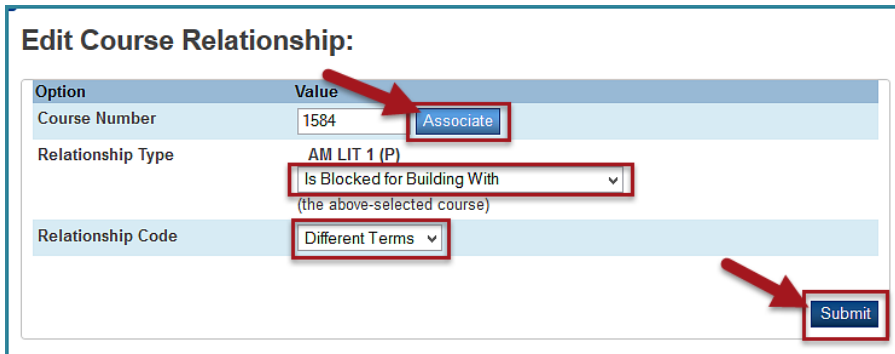# Outline of the Build and Load Process

Create Course Relationships

- Recommended to run first build with ONLY Term relationship

- Always create **Block for Building Different Term** relationship using the Semester 1 course as the "parent" (there will be a problem with the BUILD if linked opposite).

How to Create a Different Term Relationship:

1. On the **PowerScheduler** page, select **Courses**.

2. Select the Semester 1 course.

3. On the **Course Information** page, click the **Relationship** tab.

4. Click **New**.

5. On the **Edit Course Relationship:** page, click the **Associate** button and choose the corresponding Semester 2 course from the course dialog box. Click **Submit**.

6. **Relationship Type** – Verify **Is Blocked for Building With** is selected.

7. **Relationship Code** – Select **Different Terms** from the drop down menu.

8. Click **Submit**.

- When using Block for Building Simultaneous Relationship – Use the Course with the most requests as the "Parent" course. Associate courses with the least amount of course requests to the course with the most (Parent).

How to create a Simultaneous Relationship:

1. On the **PowerScheduler** page, select **Courses**.

2. Select the course with the most requests.

3. On the **Course Information** page, click the **Relationship** tab.

4. Click **New**.

5. On the **Edit Course Relationship:** page, click the **Associate** button and choose the course with the least amount of requests from the course dialog box. Click **Submit**.

6. **Relationship Type** – Verify **Is Blocked for Building With** is selected.

7. **Relationship Code** – Select **Simultaneous**from the drop down menu.

8. Click **Submit**.

Enter Build Constraints

Highly recommended to only use "Need to have" constraints for the first Build, if needed.

Build Constraints Descriptions

Build constraints restrict the actual building of the master schedule. The more constraints you define, the less flexibility the system has to build your schedule. You do not have to define any constraints if you can build a satisfactory schedule without them. It is recommended to build with very few constraints. If needed, limit use to "need to have" constraints. Avoid the use of "want to have" constraints.

- **Course Optimize** – Overrides the global parameters. *Rarely used.*

- **Course Restrict** – Restricts the course to a specific period or day. *Try the Course Preference, first.*

- **Course Room** – Assigns course to a specific room. *This constraint actually works better than Facilities*

- **Course Team** – Blocks teachers and courses together.

- **Pre-Schedule** – Locks sections ahead of time.

- **Room Free** – Keeps a room from being scheduled. *Not used.*

- **Schedule Break** – Adds flexibility to a teacher's max classes in a row count. Similar to Teacher Preferences – Maximum Consecutive Periods. *Not used.*

- **Teacher Dovetail** – Forces partial courses together during the same period, but on alternate days. This takes up less room on a teachers schedule and allows for more flexibility. Used for schools with more than one day (A Day, B Day). *Not commonly used.*

  Enter the following in the fields:

  Course Number – Click Associate to select the name of one of the course you want to dovetail with another.

  Teacher – Click Associate to select the name of the teacher who is teaching the course. Only the sections of the course taught by this teacher will be constrained.

  NOTE: If you do not select a teacher, all sections of the course you selected will be constrained.

- **Teacher Free** – Keeps the teacher from being scheduled for a specific period.

- **Teacher Part-Time** – defines available periods a part time teacher can teach.

- **Teacher Team** – Allows a teacher to teach sections outside of their team. *Not commonly used*

Review Pre Build Reports.

BUILD PROCESS

Build Course Rank

Building the initial Course Rank - Course Rank> Build Rank> Submit

The course rank defines the order in which the system schedules the courses into the master schedule. The rank is a value that the system assigns to a course according to how difficult it is to schedule. The order in which the system scheduled course is based on the following:

- Number of sections per term
- Demand for the course (course request total)
- Constraints

Changing the Course Rank – Course Rank> Make change to system-assigned rank> Submit

After the system builds the course rank, you can make manual adjustments. Keep manual adjustments to a minimum. You can never change a rank to above a pre-schedule course. The system always builds pre-scheduled course first.

Updating the Course Rank – Course Rank> Update Rank> Submit

If you edit the number of course sections, change the number of student course requests, or add or delete constraints, you must update the course rank. The system saves any changes you made manually, and updates those you have not changed.

Rebuilding the Course Rank – Course Rank> Build Rank> Submit

If you make several changes, including adding or deleting a course, you MUST rebuild the course rank from scratch. Rebuilding the course rank will overwrite any manual changes you made previously to the course rank.

Validate Build Build> Check Validate box> Execute

This step runs a virtual build without actually creating a master schedule

Review Validation results (Q) and correct validation errors until reconciled, check pre build reports, as needed.

Build Build> *Do not* check validate box>Execute

Until the build is imported, it and the section links that are created, are "virtual"

Review post build results (Q)

Correct build errors until reconciled.

Import Build

Importing the build "Locks in" the schedule and corresponding section links. It is recommended to import any build 50% or higher. (This step creates the section links. Each time a new build is run <u>and</u> imported, all manual changes to the master schedule are lost.)

Fix Section Links

Known bug, must run update selections.

Enter Load Constraints

Highly recommended to use the least amount of Constraints, if needed.

Load Constraints Descriptions

Load constraints restrict the way PowerScheduler loads students into courses in the master schedule. The more constraints you define, the less flexibility the system has to load students into courses and the less optimal the resulting schedule will be. It is recommended to use the fewest number of constraints required to accomplish your scheduling goals.

- **Balance Adjustment** – Used to pre-load a course section with a certain number of reserved seats before adding the rest of the students.

- **Student Avoid** – Used to keep two selected students from being scheduled together.

- **Teacher Avoid** – Used to keep a selected student and a selected teacher from being scheduled into any of the same course sections.

- **Student Free –** specifies which periods a student must not be scheduled. Useful if student is taking a course at another school.

- **Section Link –** Allows for students enrolled in one course to be enrolled in another specific course section.

- **Student Preferences –** Used to schedule a student in a particular course section, term, or teacher.

Review Master Schedule

- Make manual changes, if needed.

- If you make manual changes to sections – DO NOT run BUILDER again

- If you add additional sections, you must create section links by hand

Validate Load Load> check Validate box> Execute

This step runs a load without actually creating any student schedule

Review Validation results (Q) and correct validation errors until reconciled.

Load students – Load> *Do not check Validate box*> Check **Close Sections at Maximum**> Execute

Import student schedules (Each time a new load is run and imported, all manual changes to student schedules are lost)

Review Post-Load Schedules