Scheduling Module 6B

Scheduling Attributes

November 2022- v1.6

FUJITSU

Version History

Version	Date	Description
1.0	10 Feb 2015	Initial draft
1.1	17 Jan 2016	Renamed to SM6b
1.2	10 Feb 2017	Updated images to 5.6
1.3	13 Mar 2017	Added Section 2.4 Course Request Totals regarding the procedure to display # of course requests on the Courses top tab in the list view.
1.4	29 Apr 2019	Added hyperlinks to Table of Contents
1.5	9 May 2019	Updated section 2.4 Course Request Totals
1.6	16 Sept. 2022	Added section 1.2 Understanding Priorities. Add a recommendation on Alternate Groups – Should be used see section 2.3.8

Confidentiality

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1.0 Scheduling Attributes

1.1 Overview

Scheduling Attributes are pieces of information that dictate how either the Build engine (scheduling of sections) or the Load engine (placing students into sections) is going to work. Some of these attributes are required and others are optional. For the optional attributes, schedulers may choose to use them or not.

For items that are optional, schedulers should take into consideration the more attributes that are used the more complex the analysis of the build/load will be.   Many of the attributes work in conjunction with each other, across areas. For example: Teacher Prep codes are a Course attribute, but also require setup within the Staff attributes.

All scheduling attributes can be unique to the scenario or shared between scenarios, depending on the preferences set for each. It is important to understand these settings.

Each piece of information, within the following 4 sections, is identified as relating to the Build (B) or Load (L) engine, Required (R) or Optional (O).

Some schools may choose to build their timetable outside of the application and then enter it into the Build view. If this is how your school creates a master timetable most of these attributes will not apply.

1.2 Understanding Priorities

Student, Course Request and Course Load Priorities

There are three different Priority fields that determine which students and requests are loaded first, *when the Load Engine encounters conflicts*. If there are no conflicts, sections are scheduled when the Load process identifies the best fit to fulfil the majority of requests. This would mean that a course that has only one section would likely be loaded first.

Knowing how these Priorities interact with each other will be helpful in figuring out why students were loaded into specific classes.

> *With all priorities, the highest priority is the smallest number greater than zero.*

1.2.1 Schedule Priority on a Student

The first priority is *Schedule priority*, which is a Student Schedule Attribute. This Priority is used to determine which students are loaded first.

There are two places in the application to set *Schedule priority* on a student. Build view and School view. However, it is most commonly set in Build view as part of scheduling activities.

From the Build view Student top tab > Field set = Load Priority, from here the value can be set individually on Student details, or using Options > Modify list or using Options > Mass Update:

From the School view: Schedule top tab > Schedule Attributes side tab > Students side tab, from here the value can be set individually on Student details, or using Options > Modify list or using Options > Mass Update:

For example, two students have a request for the final seat of a course. The student with the highest priority (smallest number greater than 0) will be loaded into that course. Another example is if you set your Next Year grade 12 students to a Load Priority of 10 and your Next Year grade 11 students to a Load Priority of 20, the Next Year grade 12 students will be loaded FIRST.

1.2.2 Course Request Priority

The second priority is **Course priority**, which is a Request Schedule Attribute. This priority is used to determine which request for a student is loaded first. This can be used with Primary Requests or General Alternate Requests.

> For Primary Requests, this Priority determines which Primary Requests MyEd will try to load first. This Priority will override the Load Priority set on a Course. Any Primary Request with a Course Priority other than 0 will be loaded before any Primary Request with a 0, even if the Primary Request with a 0 has a higher Load Priority on the Course.

> For General Alternate Requests, this priority can determine which General Alternate Requests MyEducation BC will try to use first. For example, if a Primary Request cannot be satisfied so MyEducation BC will need to use a General Alternate Request to replace it. MyEducaton BC will use the Course priority field to determine which Alternate is loaded first

There are two places in the application to set **_Course priority_** on a Course request. Build view and School view. However, it is most commonly set in Build view as part of scheduling activities.

From the Build view: Student top tab > Requests side tab > Details > Course priority:

From School view: Student top tab > Schedule side tab > Requests side tab > Details:

For example, a student has a request for two different courses. MyEducation BC will load the one with the highest priority (smallest number greater than 0) first. For example: if a student has a request for English 10 and the Course Priority is 10 and the student has request for Foods 10 and the Course Priority is 20, the Load engine will schedule the English 10 course first.

1.2.3 Load Priority

The third priority is **Load priority**, which is a Course Schedule Attribute. There are two places in the application to set *Load priority* on a Course. Build view and School view. However, it is most commonly set in Build view as part of scheduling activities.

From the Build view: Courses top tab > Field set = Load & Balance – Rqrd Crs Field, from here the value can be set individually on Course details, or using Options > Modify list or using Options > Mass Update:

From the School view: Schedule top tab > Schedule Attributes side tab > Course Attributes side tab, from here the value can be set individually on Course details, or using Options > Modify list or using Options > Mass Update:

2.0 Course Attributes

Course attributes are set within the details of each course, Build view > Courses top tab > Details side tab.

> **Note:** All attributes are specific to the *Scenario* you are working in, if you see this symbol ⚠

> **Note:** There are 3 exceptions to this that must be setup in the School view > Schedule top tab > Courses side tab > Filter = Build Year:
>
> - Teacher preparation code
> - Alternate group
> - Department

As illustrated below, the Course Details screen is divided into 3 areas. The functionality of each area is then described in sections 2.1 to 2.3.

2.1 Default Items

These values should be set in the School view and brought into the scenario, through Options > Refresh.

The Refresh will bring in any new courses added to the build year school course catalogue, and any changes made to information about the course (Department, Description, etc.) The Refresh can be run as often as desired.

2.2 Required Items

A field set titled 'Required Crs Fields' is setup to view the following items in a list view. All are mass updateable and list editable.

2.2.1 Include in Scheduling (B)

This needs to be checked in order for the course to be included in the build.

2.2.2 Sections scheduled (B)

This indicates the number of sections that will be created in the workspace. The value can be manually entered or calculated based on course requests. To have the number calculated based on requests, click on Options > Calculate sections required > Based on course requests.

> **Important Note:** Each time this option is run it will overwrite any manual modifications made to ALL courses**.** Therefore, it would be advisable to run this only once when course requests have been accurately reviewed. After this process is used, the number of sections will manually need to be changed. The course request tally report will show the required information to adjust the number of sections.

2.2.3 Section enrollment max (B & L)

This determines the number of individual sections that will be created in the workspace, if the Calculate sections required > Based on course requests is used. It also indicates the maximum number of students that can be loaded into each section. Adjustments to this number can be made on individual sections.

2.2.4 Cover and Base terms (B)

This information defines the duration of sections over the year and in which term of the year, sections will be offered. Think of this as a fraction: Cover over Base.

Full Year — Base = 1 Cover = 1
S1 | S2 — Base = 2 Cover = 1
T1 | T2 | T3 — Base = 3 Cover = 1
Q1 | Q2 | Q3 | Q4 — Base = 4 Cover = 1
X1 | X2 | X3 | X4 | X5 — Base = 5 Cover = 1
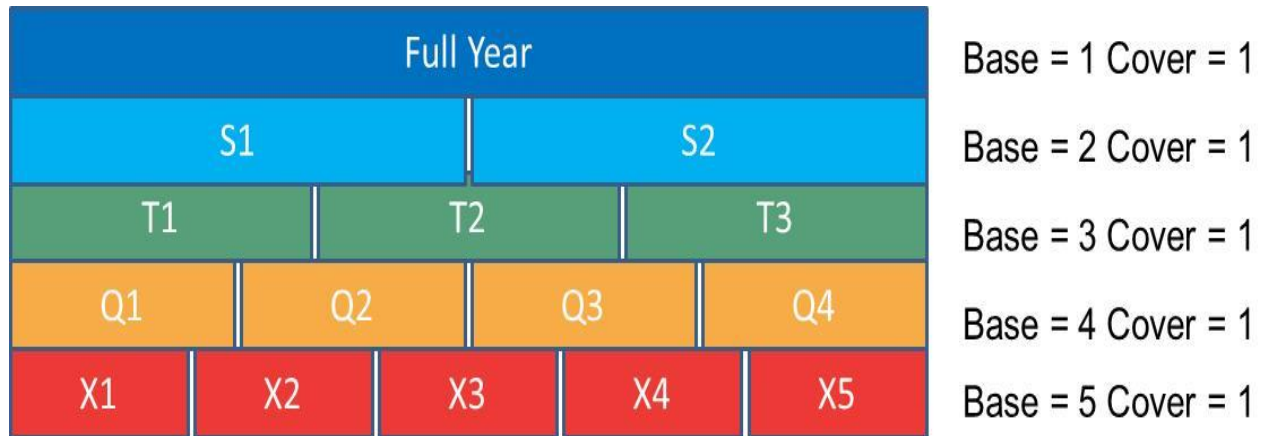
Cover terms per year – in most situations the cover value will be 1.

Base Terms per year - how many times could course sections be offered; how many times do you want to divide the school year into? How many times could sections of this course start?

It is possible to have non-contiguous terms. For example; you could have the following:

T1 and T2
T1 and …
T3
T2 and T3
Base = 3 Cover = 2
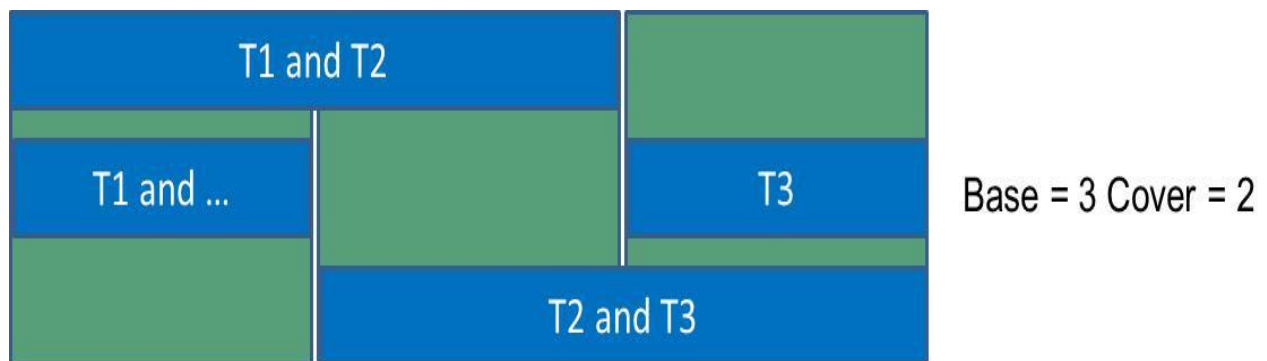
The above options show all the different ways the Build engine may schedule sections, given Base=3 and Cover=2.

2.2.5 Periods per Cycle (B)

How many periods in the cycle do sections of this course meet? Most full year courses will meet once and semester courses will meet twice.

2.2.6 Schedule Pattern Set > Name (B)

Assign a pattern set, which contains the *possible periods* the build engine could schedule sections into.

2.3 Optional Items

2.3.1 Course Bind Next (B)

This forces sections of two courses to be offered in the same period across terms (Semesters, Trimesters, Quarters, etc.) that share the same teacher, room and students and require an equal number of sections for the courses.

Note: This should only be used if the Balance by term option is not used.

Example: You want to ensure all sections of MPREC12 are in the *same period* in the *first semester*, as the sections of MCALC12 in the *second semester*, where the same teacher will teach the same students in the same room

2.3.2 Balance by term (B)

This will place an equal number of course sections in each term. Using this will avoid the extremes of all sections in one semester and zero in the other, regardless of the build engine's algorithm.

Example: You have 4 sections of MCH--12 and want 2 in both semester 1 and 2.

Note: If there are an unequal number of sections, perhaps 5; 3 may be scheduled in semester 1 and 2 in semester 2.

2.3.3 Teacher preparation code (B)

Teacher preparation codes, set on courses, control the maximum number of classes a teacher teaches. This is used in conjunction with Teacher Max preps, defined in the Staff details of the Build view.

Example: A full time teacher, Mr. Smith teaches 7 periods (blocks). But in two of those periods he teaches multiple courses. He actually teaches 11 unique courses:

Course	Term	Schedule (P/D)	FTE
MBJA-11-01	S1	1(1)	1
MJA--09-01	S1	1(1)	
YED--1A-02	S1	1(1)	
MJA--10-01	S1	2(1)	2
MJA--11-01	S1	2(1)	
MJA--12-01	S1	2(1)	
PREP	S1	3(1)	
MSS--08-03	S1	4(1)	3
MHI--12-01	S2	1(1)	4
MSS--09-05	S2	2(1)	5
MSS--08-05	S2	3(1)	6
MSS--08-06	S2	4(1)	7

To ensure he is scheduled into 7 periods, the courses taught together (a Classes grouping, controlled by a Rule), can be given the same Teacher preparation codes. The # of Unique Courses in the chart below is defined by the teacher preparation codes assigned: In this example, Mr. Smith would require his Max Preps be set to 5.

Course	Term	Schedule (P/D)	FTE	Teacher preparation code (examples)	# of Unique Courses
MBJA-11-01	S1	1(1)	1	IntroJapan	1
MJA--09-01	S1	1(1)		IntroJapan	
MJA--10-01	S1	2(1)	2	AdvJapan	2
MJA--11-01	S1	2(1)		AdvJapan	
MJA--12-01	S1	2(1)		AdvJapan	
PREP	S1	3(1)			
MSS--08-03	S1	4(1)	3	SS08	3
MHI--12-01	S2	1(1)	4	HI12	4
MSS--09-05	S2	2(1)	5	SS09	5
MSS--08-05	S2	3(1)	6	SS08	
MSS--08-06	S2	4(1)	7	SS08	

Note: Teacher preparation codes need to be assigned in the School view. They are not associated with a Reference table; therefore diligence is required when entering them.

From the School view > Schedule >Courses > Filter=Build year > Details > Teacher preparation code, enter a unique name/code to identify this course for the preparation code groupings. Once courses are set up, the information needs to be Refreshed in the Build view. Build view > Courses > Options > Refresh.

The max preps works to set the limit of classes taught by a teacher as defined by the preparation codes used on the courses he/she teaches.

2.3.4 Preferred room exempt (B)

By checking this box, this course will be considered exempt from the Staff attribute of *Use Preferred room only*.

> **Example:** On the Staff attributes a teacher is assigned a *Classroom > number* of 101 and *Use Preferred room only=checked*. This means all course sections this teacher has been assigned to must be scheduled into room 101. In order to prevent this course from being in room 101, this box could be checked.

2.3.5 Max requests

This is located in the bottom left of the options area. It is used to control the number of requests allowed for a course. If this value is set, once that number of students has been assigned the course or that many students have picked it through online course requests, then no more requests can be accepted. If this option is going to be utilized it should be set in the School view, prior to course requests commencing.

In the Build view, it will influence the *% Satisfied* when looking at the details of a Scenario.

2.3.6 Load priority (L)

Controls the order in which students will be loaded into sections. The highest priority is zero. If this is used, it is advisable to group courses into blocks of 10 or more.

> **Example:** You may set all core academic courses to 20, then electives to 50. This means students would load into academic course sections before electives.

Subsequent changes could then be made, to determine if the load of students could be improved.

2.3.7 Are subs allowed (L)

> **Note:** This is often selected for elective courses. For general alternates, be sure to select a value at the Alternate group field.

Select this checkbox if the system can schedule a student who has requested this course as an alternate.

2.3.8 Alternate group (L)

The Alternate group functionality provides the ability to restrict which courses can replace each other.

> **Example:** You only want Applied Skills courses to be alternates for other Applied Skills courses. Then assign all Applied Skills courses with the same code.

> **Note:** Alternate groups must be setup in the School view.
>
> **Additional Note:** This field works with the Are Subs Allowed checkbox.

Schools can create their own Reference table of groups, from School > Admin > Reference > Alternate Course Group. Once created from the School view > Schedule >Courses > Filter=Build year, courses can be assigned to the appropriate group. After these have been assigned the changes need to be refreshed in the Build view > Courses > Options > Refresh.

> **Note:** It is recommended that ALL Courses be placed in at least ONE Alternate group

2.3.9 Section Balance type (L)

This will enforce an equal distribution of students across all sections. There are 3 different types:

a) Grade – used if you would like to balance the number of students at a grade level across all sections of the course.

Example: 90 Gr.12 and 30 Gr.11 students requested MCH--12, therefore there will be 4 sections. By selecting Grade the Load engine will place: ~22 Gr. 12 and ~7 Gr.11, students in each section

b) Other – this field is connected to the Balance code on Student attributes. There is no Reference table associated with this attribute. Use of this code is covered further in the Student Attributes, section of this document.

c) Gender – used if you would like the number of males/females balanced across sections. This works the same way as Grades. It will distribute the males equally across sections and distribute the females equally across sections. It does not balance the number of males and females per section.

2.3.10 Term balance type (L)

This can be used to ensure a student's timetable is balanced between types of courses. The values come from a Reference table called Load Type. There are 2 default values, Academic and Elective.

This feature is most often used in a semester block schedule, where students take a full-year course in one semester. In this type of schedule, a student might take eight courses: four in each semester. The school does not want the student to take English, Calculus, Chemistry, and History (all academic courses) in the first semester and Gym, Band, Keyboarding, and Cooking (all elective courses) in the second semester.

Or, you might try to balance based on your defined subject matter. For example, assume a student requests two semester English courses and you want the system to schedule the student in one English course in the first semester and another in second semester. You would create the reference code English in the Load Type reference table and select it here for your semester-based English courses.

Although the system references the value you enter, other schedule building factors might affect the balances of the sections

2.3.11 Allow partial content, Valid content terms (L)

This functionality allows students to be scheduled into part of course. This would allow students to be schedule, for example, into semester 2 of a full year course should they have failed this portion of the course at an earlier time. If selecting Allow partial content, users must also set the valid content terms of the course that a student can take.

> **Note**: It is not expected that this option will be used for requests, as these situations would most likely be handled between a student and counsellor; where applicable arrangements would be made to accommodate the student.

2.3.12 Repeat type (L)

This is used to allow students to have 2 requests for the same course. This controls how the two requests should be handled. This only impacts student requests for the next year courses, it does not consider courses the student has already finished.

    a. None – the default, not enabling this option
    b. Any – the load engine will place the section in the best place

c. Different term only – non full year courses
d. Same term only

Note: Students requesting the same course twice are more likely to be handled through the counselling department than as a request option.

2.4 Course Request Totals

A procedure can be run to display the *Total Course Requests*, *Primary Requests* and *Alternate Requests* for each course in the list view.

From the Course top tab click Options > Update Course Request Totals

Update Course Request Totals parameter screen, shown below, is displayed:

School: School name is displayed by default.

Students included in scheduling:

- **Checked:** the course request totals will be calculated for Students that have *Including in scheduling* checked, on their Details screen
- **Un-Checked:** the course request totals will be calculated for all Students in the current scenario.

When procedure has completed, using the Default field set, the three columns will be populated with the course request values:
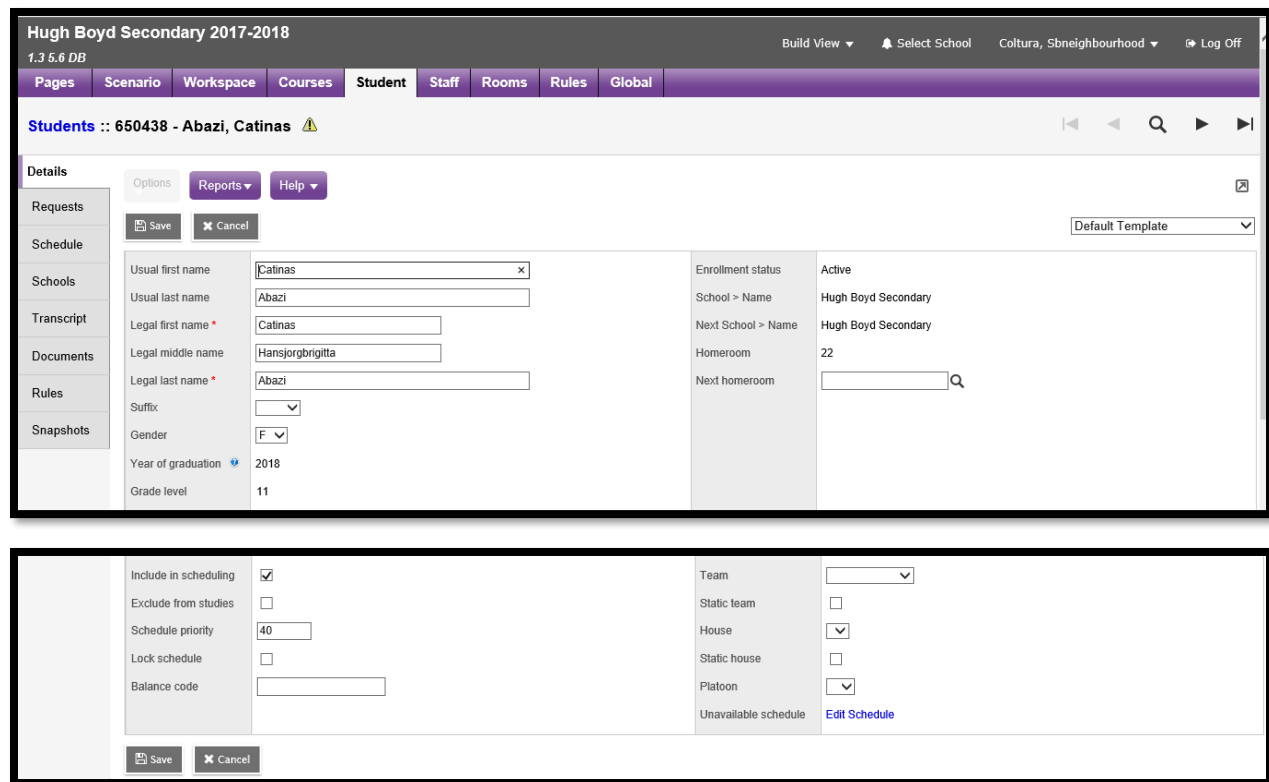
	CrsNo	Description	Schd?	Sections	PPC	TPY	Total Course Requests	Primary Requests	Alternate Requests
☐	ABIO-12	SC-AP BIOLOGY 12	Y	1	2.0	1/2	4	4	0
☐	ACAL-12	MA-AP CALCULUS 12 AB	Y	2	2.0	1/2	1	1	0
☐	ACHE-12	SC-AP CHEMISTRY 12	Y	1	2.0	1/2	4	3	1
☐	ACSC-2A	CS-AP PROGRAMMING - JAVA	Y	4	2.0	1/2	0	0	0
☐	APSY-12	HS-AP PSYCHOLOGY 12	Y	2	1.0	1/1	0	0	0
☐	FCCNF12	LF-CIVILISATIONS COMPARÉES 12	Y	2	2.0	1/2	0	0	0
☐	FFRAL09	LF-FRANCAIS LANGUE 09	Y	3	2.0	1/2	0	0	0
☐	FFRAL10	LF-FRANÇAIS LANGUE 10	Y	2	2.0	1/2	0	0	0
☐	FFRAL11	LF-FRANÇAIS LANGUE 11	Y	2	2.0	1/2	1	1	0
☐	FFRAL12	LF-FRANÇAIS LANGUE 12	Y	2	2.0	1/2	0	0	0
☐	FSCF-09	LF-SCIENCES 09	Y	3	2.0	1/2	0	0	0

3.0 Student Attributes

Student attributes are set within the details of each student, Student top tab > Details side tab.

> **Note:** All attributes are specific to the *Scenario* you are working in, if you see this symbol ⚠

There are two areas to student attributes, Default and Optional:

3.1 Default Items

It is not recommended that default attributes for a student be changed in the Build view. These should be done in the School view and then brought in using the Options > Refresh.

> **Note:** Each set of attributes; Course, Student and Staff have the functionality of Refresh. This brings any new data, entered in the School view, into the *Scenario*.

3.2 Optional Items

Some of the Student attributes are controlled by the Scenario > Preferences and will therefore determine whether the field is displayed on the Details template.

3.2.1 Include in Scheduling (L)

Do you want the load engine to include this student? Checked=Y

3.2.2 Exclude from Studies

Not functional due to structure of BC's study blocks.

3.2.3 Schedule Priority (L)

This defines the order students will be loaded into the sections; the lower the number the higher the priority. It is recommend to use increments of 10 so if you decide to add another group, you will not have to renumber all priorities.

> **Example:** You may choose to set each grade level with a priority to control the order they are loaded. After the first mass load and through analysis, you may see that you would like sub groups of students loaded.

Original groupings	Priority (SchdPri)		New groups	New Priority (SchdPri)
Gr. 11	10		IB students	5
Gr. 10	20	**First load analysis**	Gr.11	10
Gr. 09	30		Band Students	15
Gr. 08	40		Gr. 10	20
Gr. 07	50		Gr. 09	30
			Gr. 08	40
			Gr. 07	50

3.2.4 Schedule weight (L)

This attribute is controlled by the Scenario > Preference > Category > Scenario-basic > Use student schedule weight. This functionality allows for the ability to count a student as taking up more than one spot in enrollment max of a section.

> **Example:** A special needs student is wheelchair bound and requires a full time aide, thereby taking up the physical space of two students in a classroom. In this case, the schedule weight would be set to 2.

3.2.5 Lock schedule (L)

This provides the ability to lock the student's schedule so that no changes will be made in subsequent Loads of students.

> **Example:** After the first mass Load, you decide to make some manual changes to this student's schedule and you do not want subsequent re-loads to touch what has been manually done.

> **Note:** Individual scheduled sections on a student's timetable can also be locked.

3.2.6 Balance code (L)

This can be used to distribute students across sections of courses. It is used in conjunction with Course > Detail > Section balance type = Other. This is a free form field which is not connected to a Reference table.

Example: You want to ensure students from your feeder schools are distributed across all sections of their grade 8 courses.

Feeder School	Course > Section Balance type=Other	All Students from each school are given a Balance code=
Aberdeen Elem.	All Gr.08 courses are set this way	Aberd
Lloyd George Elem.		Lloyd
South Sa-Hali Elem.		S.SaH

With the above setup, the students from each elementary school will be split up across all of the Gr.08 courses.

Note: Students can only be given 1 Balance code.

3.2.7 Team & House - Grouping Students (L)

There are three ways to group students; they all work in conjunction with individual students and course sections. The visibility of these attributes on the Student Details screen, is controlled by the Scenario > Preference > Category > Scenario-basic > Show team/Show house/Show Platoon. There are Reference tables for each (Global > Reference > House Codes or Team Codes or Platoon Codes) that need to be created and setup.
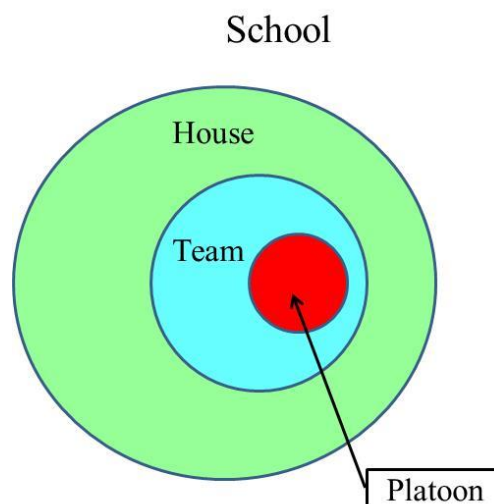
There are is no hierarchical grouping to House or Team. Platoons can be thought of as ways to have the same roster or cohort of students between multiple sections.
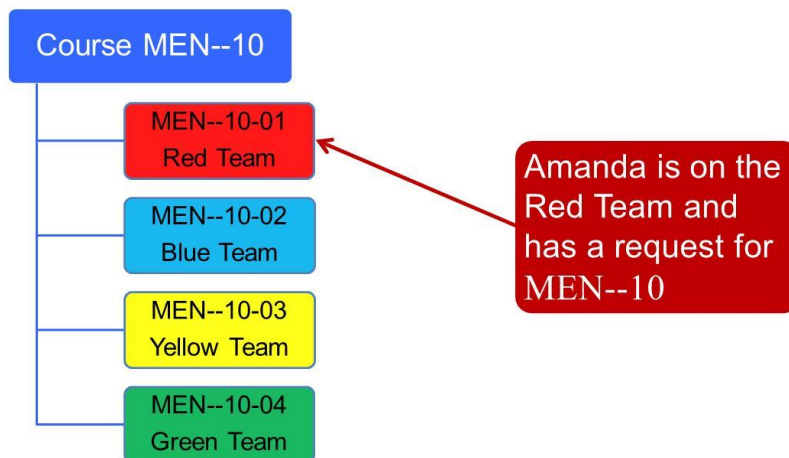
Note: For elective wheels (rotations), students *do not* need to be placed on a team, house or platoon. Elective wheels are setup as part of a Rule and the application, if desired, will create its own system generated Platoon reference codes during the Build and Load processes. This will ensure students are grouped together as they take all courses defined in the wheel.

When working with Teams or Houses, there are two ways students can be assigned, either by Static or Dynamic grouping:

Static grouping

If you indicate the student is on a specific Team or House and the section has been assigned to a Team or House, the Static box will be checked on save.

> **Example**: Amanda has been assigned to the Red Team. Section 01 of MEN--10, has been associated to the Red Team. This means that Amanda will only be loaded into sections of courses that are part of the Red Team:
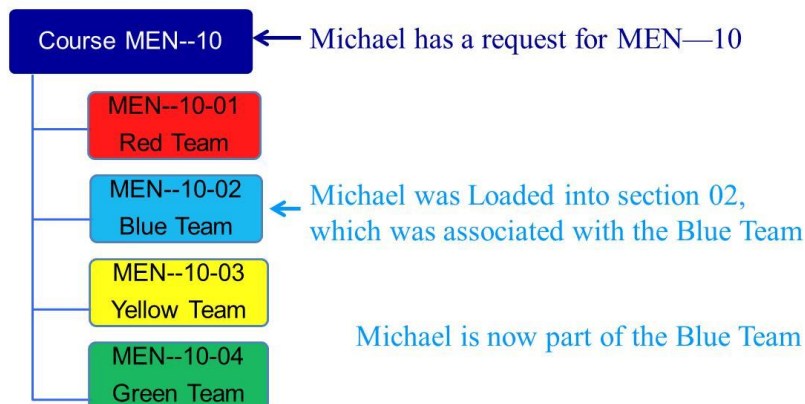
Course MEN--10

MEN--10-01
Red Team

MEN--10-02
Blue Team

MEN--10-03
Yellow Team

MEN--10-04
Green Team

Amanda is on the Red Team and has a request for MEN--10

Dynamic grouping

You can assign sections to a Team or House *but not* the student. In this scenario you are letting the Load engine figure out the members of the Team or House.

> **Example**: Michael has no Team or House assignment. Section 02 of MEN--10, has been associated to the Blue Team. When Michael is loaded, the first section of a course with a Team association will be the Team that Michael is then part of:

Michael has NOT been placed on a Team

Course MEN--10 ← Michael has a request for MEN—10

MEN--10-01
Red Team

MEN--10-02
Blue Team ← Michael was Loaded into section 02, which was associated with the Blue Team

MEN--10-03
Yellow Team

Michael is now part of the Blue Team

MEN--10-04
Green Team

3.2.8 Platoons - Grouping Students (L)

Platoons are an additional way to group students. For elective wheels (rotations), students *do not* need to be placed on a platoon. Elective wheels are setup as part of a Rule and the application, if desired, will create its Platoon reference codes during the Load processes. This will ensure students are grouped together as they take all courses defined in the wheel. By having the application create Platoon codes, it allows the students to be on multiple Platoons.

> **Note:** Module 7 – Rules covers the topic of elective wheels or in BCeSIS terminology **Host & Explodes.**

3.2.9 Unavailable schedule (L)

You can indicate when a student is unavailable. You could use this to make students unavailable in S2, to ensure they get all sections in S1. Another example would be students on a work experience who may only attend for blocks A and B and be unavailable for C and D.

4.0   Staff Attributes

Staff attributes are set within the details of each staff member, Staff top tab > Details side tab.

The Build engine will not pick up staff and place them against sections unless Optional attributes have been set.

> **Note:** All attributes are specific to the *Scenario* you are working in, if you see this symbol ⚠

4.1   Default Items

It is not recommend that attributes for a staff member be changed in the Build view. These should be done in the school view and then brought in using the Options > Refresh.

> **Note:** Each set of attributes; Course, Student and Staff have the functionality of Refresh. This brings any new data, entered in the School view, into this *Scenario*.

4.2   Optional Items

4.2.1   Department

The Department value is in the Default area. Assigning a department to staff links them to the courses and rooms similarly designated. The impact of this will reduce the flexibility of the application in providing a "best fit."

4.2.2   Include in scheduling (B)

Do you want the build engine to include this staff member in scheduling? Checked=Y

4.2.3   Max-in-a-row (B) (R)

This setting controls the number of sections a teacher can have back-to-back. The default is zero which **must** be changed to a number such that it will cover the blocks a teacher teaches.

 If in the Scenario > Preferences > Scenario-basic > Use rotation=checked, the build engine will look at both the Flat structure and the Rotated schedule, when meeting this criteria.

4.2.4 Is always free? (B)

Checking this box indicates to the build engine, this teacher can be scheduled into many sections at the same time. Very few teachers would have this checked, exceptions may be a Learning support teacher.

Note: This is not to be checked for teachers that teach a Classes grouping; BCESIS terminology Parent/Child, combined classes. The setup of Classes is covered in Module 7 – Rules.

4.2.5 Max preps (B)

This is used in conjunction with Teacher preparation codes, defined in the School view > Schedule > Course attributes. Enter the maximum number of unique prep codes a teacher can have.

Example: Following the from Course attributes, if Mr. Smith was assigned a Max preps value of 5 he could end up with the following schedule:

Course	Term	Schedule (P/D)	FTE	Teacher preparation code (examples)	# of Unique Courses
MBJA-11-01	S1	1(1)	1	IntroJapan	1
MJA--09-01	S1	1(1)		IntroJapan	
MJA--10-01	S1	2(1)	2	AdvJapan	2
MJA--11-01	S1	2(1)		AdvJapan	
MJA--12-01	S1	2(1)		AdvJapan	
PREP	S1	3(1)			
MSS--08-03	S1	4(1)	3	SS08	3
MHI--12-01	S2	1(1)	4	HI12	4
MSS--09-05	S2	2(1)	5	SS09	5
MSS--08-05	S2	3(1)	6	SS08	
MSS--08-06	S2	4(1)	7	SS08	

His 5 unique prep codes are: IntroJapan, AdvJapan, SS08, HI12 and SS09

Note: Teacher preparation codes need to be assigned to courses in the School view. They are not associated with a Reference table; therefore care is required when entering them.

4.2.6 Balance by term (B)

If this is checked, the build engine will try and balance a teacher's schedule equally across terms, so they do not end up with 2 sections in semester 1 and 5 in semester 2.

> **Note:** The balancing of sections should also be handled by the structural definition of the school (Terms, Days, Periods), the patterns set up and assigned to a course.

4.2.7 Classroom > Number (B)

This is the teacher's preferred room, where they would like to teach sections they are scheduled against. The system first attempts to schedule the teacher's classes into this room. If you do not enter a room here, the system attempts to schedule this staff member in rooms within his or her department. If a room within his or her department is not available for a class, the system schedules the teacher in any room that can hold the class. This works in conjunction with Course and Room attributes and Rules.

4.2.8 Classroom > Type

This displays the room type set on the room details.

4.2.9 Use preferred room only? (B)

If this is checked it indicates this teacher can only teach in this room. Settings on a course can override this.

4.2.10 Max rooms (B)

This can be used to indicate the maximum number of rooms a teacher can teach in.

4.2.11 Location code (B)

This functionality allows for teachers (and rooms) to be grouped into specific locations, to ensure the travel distance is minimized. This would most often be used by schools that operate out of two physically separate buildings. If you use location codes they must be placed on rooms too. Use either preferred room or preferred location but not both.

> **Example:** The school operates under 1 school name and number, but two buildings which are a ten minute walk apart.

4.2.12 Use preferred location only? (B)

If this is checked it indicates this teacher can only teach in this location. Not to be used with preferred room.

4.2.13 Max locations (B)

If a school has more than 2 locations defined, this field could be used to restrict the teacher to a set number of locations.

Note: Consideration should be used when defining these Optional room attributes for a teacher, as it is will impact the build engines ability to schedule and further complicate analysis.

4.2.14 Assignments (B)

Staff can be assigned to teach a Minimum and Maximum number of sections of a course. From the Assignments side tab > Options > Add:

1. Pick the Course;
2. Enter the Minimum number of sections;
3. Enter the Maximum number of sections.

There are several other ways to assign staff to sections including:

- Using Rules, prior to building the Workspace
- Using the Assignments functionality on the Workspace, prior to running a build;
- Manually schedule a teacher against a section, prior to running a build;
- Manually schedule a teacher against a section, after the build is complete.

5.0   Room Attributes

Room attributes are set within the details of each room, Room top tab > Details side tab. From the default field set for the Rooms list, each field can use modify list or mass update to manage.

Room field set shown below.

5.1.1   Number (B)

A unique room number is required.

5.1.2 Department (B)

A department can be set on a room so that only courses in that department can be scheduled into that room and only teachers assigned to that department. This sets a constraint on the room, linking it to staff and courses similarly assigned. This is used in conjunction with Schedule Use Type below.

5.1.3 Type (O)

Selecting the room type is optional and used for filtering purposes.

5.1.4 Location Code (B)

If location codes are to be used for rooms, they must also be set on staff as well. Refer to Staff Attributes for use and examples.

5.1.5 Max Capacity (R) (L)

The maximum capacity of a room must be set to greater than zero if it is to be used in scheduling. This number is considered when loading students. The room maximum will restrict the number of students loaded into a section for the assigned room.

> **Example**: If a science lab has a room capacity of 24 and the course section enrollment has a maximum of 30, only 24 students will be scheduled.

5.1.6 Include in Scheduling (L)

Most rooms will be included for scheduling purposes but there are others that will not.

5.1.7 Schedule Use Type (B)

There are three options for the schedule use type on a room.

- Blank: Set to blank any course can be scheduled into the room. Rules can be set to manage room use.
- Department Only: Allows the room to only be used for the department assigned.
- Always Free: Caution! This setting allows the room to be multi-scheduled, indicating it is always available.

Note: If you define preferences and/or rules for rooms, the system uses the following hierarchy to assign rooms to courses:

1. Pre-scheduled room on the Workspace

2. Preferred room only for a staff member
3. A rule
4. Staff preferred room

If you do not define preferences and/or rules for rooms, the system uses the following hierarchy to assign rooms to courses:

1. Pre-scheduled room on the Workspace
2. Teacher department
3. Course department
4. Room size (minimum capacity to accommodate a section)
5. Staff preferred room

6.0   Appendix A – Full Year and Semester Option

This section outlines the setup steps required to have the Build engine determine if sections of a course should be Full Year or Semesters. It is not required if you are going to manually do this.

6.1.1   Structure

The structure of a scenario must contain both Full Year terms and Semester terms:

6.1.2   Patterns

Patterns need to be created and added to the Pattern Library that represent the periods Full Year or Semester sections could possible meet.

From the Global > Patterns > Options > Add, create this pattern:

Repeat for all possible periods in the first semester as in the screen capture below.

Note the asterisk in point number 2. This indicates the pattern is varying across terms.

Point number three indicates in which of the 2 semesters, these periods are represented (10 indicates 1st semester).

Next create another set of patterns that represent the second semester:

This time select the small table representing the second semester, as has been done in number 3 below.

Repeat for all possible periods in the second semester as in the screen capture below.

Note that there are now 2 records for each period, the difference between the two can be seen in the TPY column.

The semester 2 patterns are represented by 01.

Next ensure you have patterns that represent just sections that could be offered Full Year. Pattern Set

Once created, the patterns need to be grouped into a set with an appropriate name to indicate this set should be used for Full Year and Semester sections.

Global > Pattern Set > Options > Add > Enter the Name > Save

Next click the side leaf Patterns > Options > Add > from the popup window, select all patterns that should be included

6.1.3 Course setup

In the Course > Detail > Required area > set the course up to represent a Full Year course and choose the special pattern set created in the previous step: The course setup should look like the following image:

6.1.4 Build

When the Build is run (covered in Scheduling Module 8) it will choose, based on all parameters entered, which sections will be scheduled as FY and which in S1 or S2: