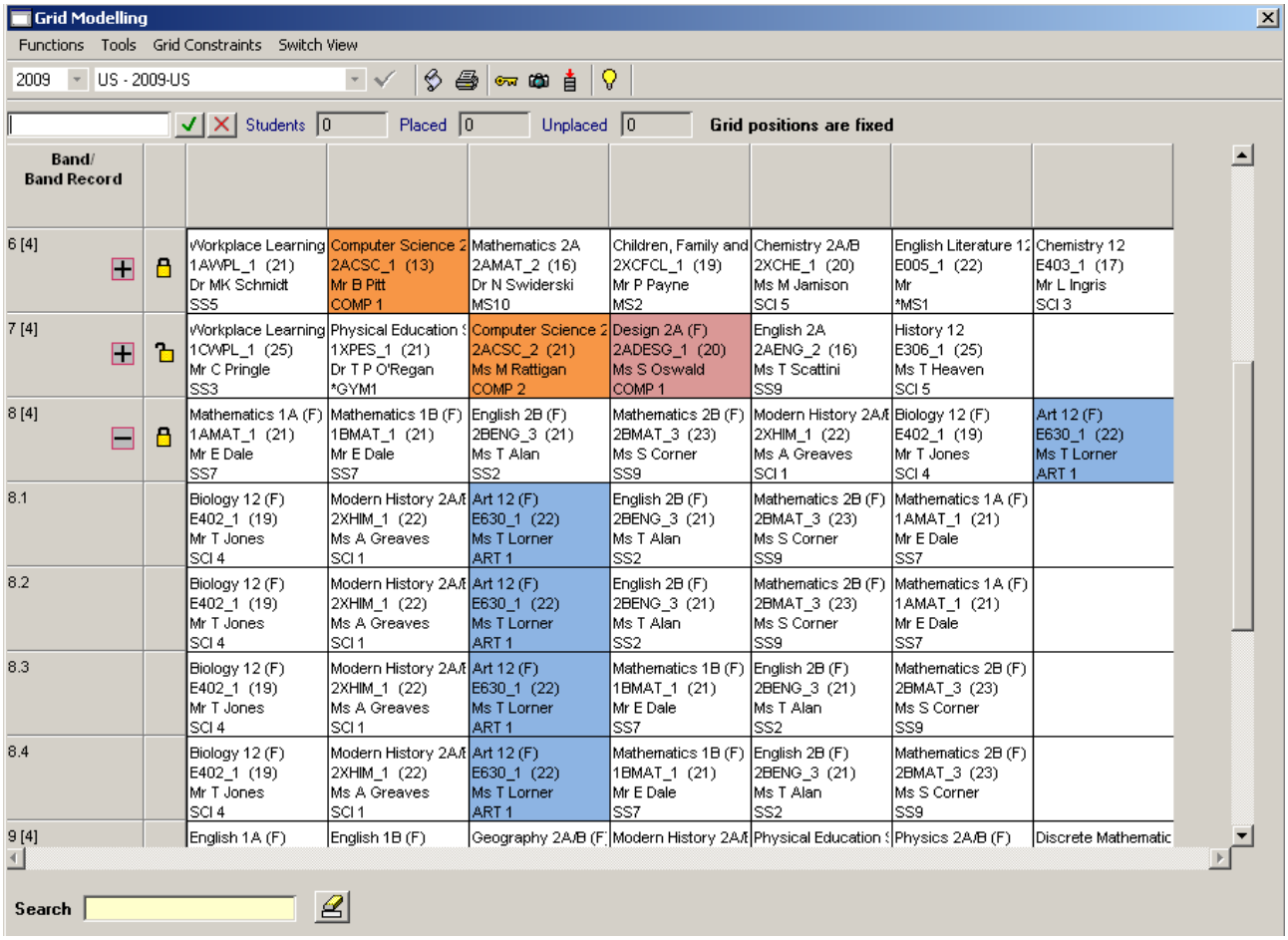
Samples of these reports may be viewed in the RM: Timetabling Manual

4.6.1 Unlocking the Grid

Upon entry of the grid modelling screen, the user will be prompted to unlock the grid. No changes may be made to the grid until it is unlocked. Unlocking the grid takes a snapshot of the grid so that the timetabler can revert to the initial position.

Multiple snapshots may be taken of the grid at anytime and then changes made. The user may later retrieve a snapshot and revert to a previous snapshot if required. Student Fit Statistics may be viewed to note the effect of changes and to highlight problem bands and/or subjects.

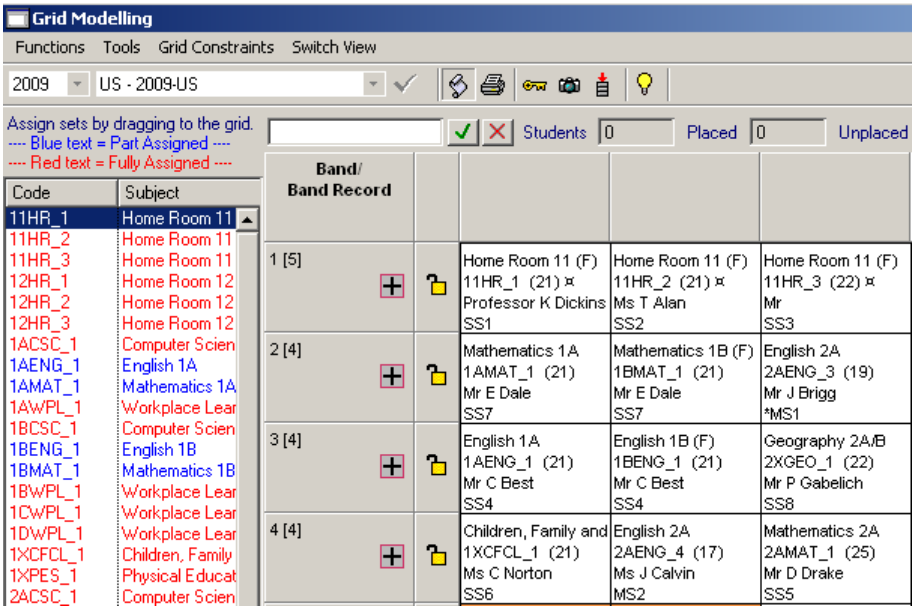
The screen will open in the Horizontal View



Indicates that the grid has been saved to the timetable.

4.6.2 Manual Teaching Set Placement

Teaching sets may be manually placed on the Bands or Band Records. To display a list of available teaching sets click on Display Teaching Sets.

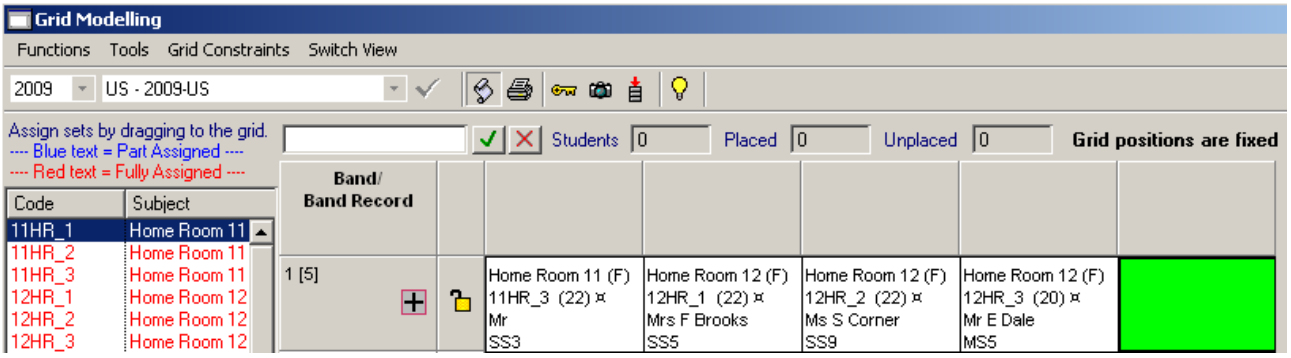


A list of teaching sets will appear on the left hand side of the window.

Note: If no teaching sets appear, check that the number of teaching sets required for each has been entered in the Subject Load Table.

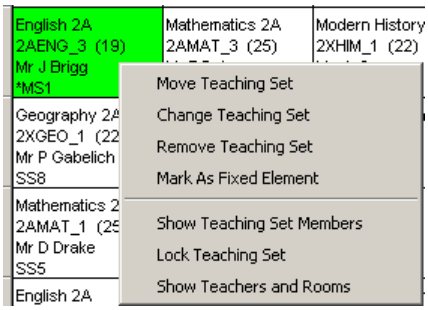
Teaching Sets may be dragged and dropped onto relevant bands or band records.
The action of placing sets onto the grid in a particular cell will fill the band records up to the subject frequency if the subject frequency is less than or equal to the band frequency. If the subject frequency of the set is greater than the band record, the user will still be able to place the teaching set but a warning message will occur and the user may decide to either change to another band record with a greater frequency or change the frequency of the band or subject.

Teaching sets may also be typed into the box and a band or band record selected by clicking in the cell and clicking the green tick to place the teaching set.



All manually placed teaching sets will be marked as Fixed Elements and as such will not be moved by any auto scheduling process unless marked as not fixed (see below).

Once a teaching set has been allocated to a band or band record, right clicking on the cell will produce a menu listing these options:



The first three options will only be available if the band/band record is unlocked.

4.6.3 Adding a Teaching Set within Grid Modelling

If additional teaching sets are needed once the grid modelling process has begun, it is not necessary to return to the Subject Load Table. Additional teaching sets may be added or deleted by selecting Tools>Add Teaching Set or Delete Teaching Set. Subject Load Table details will be automatically updated. At the time of adding a teaching set the user will be prompted to add students to the teaching set. The students may be added here or later through the Move Student function.

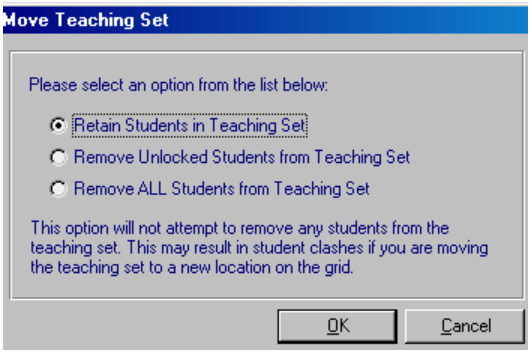
4.6.4 Moving a Teaching Set

Moving teaching sets from one band to another may be necessary to resolve an unrecognised resource conflict or to improve the fit of students. Any movement of a teaching set is likely to result in students who previously fitted the subject becoming unfitted due to a clash and students who did not previously fit the grid to now fit. The timetabler must ensure that students affected by this move are refitted prior to closing the grid. Several moves can be made prior to identifying and resolving these clashes.

To move a teaching set:

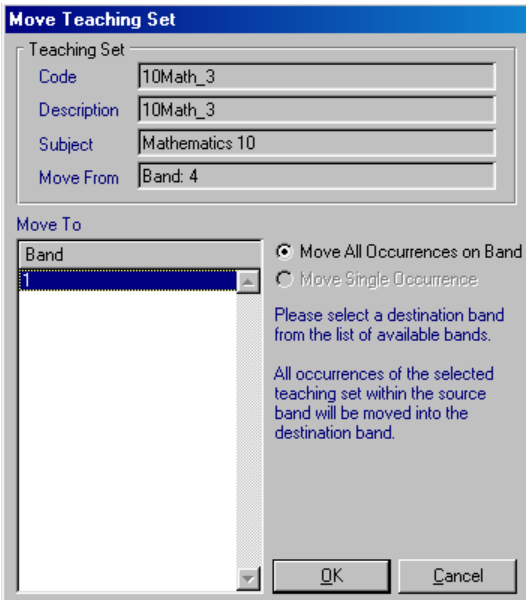
- Right click on the selected set, and choose Move Teaching Set.

Three options are provided to define the way that students will be managed within this move.



- Select the appropriate option and then click on OK.

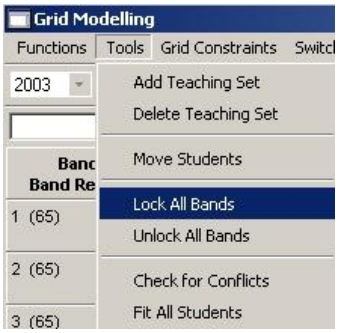
- Select the band that the teaching set is to be moved to and then click on OK.



The teaching set will be moved and placed onto the band selected.

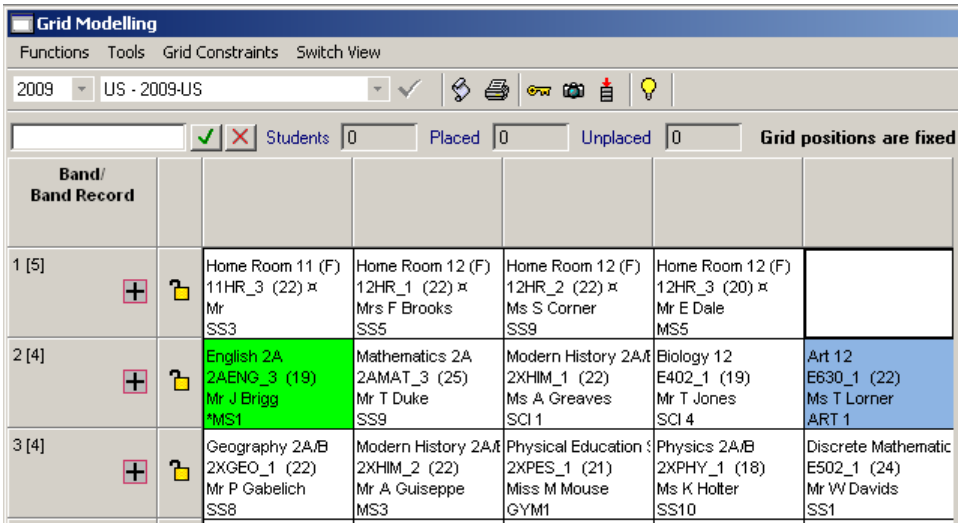
4.6.5 Locking/Unlocking Bands

Bands may be locked or unlocked at any time by selecting Tools>Lock all Bands or Unlock all Bands. Once a band has been locked only limited functions are available and the contents of the band are protected. For a full selection of tools to be available the band must be unlocked.



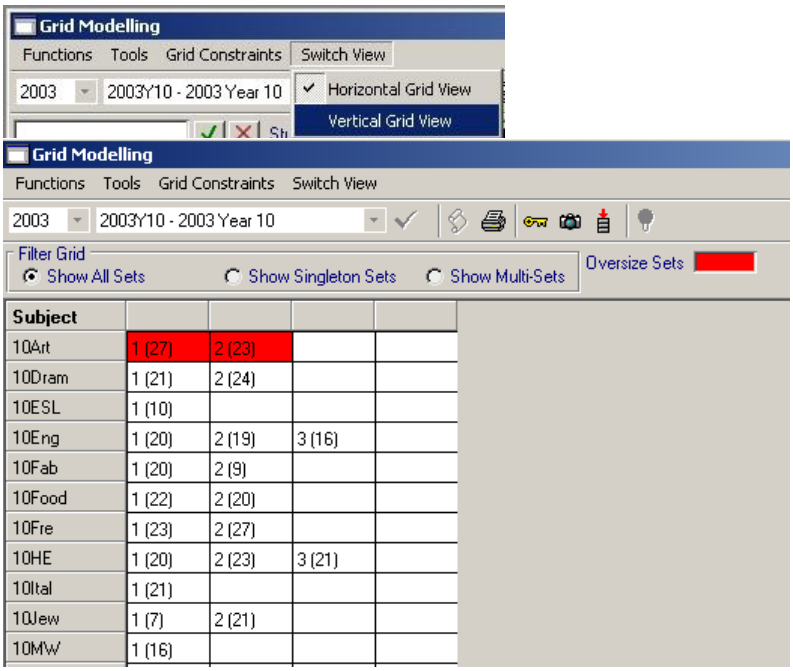
4.6.6 Horizontal view

There are two ways of viewing the Grid Modelling screen – Horizontal and Vertical. Some tools and functions are available from both views, others only from one view. From the Timetabling sidebar, select Grid Modelling and the following window will appear:



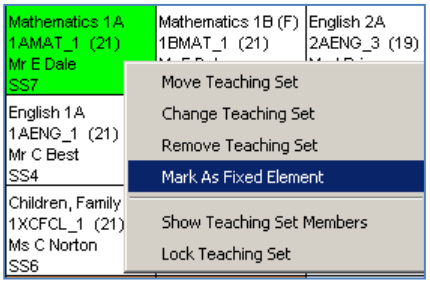
4.6.7 Vertical view

To change to Vertical view, click on Switch View and Vertical view and the following window will appear:

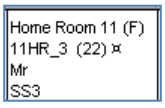


4.6.8 Fixed Grid Elements

Teaching sets may be manually fixed so that they can't be moved unless marked as a non-fixed element at a later date. This option is particularly useful if manually placing some teaching sets and then auto-scheduling the rest.



To fix a teaching set on the relevant band/band record: right click and from the menu select Mark as a Fixed Element. The teaching set will be marked as below.



The (F) indicating it is a fixed element.

Note: Teaching Sets manually placed onto the grid are fixed by default.

4.6.9 Locking the Grid

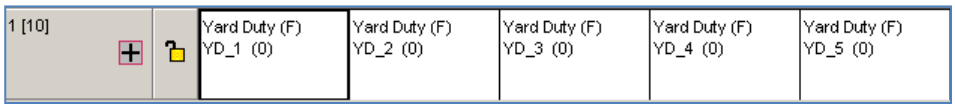
Upon exiting the grid modelling screen the user will be prompted to lock the grid and to save changes made or not. The user must lock the grid prior to exiting this window.

ACTIVITY: Grid Modelling

Timetabling > Grid Modelling

Creating a fixed grid

- Unlock  the Yard Duty Grid
- Click Display Teaching Sets 
- Drag and drop each of the Duty sets (one for each duty area) onto the grid.



Click on  to view the band records (one for each duty session)

- Lock  the Duty grid
- Click *Yes* to save

4.6.10 Entering Auto-scheduling Constraints

The following constraints are only useful if the auto-scheduling process is to be used. The constraints are optional but if used may produce a better timetable with optimal use of fixed resources.

Fixing Grid Elements

It is possible to fix and lock Teaching sets and Bands manually. The effect of fixing and locking will signal to the auto-scheduling process to work around these fixed elements while continuing to assess conflicts by placing teaching sets and students around these elements.

Teaching sets may be filled manually through Grid Modelling>Tools>Move Students.

Students will be able to be added to a set either from an existing set or from the cohort list. Once students have been added to a set they may then be locked into the set. If a student is locked into a set they cannot be moved out of the set either manually (unless the set is unlocked) or by the auto-scheduling process. Teaching sets may also be filled automatically through the Tools>Fit All Students function.

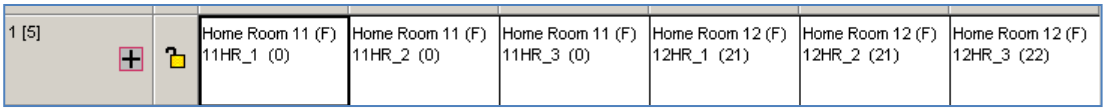
Note: Students may be manually added to Teaching Sets in two other areas: Timetabling>Preferences>Teaching Sets or Timetabling>Timetable>Functions>Move Student.

ACTIVITY: Fixing and Locking Teaching Sets and Students

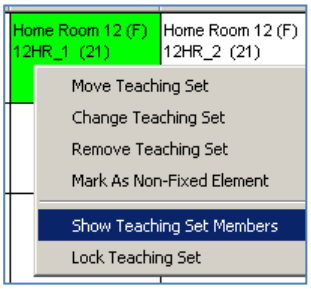
Timetabling > Grid Modelling

Fixing Teaching Sets

- Unlock the Upper School grid
- Click Show Teaching Sets 
- Drag the *Home Room* teaching sets onto *Band 1*



- Right click on one of the *Year 12 Home Rooms* and choose *Show Teaching Set Members*



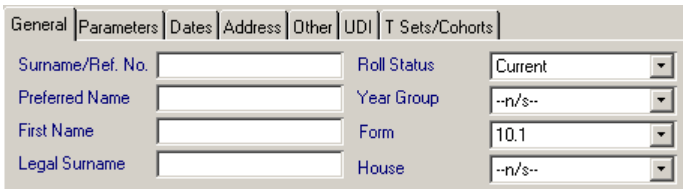
All of the students are locked into the set, that is the Autoscheduler cannot move them out.

- Close *Teaching Set Members*

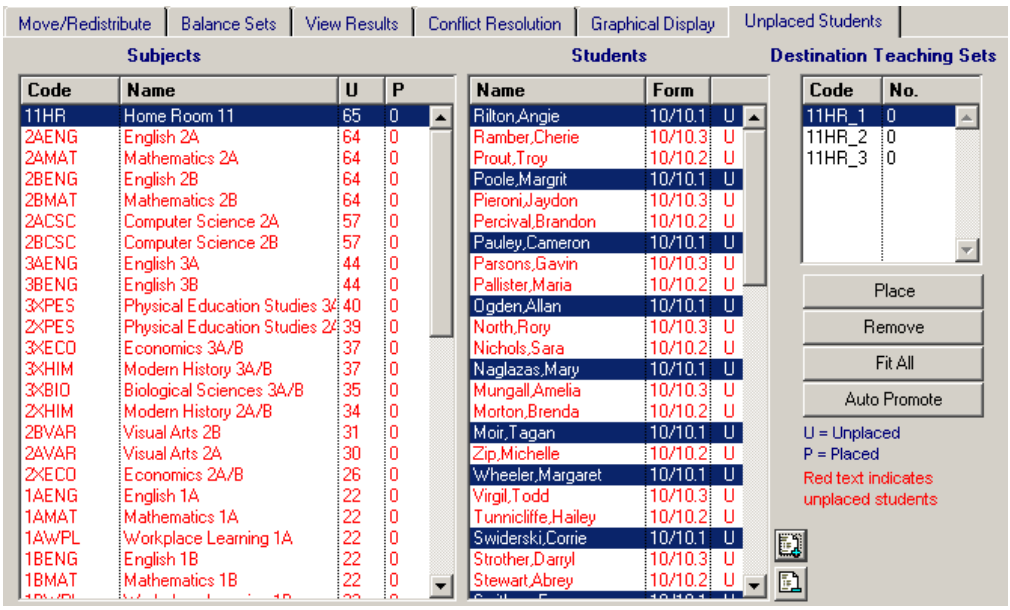
Timetabling > Grid Modelling > Tools > Move Students > Unplaced Students

Placing Students

- Highlight *Home Room 11*
- Click *Select those students matching specified criteria* 
- *Find* the students in *10.1*



- Ensure that *11HR_1* is selected

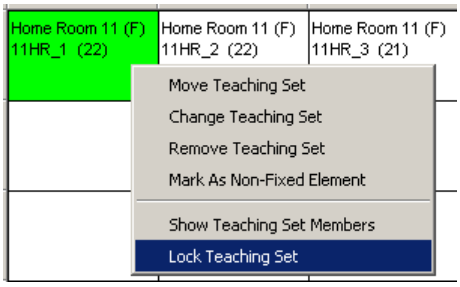


- Click *Place*
- Click *OK* to save the changes

- In the same way place the students in *10.2* into *11HR_2* and the students in *10.3* into *11HR_3*
- *Close Move Students*

Locking a Teaching Set

- Right click in *11HR_1* and select *Lock Teaching Set.*



- Repeat for *11HR_2* and *11HR_3*

No student can now be moved in or out of those sets by the Autoscheduler.

Locking a band

- Click on the padlock adjacent to Band 1

The Autoscheduler may not place any other teaching sets on this band.

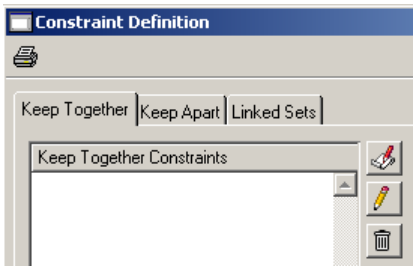
4.6.11 Subject Constraints

Timetabling > Grid Modelling > Grid Constraints

Users may define subject constraints before a timetable is generated. Constraints are used by the auto-schedule process, but will also be used for validation during manual placement of fixed elements.

Constraint categories are:

- Keep Together Sets – sets which must occur at the same time
- Keep Apart Sets – sets which must not occur at the same time
- Linked sets – sets that must have the same membership of students

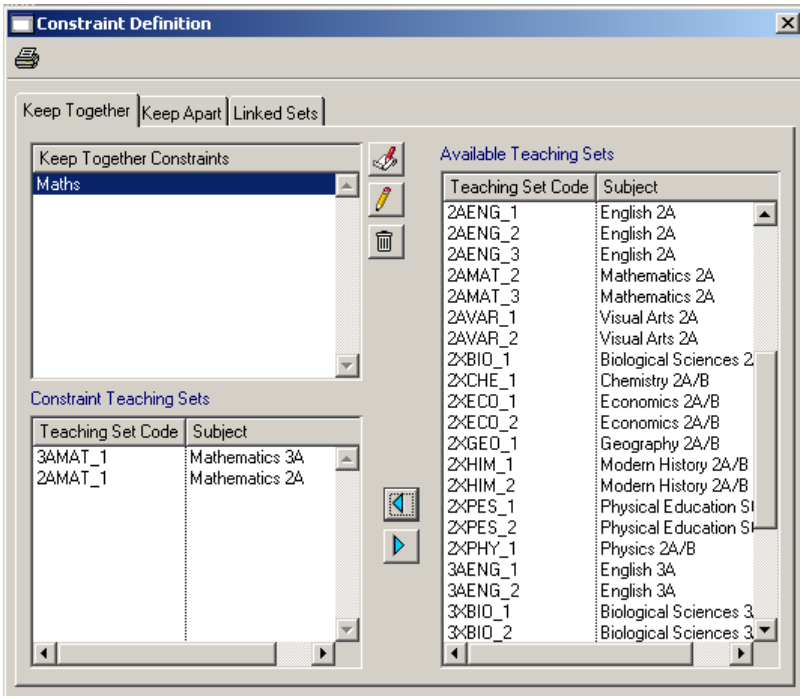


ACTIVITY: Entering Grid Constraints

Timetabling > Grid Modelling > Grid Constraints > Keep Together

***2AMAT_1* and *3AMAT_1* are to be on the same band**

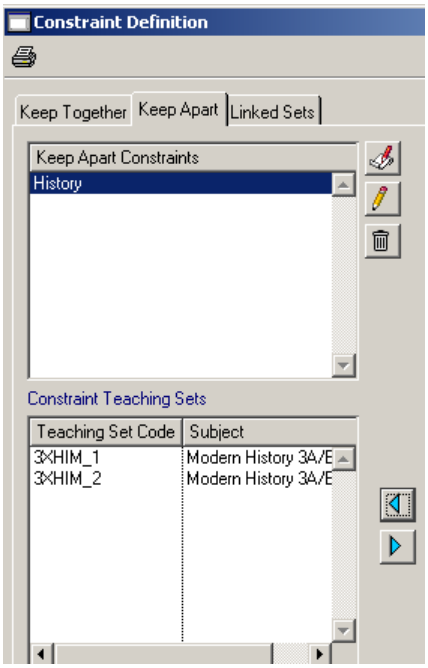
- Click *Add Constraint* 
- Give the constraint a name and click *OK*
- Highlight *2AMAT_1* and *3AMAT_1* in the Available Teaching Sets list
- Click *Add Selected Teaching* Sets 



Timetabling > Grid Modelling > Grid Constraints > Keep Apart

***3XHIM_1* and *3XHIM _2* are to be scheduled at different times**

- Click *Add Constraint* 
- Give the constraint a name and click *OK*
- Highlight *3XHIM _1* and *3XHIM _2* in the Available Teaching Sets list
- Click Add Selected Teaching Sets 



- Close *Constraint Definition*

4.6.12 Inter-grid Linkage

Timetabling > Grid Modelling > Functions > Inter-grid Linkage

The Inter-grid Linkage table is used to link band records from different grids into common time slots. Time slots link to the period structure that was previously created for the cycle and grid.

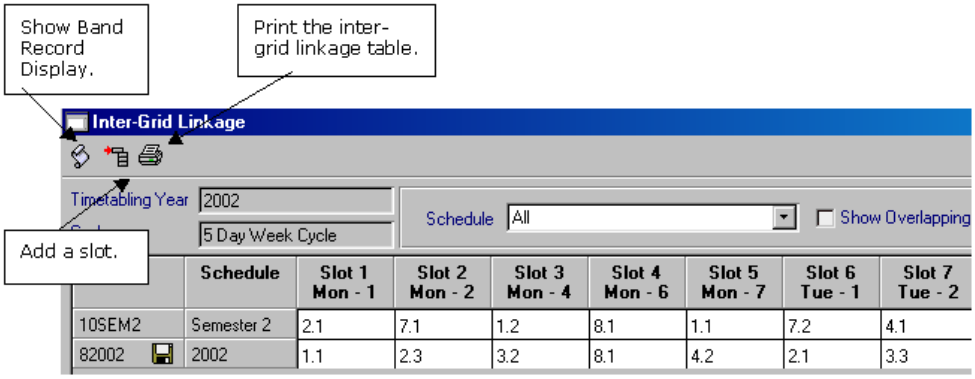
The user may populate the inter-grid linkage table in one of three ways:

- Manually linking all bands on the table and generating nothing
- Manually linking some bands containing fixed elements on the table and automatically generating the rest of the table around the manually placed bands
- Automatically generating the entire table

If the Inter-grid Linkage table is being manually populated, this may be done prior to or after the population of grids with teaching sets. Completing the Inter-grid Linkage table early will enable the timetabler's plans to be recorded and resources more readily tracked.

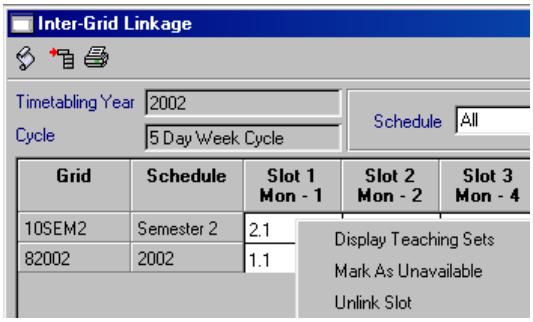
The Inter-grid Linkage table will be created for the entire timetabling year, with each schedule appearing within it. The table may be filtered by schedule so that all grids with concurrent band records may be displayed in isolation.

Selecting Timetabling > Grid Modelling and unlocking the grid and then clicking on the Functions menu and choosing Inter-grid Linkage table will display the following screen:



To add another time slot, click on add a slot.  A time slot will be added onto the end of the existing slots. The new slot will be available for all grids.

Right clicking on an individual cell will produce the following menu.



Display Teaching Sets will list all teaching sets associated with the band record.

Mark as Unavailable will highlight the slot as unavailable and no band record will be able to be placed on the slot until it is made available by right clicking and selecting ***Make Available***.

Unlink Slot will delete any band record linked to the slot

The last two functions will only be available if the grid has not been saved to a timetable.

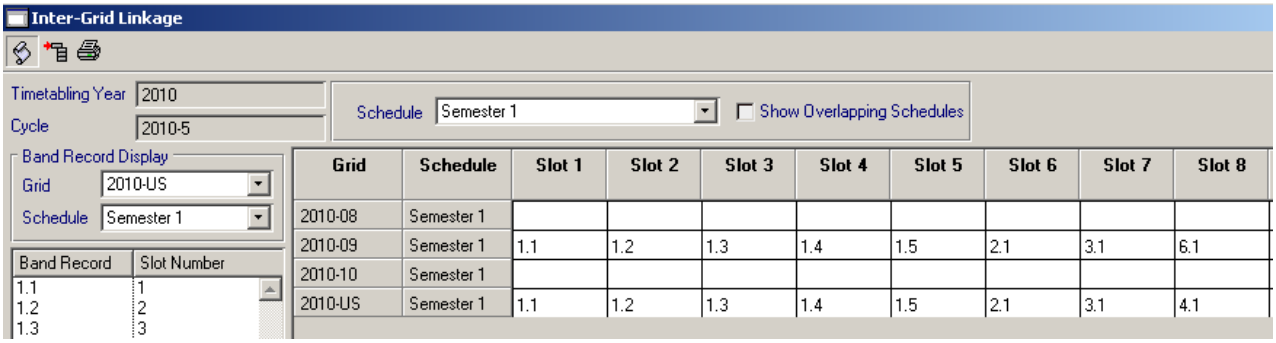
Note: Best practice would indicate that all schedules be completely linked together before saving so that the user can check that the timetable can be resourced.

ACTIVITY: Completing the Inter-grid Linkage Table

Timetabling > Grid Modelling > Functions > Inter-grid Linkage

- Click Display Band Records 
- Select the *Upper School* grid for *Semester 1*
- Complete mapping band record to slots by dragging the band records and dropping them into the desired slots

Note: See the table on the next page for an explanation of how Band Records were assigned to Slots.



Grid	Schedule	Slot 1	Slot 2	Slot 3	Slot 4	Slot 5	Slot 6	Slot 7	Slot 8
2010-08	Semester 1								
2010-09	Semester 1	1.1	1.2	1.3	1.4	1.5	2.1	3.1	6.1
2010-10	Semester 1								
2010-US	Semester 1	1.1	1.2	1.3	1.4	1.5	2.1	3.1	4.1

- Right click in each of the remaining slots and select *Mark as Unavailable*

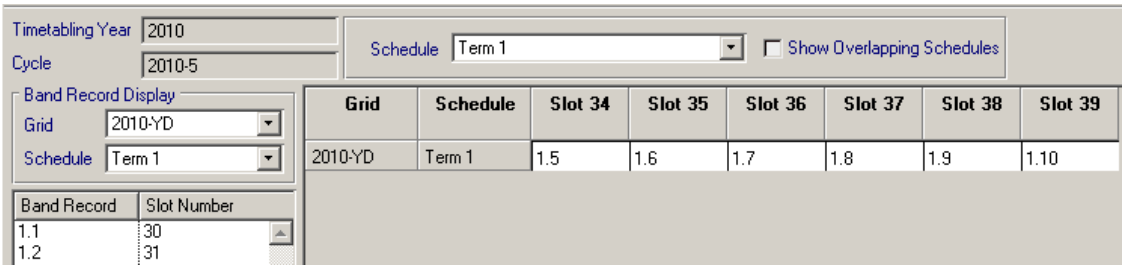
Schedule	Slot 29	Slot 30	Slot 31	Slot 32	Slot 33	Slot 34	Slot 35	Slot 36
Semester 1								
Semester 1	9.2							
Semester 1								
Semester 1	7.4	Unavailable	Unavailable	Unavailable	Unavailable	Unavailable	Unavailable	Unavailable

Inter-Grid Linkage Table/Timeslot Mapping for Upper School Semester 1

	Monday		Tuesday		Wednesday		Thursday		Friday	
	Slot	Band Record	Slot	Band Record	Slot	Band Record	Slot	Band Record	Slot	Band Record
Home Room	1	1.1	2	1.2	3	1.3	4	1.4	5	1.5
Lesson 1	6	2.1	11	7.1	16	6.2	21	5.3	25	3.4
Lesson 2	7	3.1	12	2.2	17	7.2	22	6.3	26	4.4
Lesson 3	8	4.1	13	3.2	18	2.3	23	7.3	27	5.4
Lesson 4	9	5.1	14	4.2	19	3.3	24	2.4	28	6.4
Lesson 5	10	6.1	15	5.2	20	4.3			29	7.4

Timetabling > Grid Modelling > Functions > Inter-grid Linkage

- Select the *Yard Duty* grid and *Term 1*
- Click on Show Band Record Display
- Drag and drop *Band Records 1.1* to *1.10* into *Slots 30* to *39*

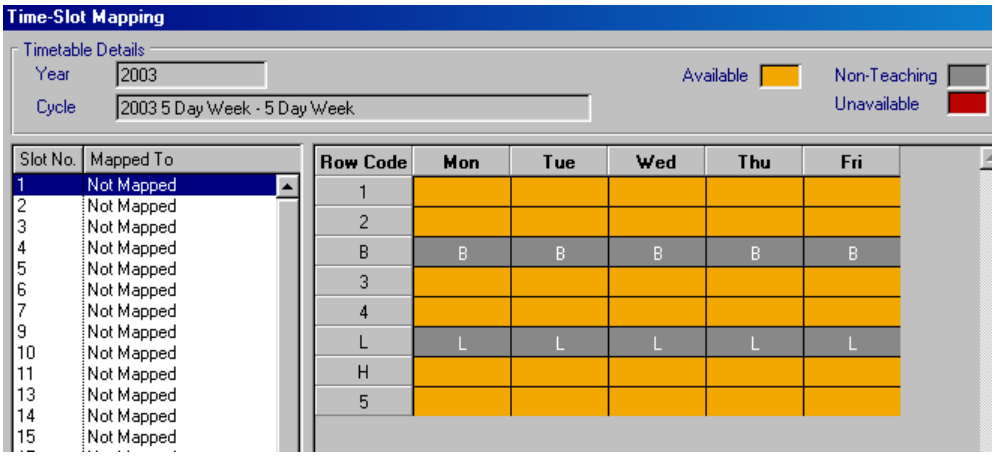


- Exit the *Inter-Grid Linkage Table*

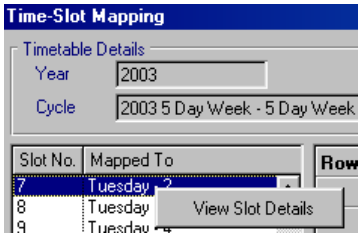
4.6.13 Time Slot Mapping

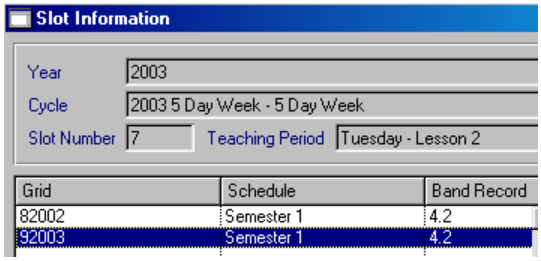
Time Slot Mapping is the act of mapping Band Records to the Period Structure.

Selecting the Timetabling Sidebar and Grid modelling, unlocking any grid within the timetabling year, clicking on the Functions menu and choosing Time Slot Mapping from the menu, will display the following screen.



Time slots may be dragged and dropped around the period structure. If the time slot is dragged to an already populated cell a warning message will appear before swapping the contents of the cell. Right clicking on the time slot will display **View Slot Details**. If this is clicked a window will appear that allows the user to view information about the grid, schedule and band record for that particular time slot.





Saving the time slots will store the row labels, days and row numbers for this grid.

Note: The time slots may be changed at any time and can be completed before the grid has been completely modelled.

ACTIVITY: Time Slot Mapping

Timetabling > Grid Modelling > Functions > Time Slot Mapping

- Drag and drop Slots *1* to *5* into the *H* periods
- Drag and drop Slots *30* to *39* into the *R* and *L* periods

Note: The period structure for Thursday is different.

Row Code	Mon	Tue	Wed	Thu	Fri
H	Slot 1	Slot 2	Slot 3	Slot 4	Slot 5
1					
2					
B	Slot 30	Slot 31	Slot 32	Slot 33	Slot 34
3					
4				Slot 38	
L	Slot 35	Slot 36	Slot 37		Slot 39
5					

- Drag and drop Slots *6* to *29* into the teaching periods

Row Code	Mon	Tue	Wed	Thu	Fri
H	Slot 1	Slot 2	Slot 3	Slot 4	Slot 5
1	Slot 6	Slot 11	Slot 16	Slot 21	Slot 25
2	Slot 7	Slot 12	Slot 17	Slot 22	Slot 26
R	Slot 30	Slot 31	Slot 32	Slot 33	Slot 34
3	Slot 8	Slot 13	Slot 18	Slot 23	Slot 27
4	Slot 9	Slot 14	Slot 19	Slot 38	Slot 28
L	Slot 35	Slot 36	Slot 37	Slot 24	Slot 39
5	Slot 10	Slot 15	Slot 20		Slot 29

- *Save* and *Close*

4.6.14 Auto-scheduling

Timetabling > Grid Modelling > Functions > Autoschedule

The auto-schedule process will create a grid that optimises the fit of student preferences, taking into account user nominated constraints on subjects and teacher and room resources.

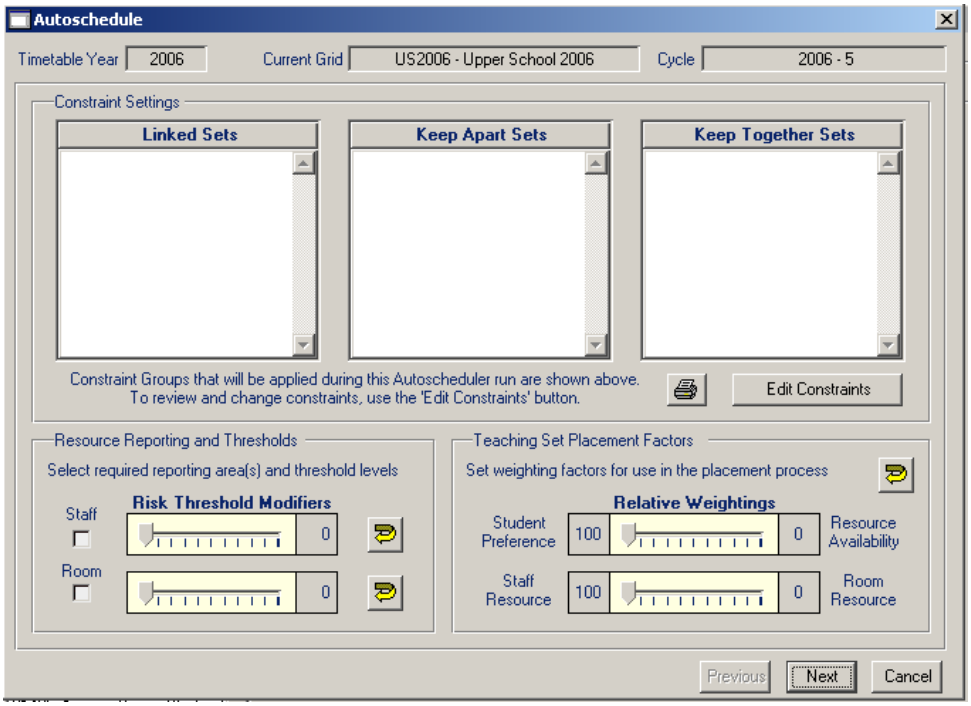
The following constraints can be selectively applied during the auto scheduling process:

	Mandatory	Desirable	Optional
Number of Sets of a Subject	✓		
Maximum and Minimum Class Sizes	✓		
Matching Subject and Band Frequencies	✓		
Resource Usage of other Grids		✓	
Staff Preferred Subjects		✓	
Subject Preferred Rooms		✓	
Inter-grid Linkage		✓	
Keep Apart Sets			✓
Keep Together Sets			✓
Linked sets			✓
Locking students in Sets			✓
Locking Sets			✓
Locking Bands			✓

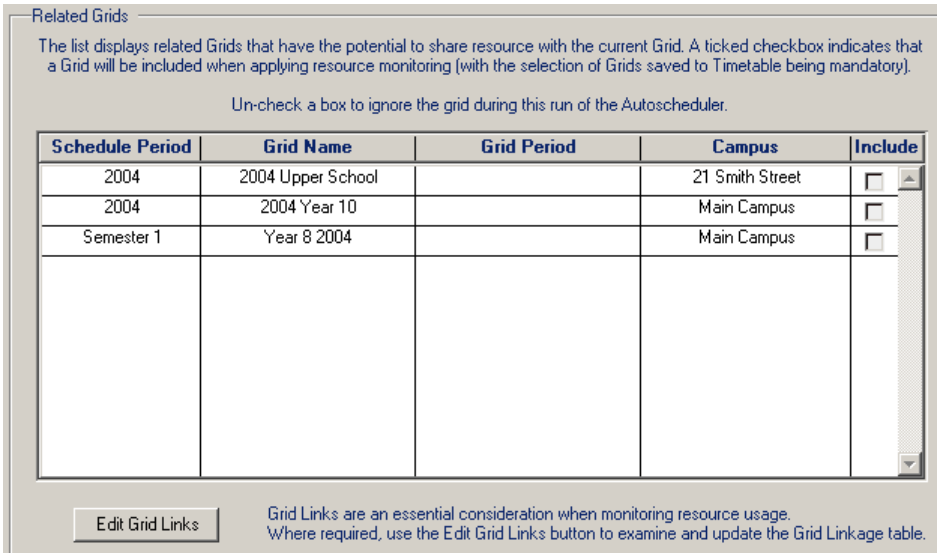
Note: The mandatory constraints will be applied, and should be checked by the timetabler prior to initiating the auto scheduling process. Incorrect or incomplete constraints may result in unacceptable solutions.

The auto-schedule process will function as a wizard requiring the user to nominate various settings within three screens before the process begins. The fourth screen is displayed while the auto-scheduler is in process. A user may cancel the auto-schedule process at any time by clicking Cancel from any of the first three screens or Ctrl + Break and then clicking Cancel in the fourth screen. At certain stages of the auto-schedule process cancelling may corrupt the data file, if this is the case a warning will be displayed on the screen to that effect.

In screen 1 the user may select previously defined constraint settings (that is linked sets, keep apart sets or keep together sets). The user may also elect to use threshold settings and resource monitoring for teachers and rooms. Resource monitoring can only be selected if staff preferred subjects and/or subject preferred rooms has been entered. Threshold settings allow the user to fit the timetable even if teachers and/or rooms are a nominated amount short. Resource monitoring, if ticked, will allow the user to monitor the placing of teachers and/or rooms.



Screen 2 will display a list of related grids that have the potential to share resources with the current grid. If the user wishes the auto-schedule process to take into account resources from other grids the relevant grids must be included. Grids saved to the Timetable are always included. The inter-grid linkage table may be edited by clicking on the Edit Grid Links button.

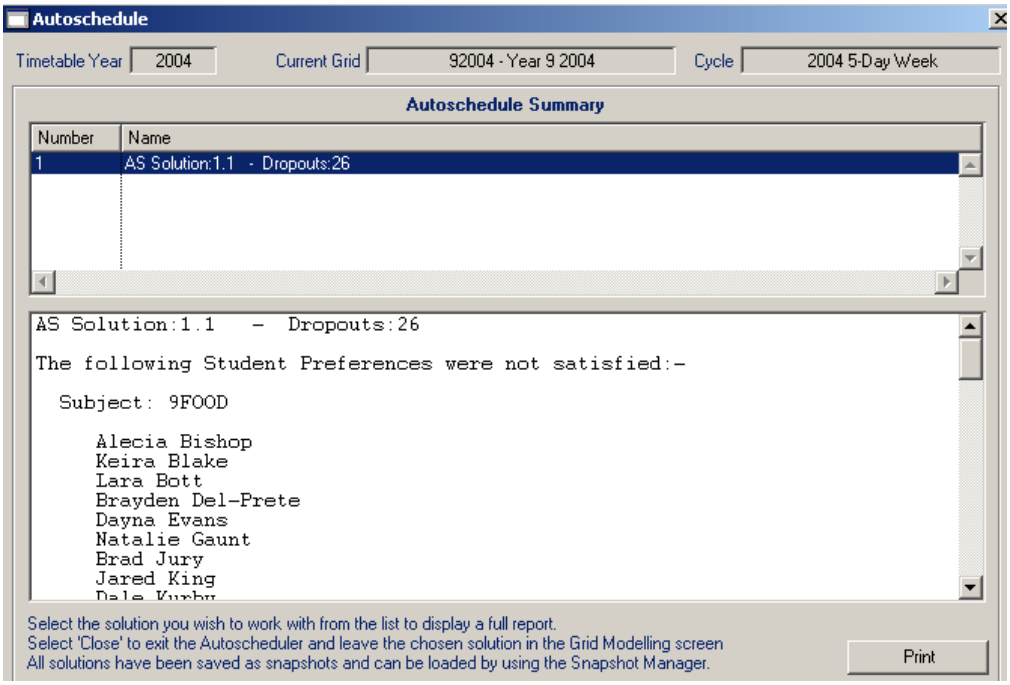


Screen 3 allows the user to view the number of available Timetable Cycle slots. The user may also indicate the number of possible solutions required and the variants of the main solution may also be requested if required.

The auto-schedule process completes the following functions in the listed order:

- Examining Teacher and Room preferences
- Calculating possible teacher use – Selected Schedules
- Calculating possible room use – Selected Schedules
- Making initial allocation of students to teaching sets
- Assessing initial allocation of students to teaching sets
- Improving student allocations to teaching sets
- Examining current Teaching Set to Band assignments
- Saving newly created timetable details

A completion report is displayed at the end of the auto-schedule process showing any conflicts and/or student dropouts created by the process. The user may then relax or tighten constraints and run the auto-scheduler again or accept the result and manually manipulate the grid to produce a better grid.



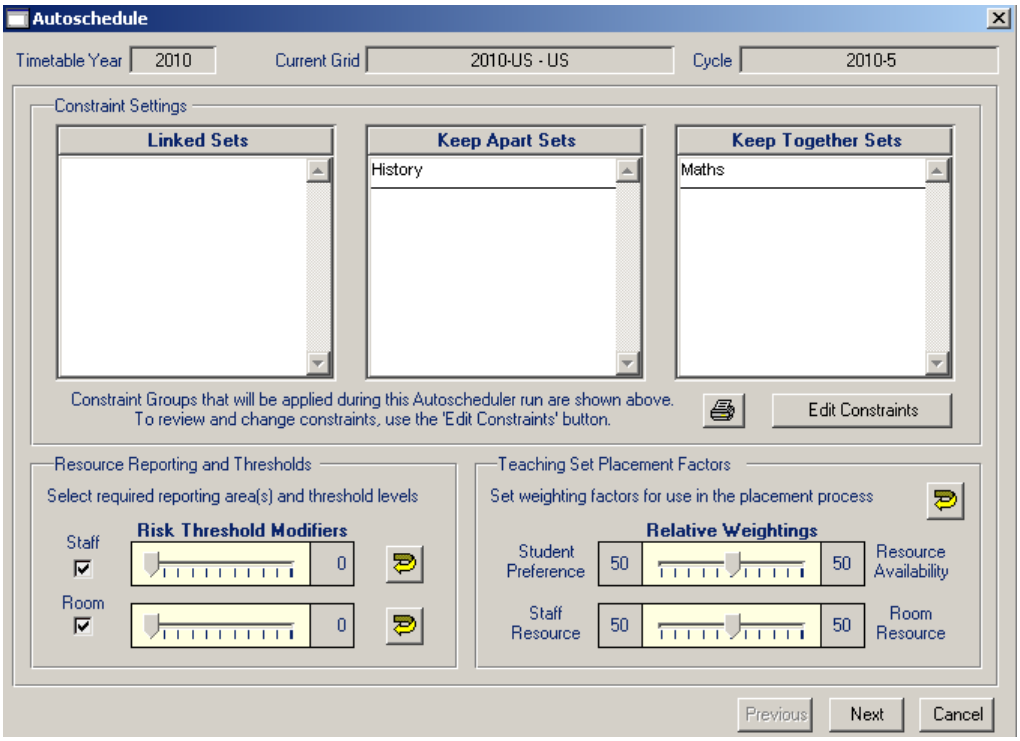
Note: The time taken for the auto-schedule process is dependent on the size of the school and number of constraints used.

Activity: Auto-scheduling

Timetabling > Grid Modelling > Functions > Autoschedule

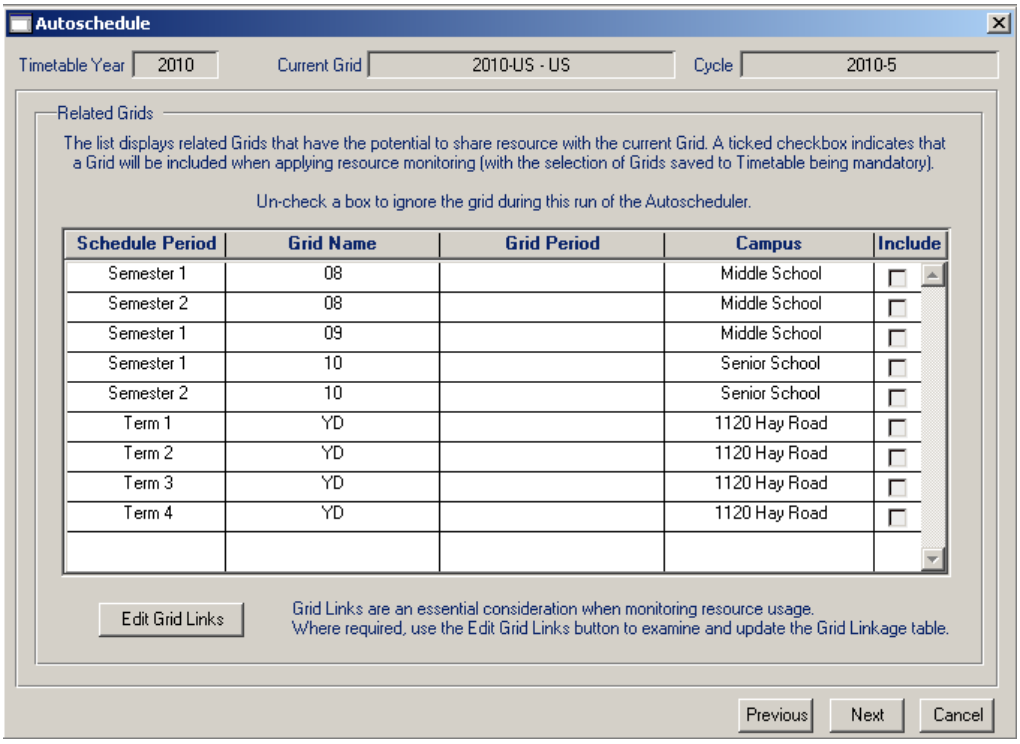
Auto scheduling a grid

- Check both boxes under *Resource Reporting* and *Thresholds*
- Give equal weighting to *Student Preferences* and *Resource Availability* and to *Staff* and *Room Resources*



- Click *Next*

- Deselect all other grids and click *Next*



- Enter *1* possible solution
- Click *Next*

The Auto-schedule process will commence. A completion report will be printed to the screen. The user may print this report.

- Click *Close*

Note: The user may manually resolve conflicts or tighten/relax constraints and run the auto-scheduler again.

4.6.15 Refining Student Placement

Once all teaching sets are in place, it is now time to refine student placement for the timetable. Student Placement involves ensuring that all students are placed in a teaching set at any one time and there are no clashes or unplaced preferences.

This process will involve the use of the ***Move Student Function*** to manipulate the placement and balance of students within sets of multi-set subjects and the use of the ***Student Course*** function to manipulate and fit individual students.

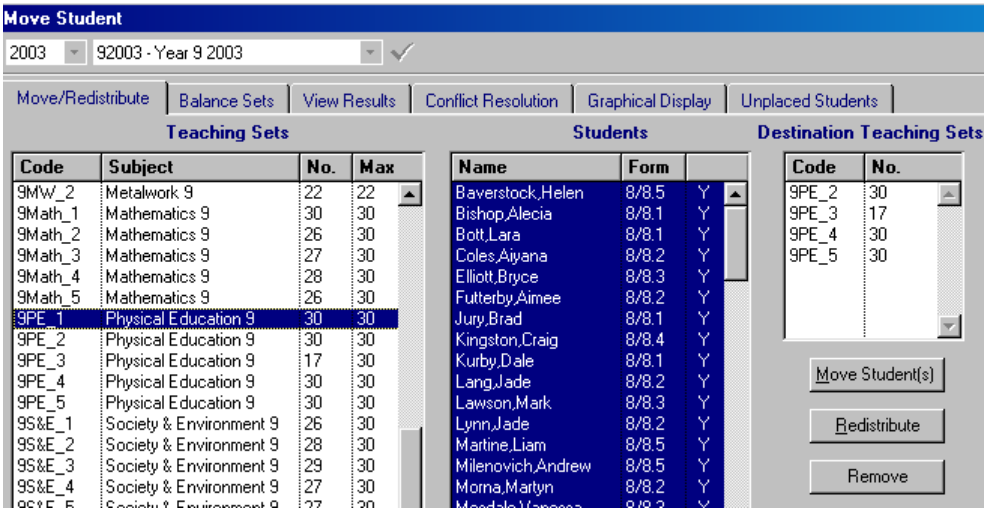
Move Student Function

The Move Student function is available in two places:

- Timetabling > Grid Modelling > Tools > Move Students
- Timetabling > Timetable > Functions > Move Students

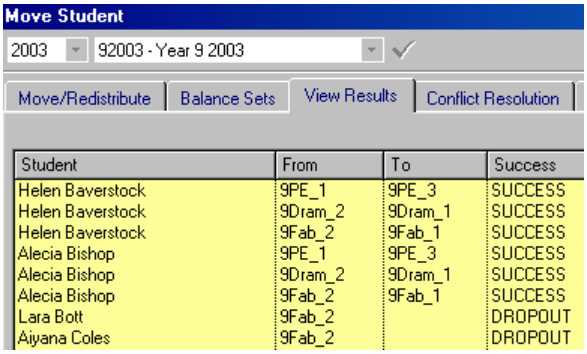
The ***Move Student*** function allows the user to move or redistribute teaching sets, balance all sets, view the results of any moves, resolve conflicts and place unplaced students.

Move/Redistribute allows the user to highlight any teaching set and students in the teaching set will then be automatically highlighted. The ***Move Students*** option allows the user to highlight any or all students and move them to another teaching set for the same subject. If there is more than one destination teaching set available, using the ***Redistribute*** function will try to place students with the minimum of dropouts. ***Remove*** will remove the teaching set from the grid and any students in that set will become unplaced students.



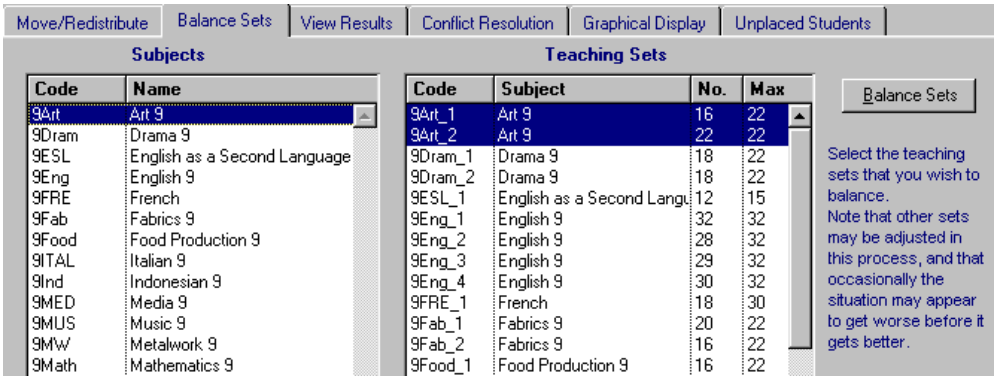
After any attempted change the ***View Results*** tab will be shown to display the success or failure for individual students of any move.

The report may be printed from this screen by selecting ***Print Log***. If ***Success*** is listed, the student has been successfully moved to the destination teaching set. If ***Failed*** is listed the student has not been moved but remains in their original teaching set. If ***Dropout*** is listed the student is now not placed in any teaching set for that subject and remains unplaced.

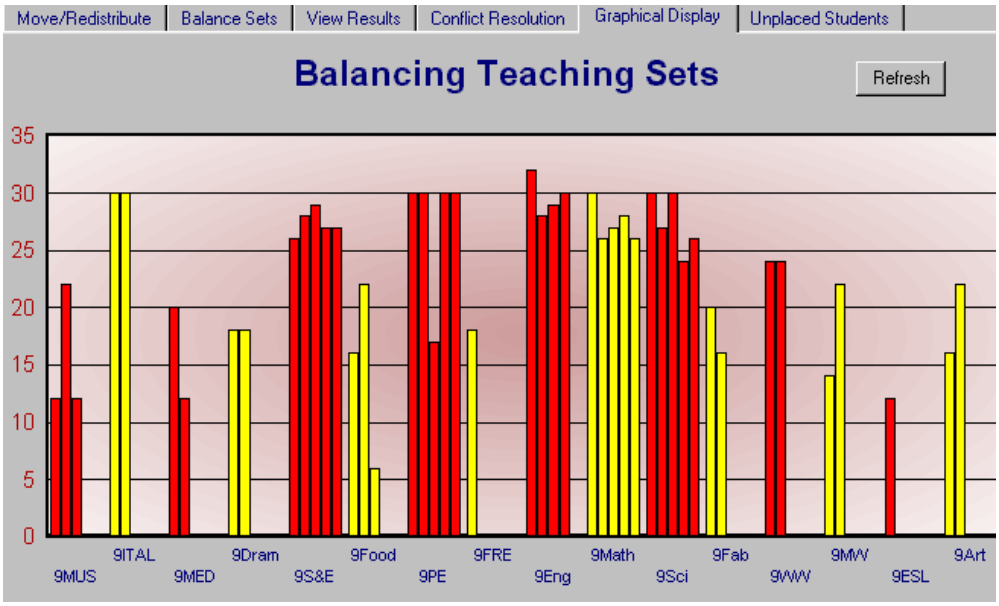


Student	From	To	Success
Helen Baverstock	9PE_1	9PE_3	SUCCESS
Helen Baverstock	9Dram_2	9Dram_1	SUCCESS
Helen Baverstock	9Fab_2	9Fab_1	SUCCESS
Alecia Bishop	9PE_1	9PE_3	SUCCESS
Alecia Bishop	9Dram_2	9Dram_1	SUCCESS
Alecia Bishop	9Fab_2	9Fab_1	SUCCESS
Lara Bott	9Fab_2		DROPOUT
Aiyana Coles	9Fab_2		DROPOUT

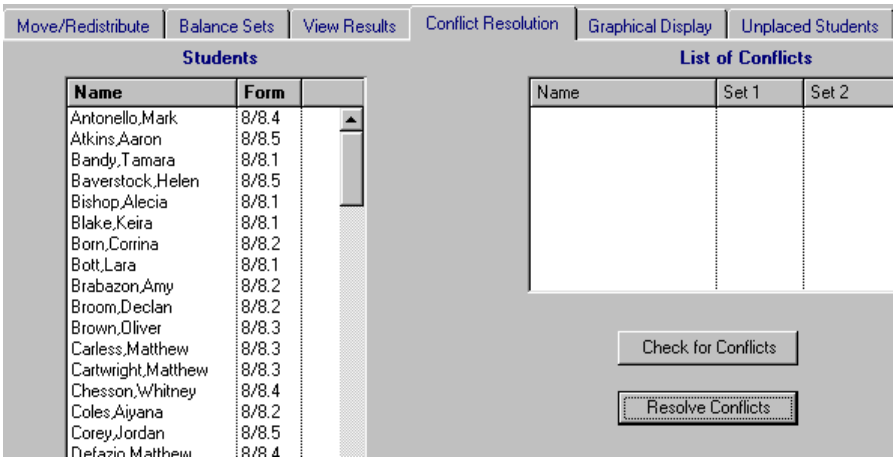
Balance all Sets attempts to redistribute students to allow more equitable teaching sets. Users can select some or all teaching sets to be balanced. Highlighting the relevant teaching sets and clicking on ***Balance Sets*** will attempt to redistribute the students.



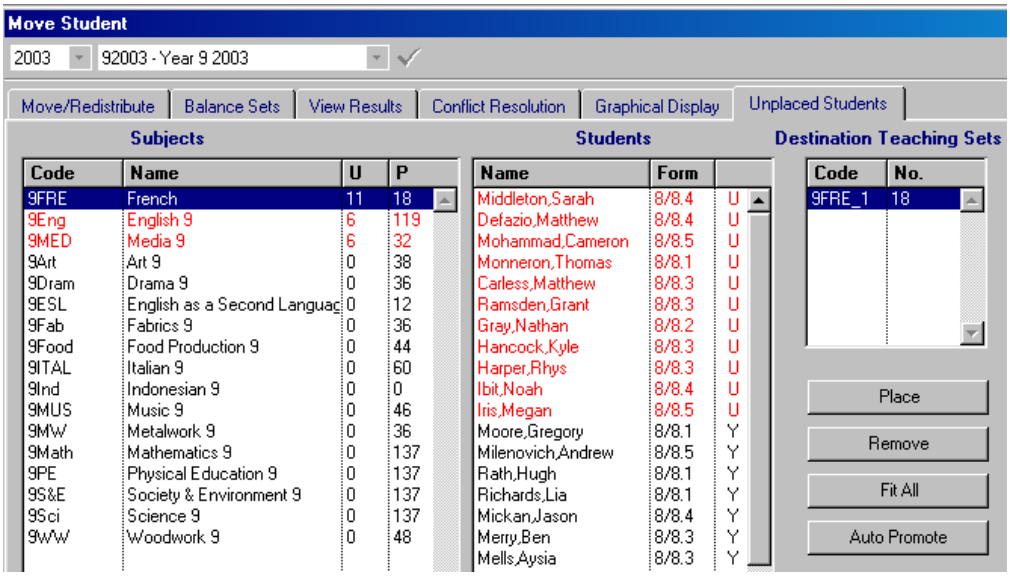
Once the balancing of the sets has been set in motion the ***Graphical Display*** of teaching sets will be automatically displayed. If the system could balance teaching sets without allowing any dropouts the graph will automatically adjust to reflect the balancing.



Conflict Resolution allows the user to select some or all students for a grid and *Check for Conflicts*, that is, check for student clashes. Any clashes will be listed and the user may *Resolve Conflicts* from this screen.



Unplaced Students displays any subjects in red that have any unplaced students. All other subjects and placed students are also listed. Students who are unplaced are listed in red and have a *U* placed next to their name. The third column displays associated teaching sets for the highlighted subject. Highlighting the appropriate subject(s), student(s) and teaching set(s) and clicking *Place* will attempt to move students into teaching sets. The *Remove* function will move a placed student from a teaching set. The *Fit All* function will attempt to place all unplaced students into relevant teaching sets. *Auto Promote* promotes students' reserve preference, after which *Fit All* may be attempted again. The success or failure of the attempted placements will be shown on the *View Results* tab that will display automatically.



If the move has been successful, clicking *OK* will save the move. If the move has been unsuccessful and the user wants to revert all students to their original teaching sets, clicking *Cancel* at any time will not save any changes. If the user is in the *Grid Modelling* screen the use of snapshots may be advantageous to check the results of any moves.

Allow Oversize Sets if checked will create teaching sets that are larger than the maximum listed in the Subject Load table if this will allow more students to be fitted into the teaching sets. *Movements*

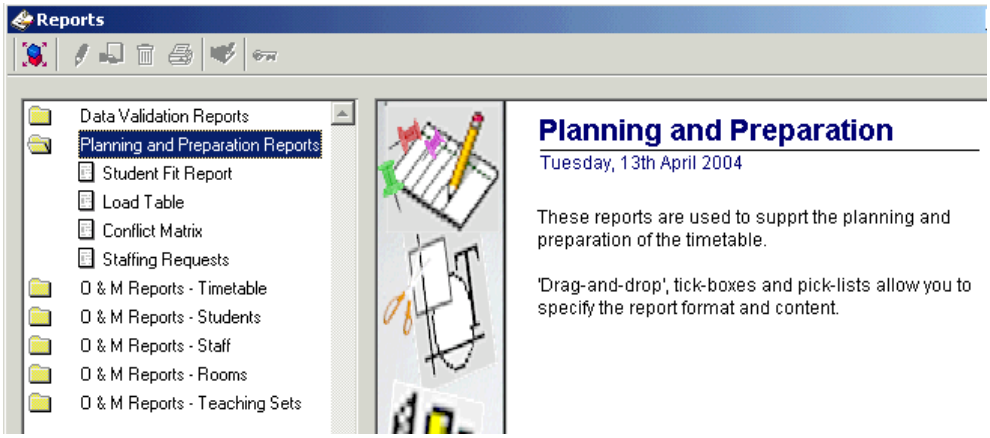
shows the number of student moves that have been allowed for this grid. ***Attempts*** displays the number of attempted moves to place students on the grid.

The ***Timetable Year*** and/or ***Grid*** may be changed at any time while working within the Move Students function.

Useful reports to view while analysing student fit are the

- Auto-scheduler Completion Report
- Student Fit Report
- Load Table Report
- Conflict Matrix Report

These reports except for the auto-scheduler completion report are found in Timetabling > Reports > Planning and Preparation.



ACTIVITY: Fitting Students to the Grid

Timetabling > Grid Modelling

To fit as many students as possible to the Upper School grid:

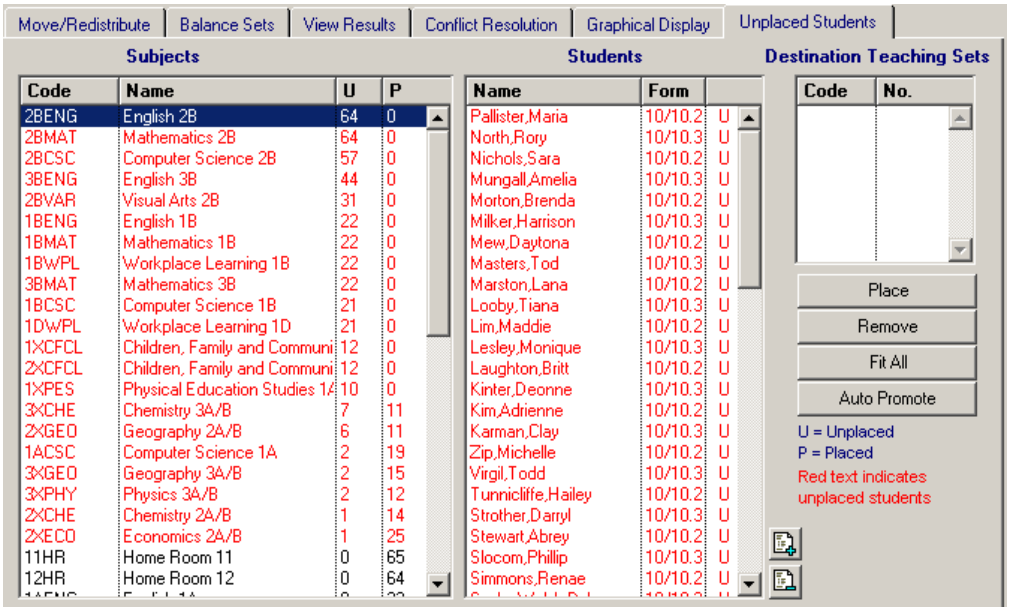
- Click *Update Student Statistics* 

This will indicate how many students are unplaced overall and for each band record.

Tools > Move Students

- Click on the *Unplaced Students* tab

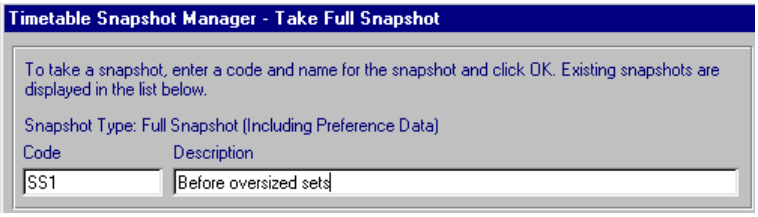
Any subjects highlighted in red have unplaced students. The students highlighted in red are the unplaced students for the selected subject.



- Click *Auto Promote*, then *Fit All*
- Select *Ignore students in off-grid sets* and click *OK*
- Click *OK* to accept changes and close the *Move Students* window

- Take a *FULL Snapshot* of your grid 

- Enter a *Code* and *Description* for your snapshot



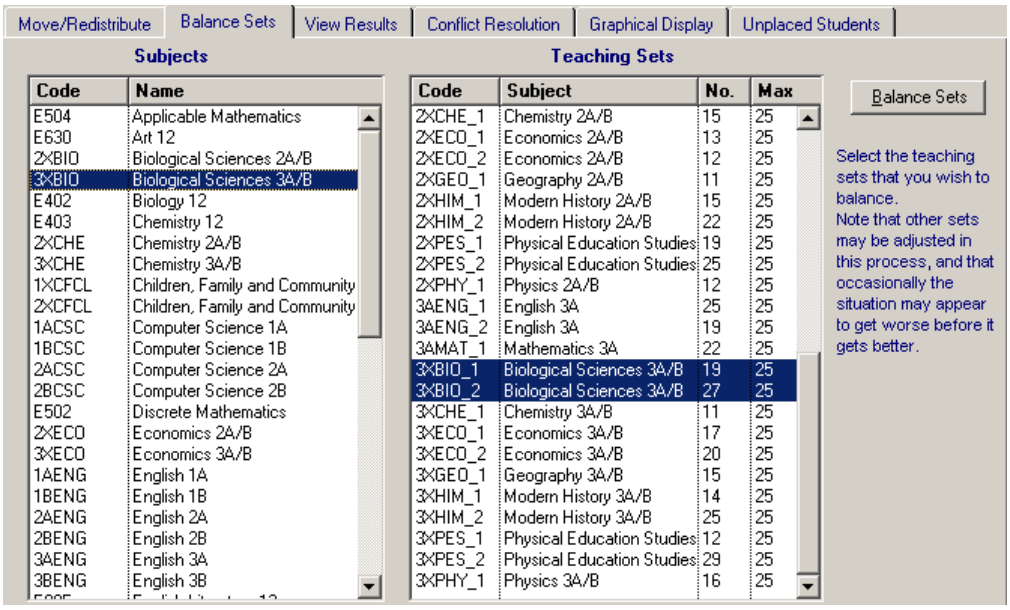
Tools > Move Students > Unplaced Students

- Select *Allow Oversize Sets* and then click on *Fit All* again
- Click *OK* to accept any changes and close the window
- View your grid, if any sets are significantly oversized you may wish to retrieve  your snapshot

Balancing Sets

Tools > Move Student > Balance Sets

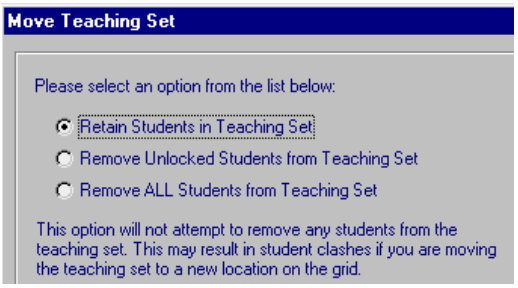
- Highlight any unbalanced sets (especially if some are over-sized)and click *Balance Sets*



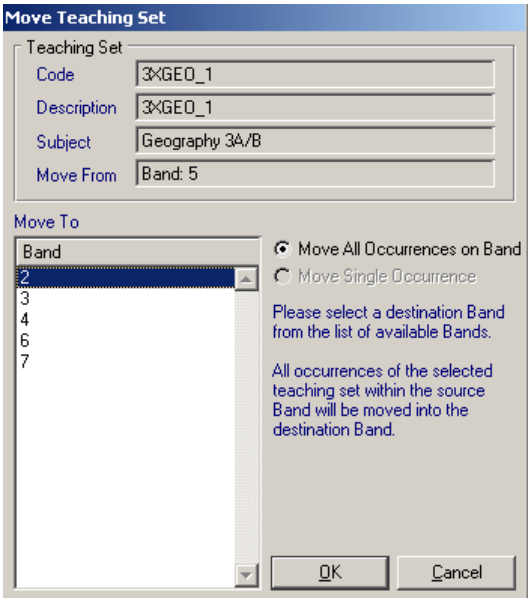
- Click the *View Results* tab
- Click *OK* to accept the solution

Moving teaching sets on the grid

- Take another *FULL Snapshot* of your grid
- Right click on a teaching set you want to move and choose *Move Teaching Set*
- Choose *Retain Students in Teaching Set* and click *OK*



- Select the band you want to move the teaching set to and click *OK*



Tools > Move Students > Conflict Resolution

- Click *Select All* and *Check for Conflicts*
- Click *Resolve Conflicts*
- Click the *View Results* tab
- Click *OK* to accept the solution

Depending on your placement of teaching sets on the grid you may also wish to:

- *Add Teaching* sets through the *Tools* menu
- *Delete Teaching* sets through the *Tools* menu

Note: You can revert to an earlier snapshot at any time.

- Lock  the grid and click *Yes* to save the changes

4.6.16 Copying Grid Bands

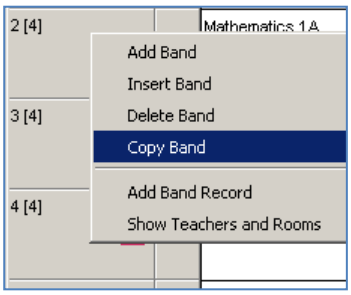
Activity: Copying Grid Bands

Timetabling > Preferences > Subject Load Table

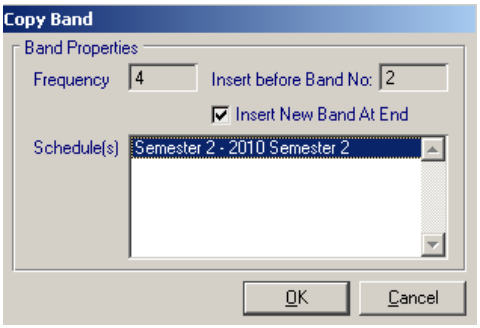
- Click *Edit*
- Enter the number of teaching sets required for each *1B, 1D, 2B* and *3B* subject
- Click *OK* to save

Timetabling > Grid Modelling

- Unlock  the Upper School grid
- Right click in the grey area next to *Band 2*

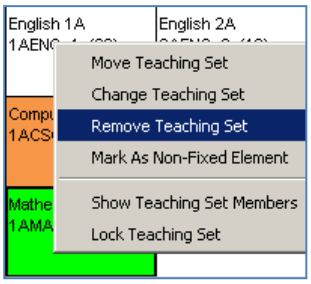


- Click *Copy Band*
- Check *Insert New Band At End* and select the *Semester 2* schedule

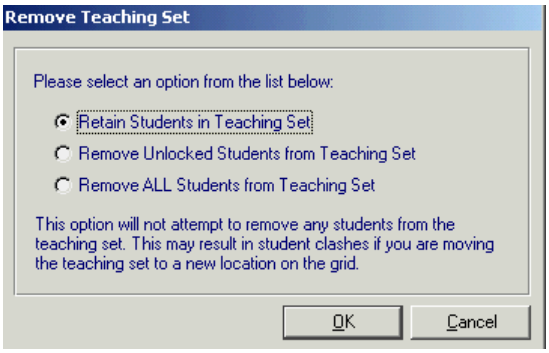


- Click *OK* and *Yes*

- Right click in a cell on Band *8* containing a Semester 1 Subject (that is *1A, 1C, 2A* or *3A*)
- Select *Remove Teaching Set*

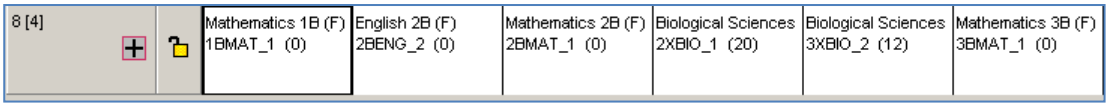


- Select *Retain Students in Teaching Set* and click *OK*



Timetabling > Grid Modelling

- Click Display Teaching Sets 
- Select the Semester 2 equivalent of one of the teaching sets you have removed
- Drag and drop it onto Band *8*
- Repeat for any other Semester 1 subjects on Band *8*



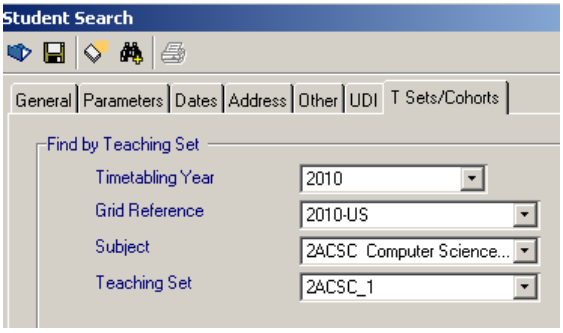
Note: In school this will need to be repeated for each band containing semesterised subjects.

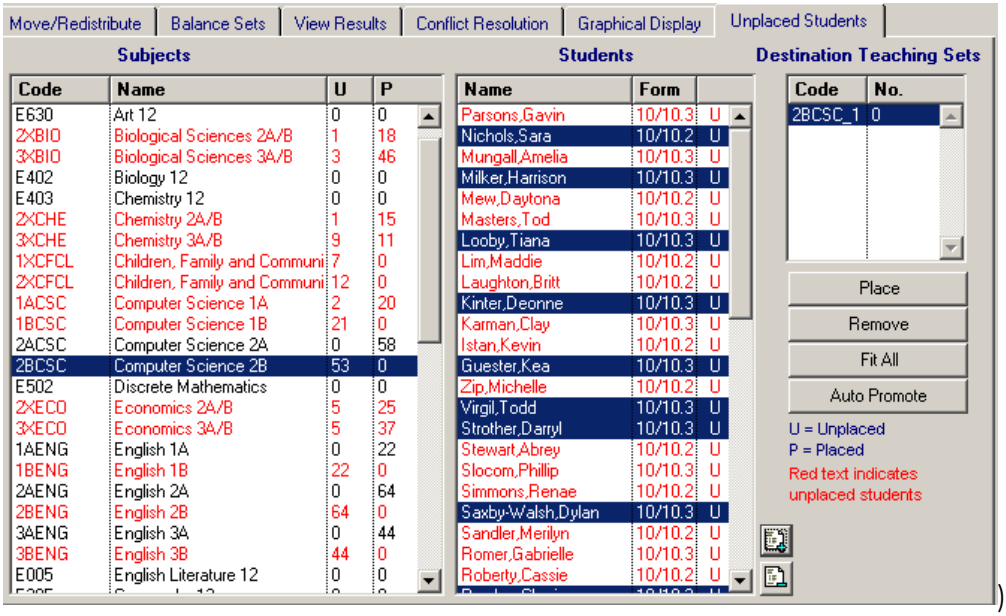
Timetabling > Grid Modelling > Tools > Unplaced Students

- Select one of the subjects for which you just placed a teaching set on the grid

(If there is more than one teaching set for that subject:

- Click *Select …* 
- Find the students in the Semester 1 equivalent of the teaching set you have placed on the grid





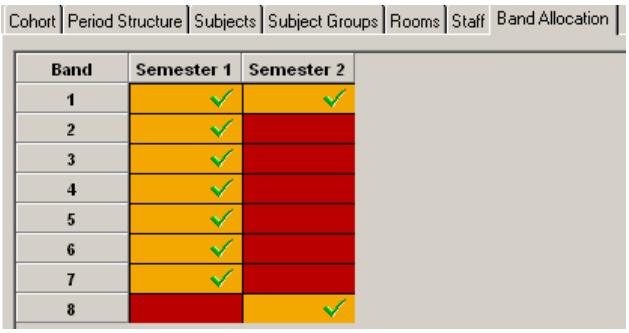
- Click *Place*
- Click *OK*

- Repeat for the other teaching sets placed on Band 8

- Lock  the grid and click *Yes* to save the changes

Timetabling > Timetable Setup > Individual Grid Parameters > Band Allocation

- View the additional band

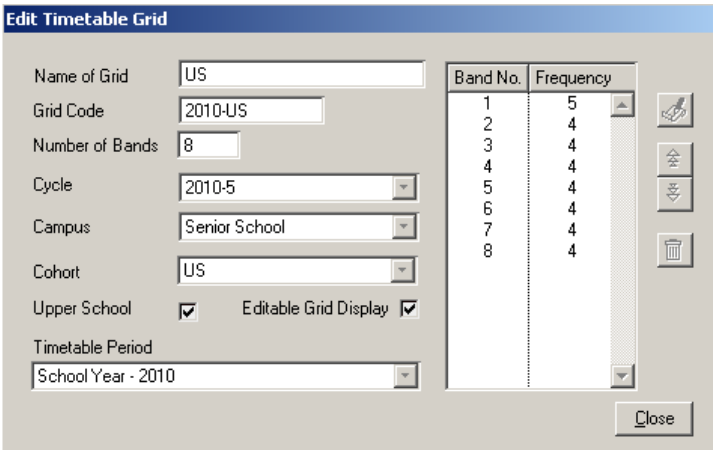


4.6.17 Editable Grid Display

Activity: Moving Sets on a Band

Timetabling > Timetable Setup > Timetable Grids

- Select the Upper School grid and click Edit 
- Check *Editable Grid Display*



- *Close*

Timetabling > Grid Modelling

- Unlock the Upper School grid
- Click *Show Teaching Sets* 
- Drop and drag the Spacer into the appropriate cells so that the stage 3 sets are aligned

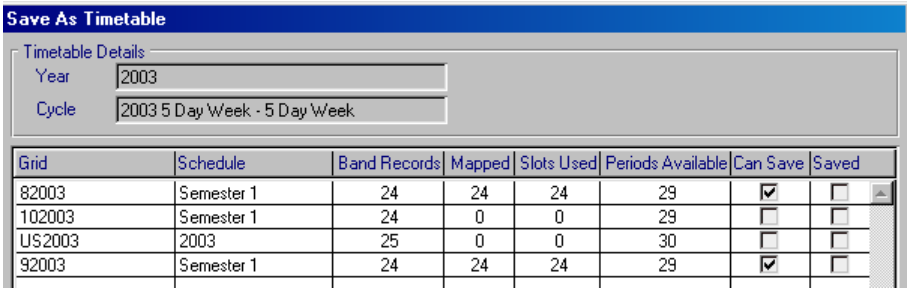
Note: Move Teaching Sets  *may be used to move teaching sets across bands.*

Biological Sciences 2XBIO_1 (20)			Mathematics 3A 3AMAT_1 (22)	Biological Sciences 3XBIO_2 (12)
Chemistry 2A/B 2XCHE_1 (12)	Physical Education 2XPES_1 (23)		Geography 3A/B 3XGEO_1 (12)	Modern History 3A/B 3XHIM_1 (21)
Modern History 2A/B 2XHIM_2 (18)			English 3A 3AENG_2 (11)	Modern History 3A/B 3XHIM_2 (16)
Geography 2A/B 2XGEO_1 (10)	Physical Education 2XPES_2 (16)	Physics 2A/B 2XPHY_1 (7)	Chemistry 3A/B 3XCHE_1 (13)	Economics 3A/B 3XECO_1 (13)
Modern History 2A/B 2XHIM_1 (24)			Biological Sciences 3XBIO_1 (24)	Economics 3A/B 3XECO_2 (25)
Mathematics 2A 2AMAT_2 (11)	Economics 2A/B 2XECO_1 (27)		English 3A 3AENG_1 (32)	
Biological Sciences 2XBIO_1 (20)			Mathematics 3B (F) 3BMAT_1 (9)	Biological Sciences 3XBIO_2 (12)

4.6.18 Save as Timetable

Saving the Grid as a Timetable will incorporate the grid into the total overview of the school's use of resources, that is, the timetable. The action of saving locks the band records in the saved schedule into the grid. Once the grid has been saved it may not be remodelled. However a grid may be unsaved if necessary and then may be remodelled.

Unlocking the grid, clicking on the Functions menu and choosing Save as Timetable from the menu will display the following screen.



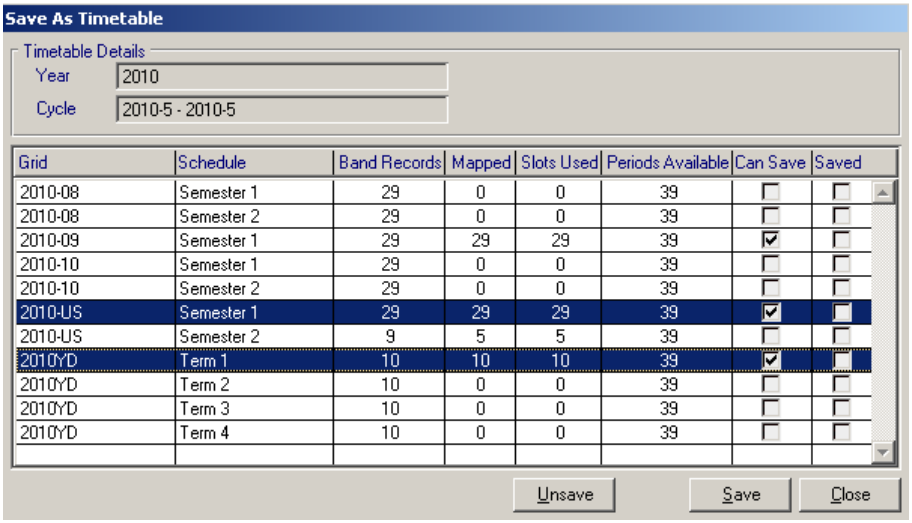
Highlight the grid to be saved and click the Save button.

ACTIVITY: Save As Timetable

Timetabling > Grid Modelling > Functions > Save as Timetable

Save the Upper School and Yard Duty grids to the timetable.

- Highlight the *Semester 1* Upper School grid and the *Term 1* Yard Duty grid



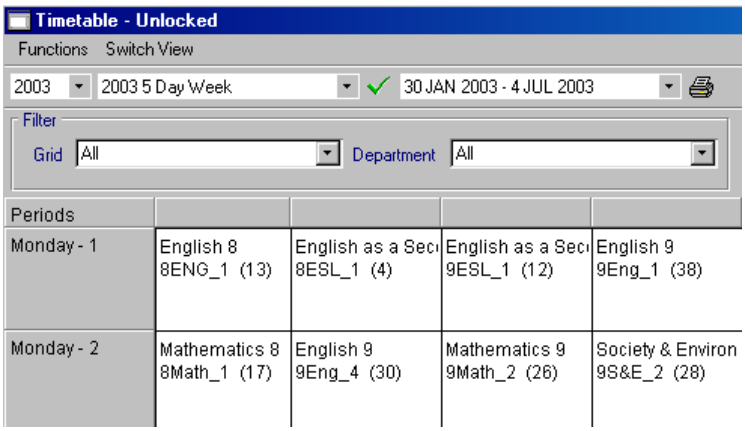
- Click *Save* and *Yes*
- *Close*
- Lock  the grid and click *Yes* you do wish to save the changes
- Click *Close*

4.7 Allocating Staff and Rooms

Allocate Staff and Rooms allows the user to indicate which teacher and room will be used for each occurrence of a teaching set on the timetable.

Allocation and maintenance of staff and room details is performed within the Timetable Sidebar function. Selection of this function will open the timetable that applies to the current date. The timetabling year and timeslice can be selected to view the timetable to be staffed and roomed.

Only grids that have been Saved as Timetable will be visible.

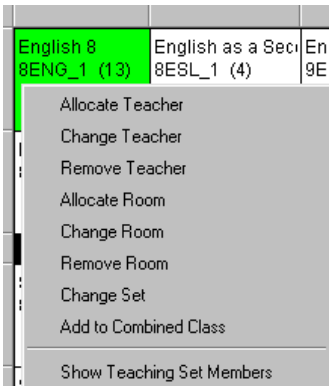


Staff and rooms may be allocated to subjects on the timetable in one of three ways:

- Manually placing staff and rooms for every occurrence of a teaching set on the grid,
- Auto-allocate all staff and rooms
- Manually allocate staff and/or rooms for some teaching sets and then auto-allocate staff and/or rooms to the remaining teaching sets.

4.7.1 Manual Placement of Staff and Rooms

Teaching staff and rooms are allocated manually by highlighting an appropriate teaching set, right clicking and selecting from the list of functions.



4.7.2 Auto-allocation of Staff and Rooms

Auto-allocation of staff and rooms relies on subject-preferred rooms and staff preferred subject and rooms. The auto-allocate staff and room function is available from the Function menu item within the Timetable sidebar item.

Auto-Allocate Staff

The Auto Allocate Staff function attempts to assign staff to all class meetings that are currently displayed in the Timetable window

Note: The Auto Staff Allocation function will only allocate staff to subjects in their list of preferences. No allocations will be made where staff/subject preferences have not been made.

If a set has been partially allocated to a single teacher **and** that teacher has the subject of the set in their list of preferences **and** it can allocate the remaining meetings to the same teacher **then** it will allocate the remaining meetings to the same teacher.

If a set has no teacher allocations **and** it can be taught by a single teacher **and** the teacher has the subject of the set in their preferences, **then** the teacher may be allocated to teach the set (this also takes account of preference rank). It will do this first for staff who only have one subject preference, and then for remaining staff. Over allocation of staff is not allowed at this stage (i.e. staff will not be timetabled above specified Net FTE).

If any class meetings remain to be allocated, then you will be asked if over-allocation of staff is allowed. If it is then the previous step is repeated allowing staff to be timetabled above specified Net FTE.

If a Combined Class has class meetings relating to two or more subjects, then a staff/subject preference for either subject will be sufficient for an allocation to be made. Note that this means that some subjects may therefore be allocated to non-preferred staff.

If a displayed class meeting is part of a Combined Class and is linked to a class meeting that is not displayed, then it will still attempt to allocate staff to the class meeting. If successful then the allocation will apply to all class meetings that make up the Combined Class.

Auto-Allocate Rooms

The Auto Room Allocation function will attempt to assign rooms to all class meetings that are currently displayed in the Timetable window.

The Auto Room Allocation function will only allocate rooms to subjects in their list of preferences. No allocations will be made where room/subject preferences have not been defined.

Rooms are allocated to class meetings for a set where the set is already partially allocated to a single room, as long as all of the remaining meetings can be allocated to the same room.

Sets that are linked to a room by a 'Must Have' preference will be allocated to the 'Must Have' room as long as the room can be used for all meetings of the set.

Sets that are linked to a room by a positive preference (Highly Desirable, Desirable, Take if Necessary) will be allocated to an appropriate room as long as the room can be used for all meetings of the set. This will take account of the rank of the preference.

The previous step is repeated on an individual class meeting basis – that is it does not check that all meetings of a set will be allocated to the same room. Some meetings for a set may be allocated whilst others remain unallocated.

Room allocation is then repeated on an individual class meeting basis.

Before proceeding, users will be asked if they wish to proceed or to skip room allocation on an individual class meeting basis.

If a Combined Class has class meetings relating to two or more subjects, then a room/subject preference for either subject will be sufficient for an allocation to be made. Note that this means that some subjects may therefore be allocated to non-preferred rooms.

If a displayed class meeting is part of a Combined Class and is linked to a class meeting that is not displayed, then it will still attempt to allocate rooms to the class meeting. If successful then the allocation will apply to all class meetings that make up the Combined Class. For instance if the Combined Class includes a Science class and a Maths class, and the Science class has Lab 1 as preferred room and Maths class has M1 as a preferred room, then if the auto room allocation function is run with Maths classes only, it will select M1 for the Combined Class, whereas if the Science filter is applied then Lab 1 will be chosen.

Staffing and Rooming Reports

Some reports that may be of use are:

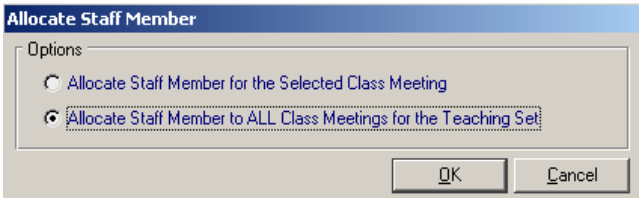
- Period Summary
- Teacher Clash Summary
- Staff Load
- Room Clash Summary Report
- Room Load

ACTIVITY: Allocating Staff and Rooms

Timetabling > Timetable

Manually allocate a teacher and room to a teaching set

- Filter to the *2010* timetable
- Right click in one of the English classes and choose *Allocate Teacher*



- Select Allocate Staff Member to ALL Class Meetings for the Teaching Set and click OK
- Select *Harris Barclay* and click *OK*

Note: As Harris Barclay has a preferred room, the room is also allocated.

Timetabling > Timetable

Auto-allocate staff and rooms to the teaching sets for 2010

- Click *Functions*
- Select *Auto-allocate staff*
- Read the prompts and click *Yes*

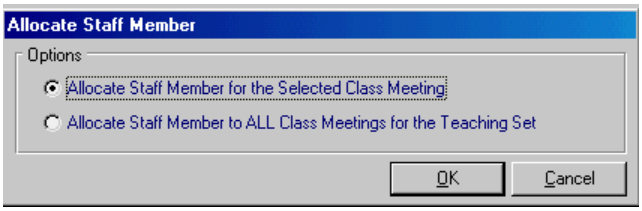
Note: If staff are overloaded or there are teaching sets that cannot be allocated to a staff member, users will be given the option to display an exception report to the screen (that may be printed). These teaching sets may be allocated manually or constraints relaxed and the auto-allocate process run again.

- Click *Functions* again and select *Auto-allocate rooms*
- Read the prompts and click *Yes*

Note: If there are teaching sets that cannot be allocated a room, users will be given the option to display an exception report to the screen (that may be printed). These teaching sets may be allocated manually or constraints relaxed and the auto-allocate process run again.

Rooms have been allocated to Yard Duty but not teachers

- Filter to the *Yard Duty* grid
- Right click in the first occurrence of duty
- Select *Allocate Teacher*
- Choose to *Allocate Staff Member for the Selected Class Meeting*



- Select a suitable teacher and click *OK*
- Repeat for each Duty Area for Monday recess
- Close the Timetable

5 Timetabling Reports

The current timetabling reports are available from Timetabling > Reports. Most reports are also available by printing from the relevant screens within the Timetabling module. The following list of reports may change in the future to meet the changing needs of users. Samples of the available reports may be viewed in the Timetabling Manual.

Timetabling Reports have been broken up into three areas: Data Validation, Planning and Preparation, and Operational and Maintenance.

Data Validation Reports consist of:

- Student Course Summary
- Students Choosing A Subject
- Students Choosing A Combination Of Subject
- Students With Less Than A Given Number Of Subjects

These reports allow the user to identify that correct subjects has been entered and allocated to the relevant students.

Planning Preparation Reports consist of:

- Student Fit Report
- Load Table
- Conflict Matrix
- Staffing Requests

These reports help the user in the planning and preparation of timetables.

Operational and Maintenance Reports – Timetable consist of:

- Horizontal Grid Summary
- Vertical Grid Set Distribution
- Period Summary
- Exam Timetable

Operational and Maintenance Reports – Student consist of:

- Student Timetable by Date Range
- Student Timetable by Grid
- Student Load
- Clearance Form

Operational and Maintenance Reports – Staff consist of:

- Teacher Clash Summary
- Staff Timetable
- Staff Load
- Relief Teacher Timetables
- Teacher Usage Summary
- Free Teacher Summary

Operational and Maintenance Reports – Rooms consist of:

- Room Clash Summary
- Room Timetable
- Room Load
- Room Usage Summary
- Free Room Summary

Operational and Maintenance Reports – Teaching Sets consist of:

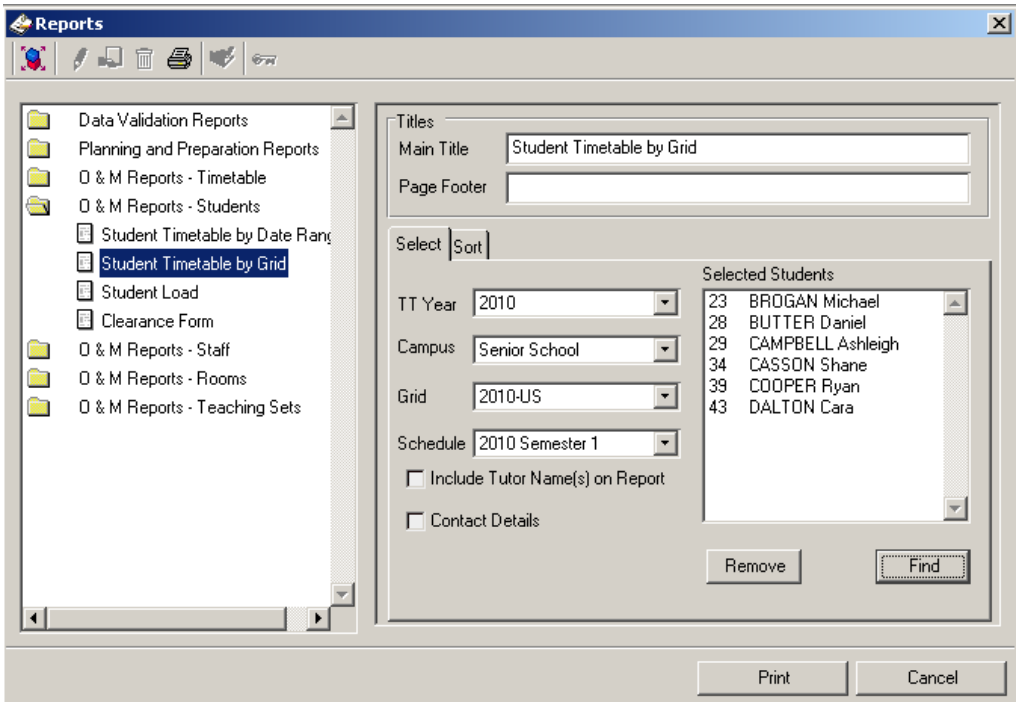
- Teaching Set List (all Sets)
- Teaching Set List by Schedule
- User Defined Teaching Set Lists
- Students and Their Teaching Sets

ACTIVITY: Timetabling Reports

View the following reports

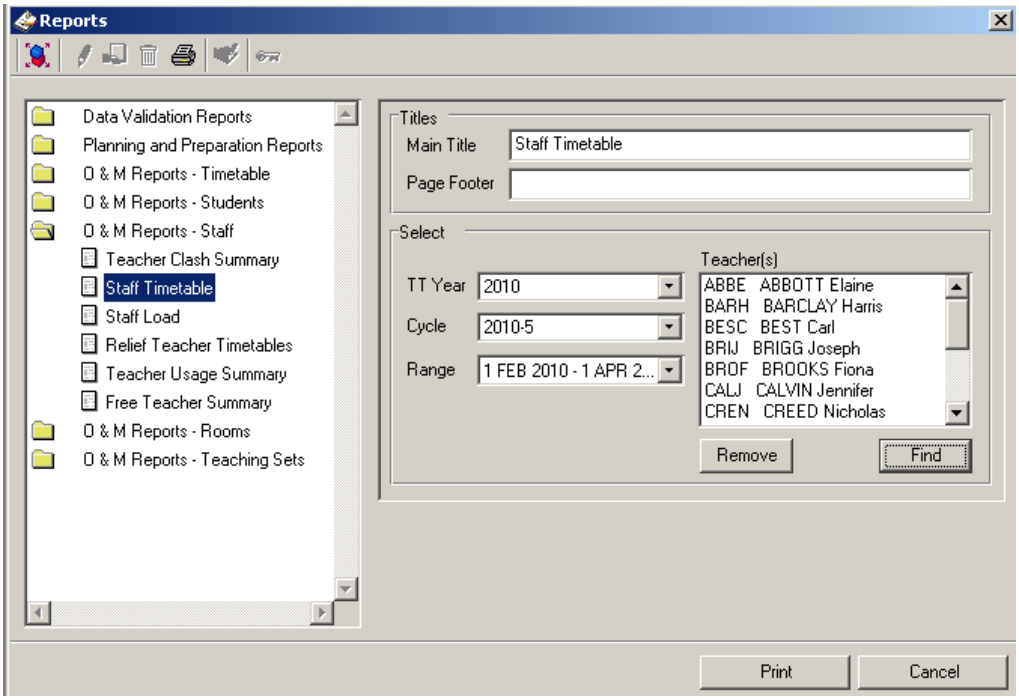
Timetabling > Reports > O&M Reports Student > Student Timetable by Grid

- View the *2010* timetables for several Upper School students



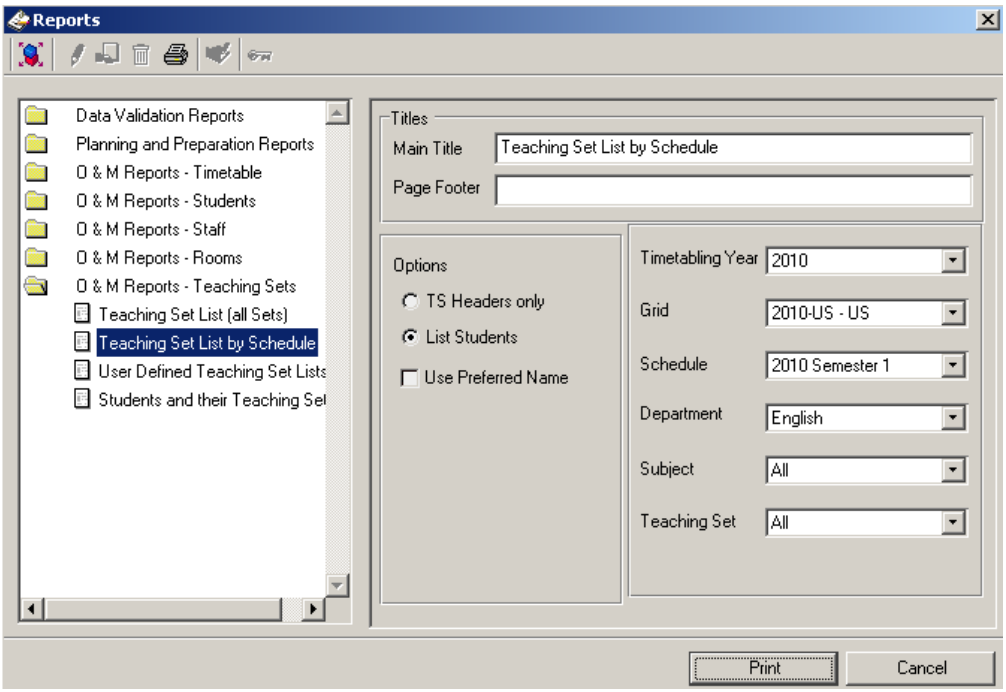
Timetabling > Reports > O&M Reports – Staff > Staff Timetable

- View the *2010* timetables for several staff members



Timetabling > Reports > O&M Reports – Teaching Sets > Teaching Set List by Schedule

- Print the teaching set lists for the Upper School *English* classes for *Semester 1, 2010*



Activity: Review

Note the pathways you would take to complete each of the following timetabling tasks.

1. Add a new department

2. Add a new subject

3. Make a new subject available to a grid

4. Add a new grid

5. Allocate grid bands to schedules

6. Manually place a teaching set onto a grid

7. Lock a teaching set on the grid

8. Lock students into a teaching set

9. Copy a grid band

10. Manually allocate staff to yard duty

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6 Support

Should you require support please contact the Customer Service Centre (CSC) at the Department of Education and Training.

Contact details below:

6.1 Phone (CSC)

Metro: 9264 5555
Country: 1800 012 828

Please be prepared to supply your *ID number*, *contact details* and a *brief description* of the problem.

6.2 Fax (CSC)

9264 4701

Please include your *ID number*, *contact details* and a *brief description* of the problem.

6.3 Email (CSC)

customer.service.centre@det.wa.edu.au

Please include your *ID number*, *contact details* and a *brief description* of the problem.

7 Online Manuals and Training Notes

7.1 RMA

Online manuals and training notes are available to download in PDF format from the RM Asia-Pacific website.

www.rmap.com.au

Select online manual login.
Username: school
Password: help

7.2 STIMS Project

The Department's Student Information Management Project (STIMS) website has numerous fact sheets and support documents for all SIS Administration modules.

http://www.eddept.wa.edu.au/sis/

Links to the RM manuals are also available from the STIMS website or by going to Help within Integris.