

PowerSchool Handbook

Master Schedule: Build Method

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About This Handbook

This handbook was created by the San Diego Unified IT Training Department as reference material for the staff member responsible for using the PowerScheduler Build and Load method to create the master schedule and schedule students for the next school year. It is updated periodically by the San Diego Unified IT Training Department. If you have any questions about how to execute these tasks in PowerSchool, please contact the IT Help Desk: (619)209-HELP (4357) or submit a support request online at <https://sdusd.cherwellondemand.com>



Dates and terms depicted throughout this handbook are used as examples and may not reflect the current scheduling school year or term.

If you are missing a course that your school plans to offer, contact Marcellus Walker at mwalker@sandi.net.

If you have questions regarding master schedule theory, policies/procedures, or any other course-related questions, please contact Nicole DeWitt at ndewitt@sandi.net or Sharon Rubalcava at srubalcava@sandi.net.

Main Scheduling Functions Overview

The PowerScheduler main menu displays the main scheduling functions, which are designed and sequenced to help you build your master schedule. The main scheduling functions list is divided into the following categories:

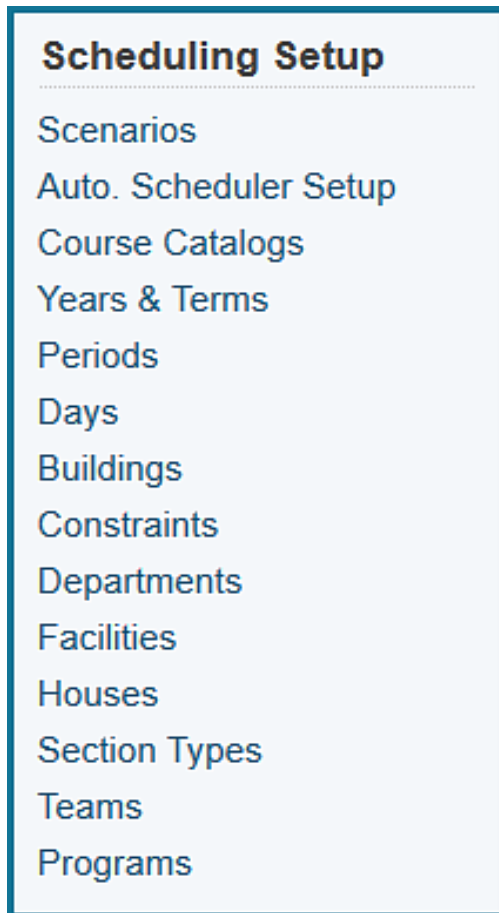
- **Requesting** – The functions listed under this category are used to create the Online Student Registration Screens. See the [Course Request Management Handbook](#) for instructions on how to set up and maintain the Student Registration Screens.
- **Scheduling Setup** – The functions listed under this category are used to define scheduling information so that it can be applied to Resources later. Not all scheduling setup functions need to be defined.
- **Resources** – The majority of the master schedule prep work will occur using the functions listed under this category. Scheduling information such as Courses, Rooms, Students and Teacher information must be defined before proceeding to the processing functions.
- **Processing** – The functions listed under this category represent the mechanics of the build and load process. A validation process will check for data errors that must be cleared before starting to build, and the scheduling engine may stop the build process because it encountered some other problem. Once a successful build has been achieved, it must be imported before starting the Load process to schedule students.
- **Schedule** – The functions listed under this category will allow changes to be made to the master schedule once it is built but before it is committed. New sections can be created or information about an existing one can be edited.
- **Tools** – This category includes functions that will help with managing master schedule tasks and reporting.

Part 1: Scheduling Setup

Scheduling Setup Menu

Once a plan has been developed for the master schedule, the next step is defining scheduling information so that it can be applied to Resources later. For example, if the plan is to use Section Types to ensure that students are scheduled into selected classes, the Section Type must be created before it can be used.

Not all scheduling setup need be defined.



Scenarios

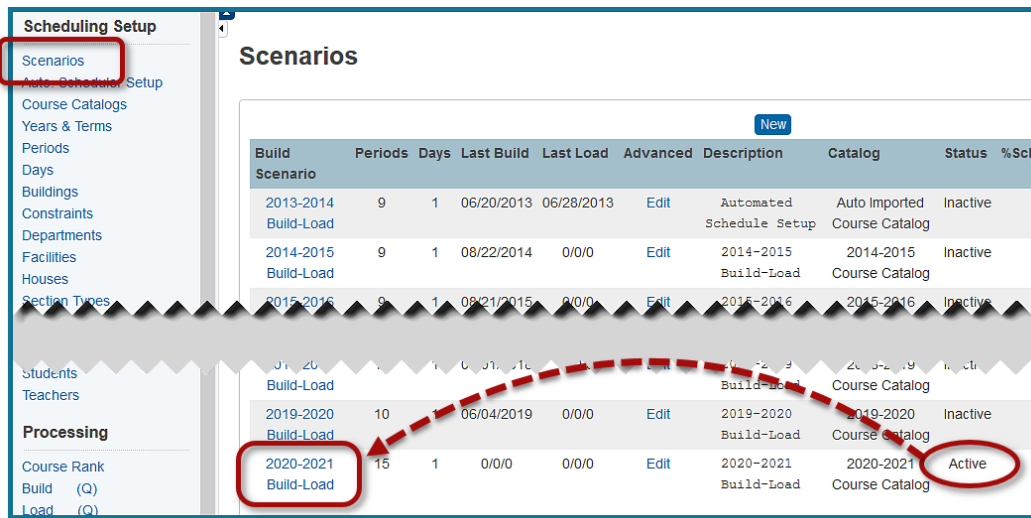
A build scenario includes all the scheduling parameters that PowerScheduler uses to create a master schedule. The initial Scenario is set up by IT, and its parameters are based on the school's current school year. Scenarios can be duplicated in order to work with different combinations of criteria, but only one Scenario can be active at any given time.

Some information used to create the master schedule is exclusive to a particular scenario, other information is shared amongst all scenarios. See the table below for a list of which information is shared, and which isn't.

Data exclusive to a particular scenario	Data shared between all scenarios
Master schedule	Students
Student schedules	Student course requests
Constraints	Student course request pages
Course rank	Teachers
Teacher assignments	Rooms
Course relationships	Course groups

Verify and update the Scenario information, as needed:

1. On the **PowerScheduler** page, under Scheduling Setup, click **Scenarios**.
2. On the **Scenarios** page, click the *Active Scenario* name.



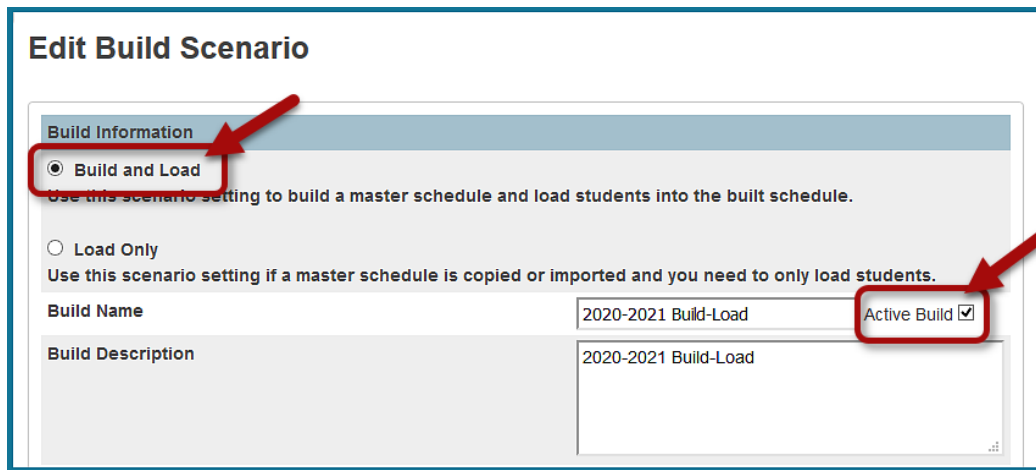
Scheduling Setup

- Scenarios
- Auto-Schedule Setup
- Course Catalogs
- Years & Terms
- Periods
- Days
- Buildings
- Constraints
- Departments
- Facilities
- Houses
- Section Times
- Students
- Teachers
- Processing
- Course Rank
- Build (Q)
- Load (Q)

Scenarios

Build Scenario	Periods	Days	Last Build	Last Load	Advanced	Description	Catalog	Status	%Sch
2013-2014 Build-Load	9	1	06/20/2013	06/28/2013	Edit	Automated Schedule Setup	Auto Imported Course Catalog	Inactive	
2014-2015 Build-Load	9	1	08/22/2014	0/0/0	Edit	2014-2015 Build-Load	2014-2015 Course Catalog	Inactive	
2015-2016 Build-Load	9	1	08/21/2015	0/0/0	Edit	2015-2016 Build-Load	2015-2016 Course Catalog	Inactive	
2016-2017 Build-Load	9	1	08/21/2016	0/0/0	Edit	2016-2017 Build-Load	2016-2017 Course Catalog	Inactive	
2017-2018 Build-Load	9	1	08/21/2017	0/0/0	Edit	2017-2018 Build-Load	2017-2018 Course Catalog	Inactive	
2018-2019 Build-Load	9	1	06/04/2018	0/0/0	Edit	2018-2019 Build-Load	2018-2019 Course Catalog	Inactive	
2019-2020 Build-Load	10	1	06/04/2019	0/0/0	Edit	2019-2020 Build-Load	2019-2020 Course Catalog	Inactive	
2020-2021 Build-Load	15	1	0/0/0	0/0/0	Edit	2020-2021 Build-Load	2020-2021 Course Catalog	Active	

- On the **Edit Build Scenario** page, select the appropriate **Build Information**:
 - Build and Load** – This option is used when the Scheduling Engine will automatically build the master schedule and schedule students. This setting will enable a **Build (Q)** and **Load (Q)** link to appear in the main menu under Processing.
 - Load Only** – This option is used when the Scheduling Engine will automatically schedule students into a copied or manually created master schedule. This setting will enable a **Load (Q)** link to appear in the main menu. The Build (Q) link will be hidden.
- Verify the **Active Build** box is checked.



Edit Build Scenario

Build Information

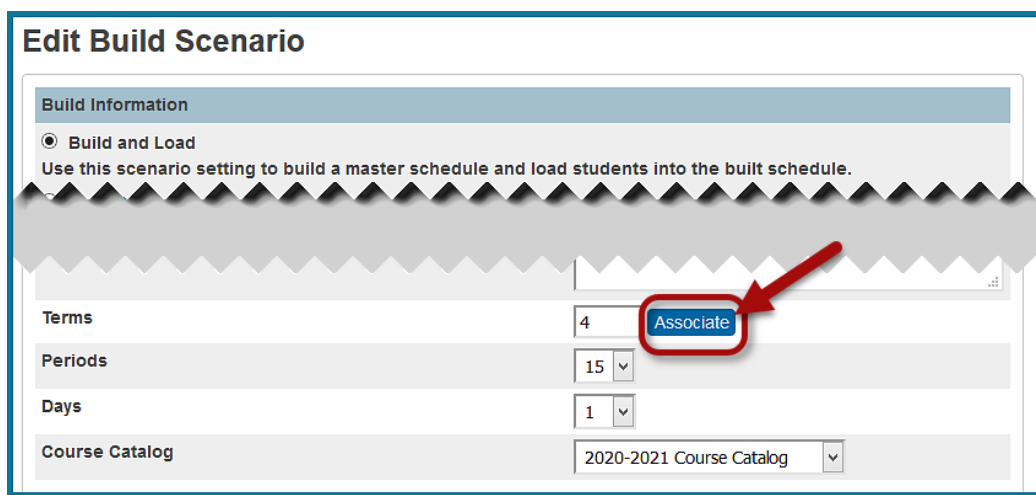
Build and Load
Use this scenario setting to build a master schedule and load students into the built schedule.

Load Only
Use this scenario setting if a master schedule is copied or imported and you need to only load students.

Build Name 2020-2021 Build-Load **Active Build**

Build Description 2020-2021 Build-Load

- Terms** – Verify that the number **4** appears in the **Terms** box.
- Click the **Associate** button.



Edit Build Scenario

Build Information

Build and Load
Use this scenario setting to build a master schedule and load students into the built schedule.

Terms 4 **Associate**

Periods 15

Days 1

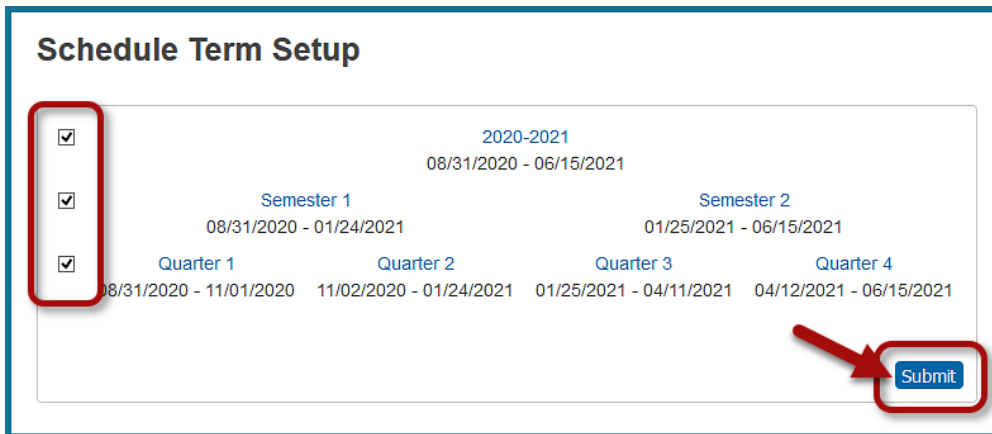
Course Catalog 2020-2021 Course Catalog

7. On the **Scheduling Term Setup** window, verify all **3 boxes** are checked.

NOTE: For schools with Extended Day – If the master schedule was copied to capture existing data, *remove the check* from the Extended Day Term.

All schools are set up with Quarter Terms, whether they use them or not. This is to accommodate grade storing for students taking classes at another school.

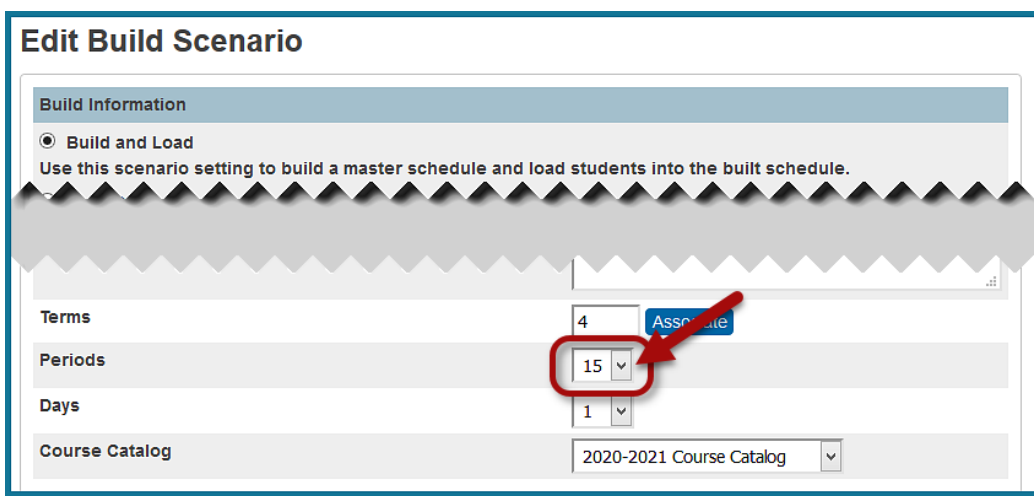
8. Click **Submit**.



9. **Periods** - Verify the correct number of **periods** appear. Use the drop-down menu to make adjustments to the number, if needed.

Consider extra periods to accommodate advisory, lunch (optional), after school and/or zero periods, as well as the elementary period for K-8 schools. **Schools piloting Edgenuity Courses** should also consider additional periods for those courses.

KEEP IN MIND for schools using the load process: Because the Load process factors all available periods, whether or not they are used for scheduling, extra periods will have an effect on a student's percent scheduled. For example, at a school with ten available periods of which six are used for scheduling, a student who is fully scheduled for six periods, will appear as 60% scheduled, not 100%, as expected.



10. **Days** – A day (or “cycle”) is the number of repeating days it takes to complete a schedule.

Verify the correct number of cycle **Days** appear. If you are changing the number of days being offered, select the new number from the drop-down menu.

Single Cycle Day (A Day) – The classes offered during specific periods will not change from day to day.

Select **1** for a single cycle day.

In this example, it takes 1 Day (or cycle) to complete the schedule

	Monday A Day	Tuesday A Day	Wednesday A Day	Thursday A Day	Friday A Day
Per 1	Art	Art	Art	Art	Art
Per 2	English	English	English	English	English
Per 3	History	History	History	History	History
Per 4	Math	Math	Math	Math	Math
Per 5	Science	Science	Science	Science	Science
Per 6	Language	Language	Language	Language	Language

Single Cycle Day (A Day) – Utilizing the Bell Schedule/Calendar Day for alternating days

Select **1** for a single cycle day.

In this example, while it takes 2 days to complete the schedule, it is solved by using bell schedules and calendar days.

Two Bell Schedules are created: one for periods 1 – 4 and one for periods 5 – 8. These bell schedules are then applied to the appropriate alternating days on the Calendar.

	Monday A Day	Tuesday A Day	Wednesday A Day	Thursday A Day	Friday A Day
Per 1	PE		PE		PE
Per 2	Math		Math		Math
Per 3	English		English		English
Per 4	Chemistry		Chemistry		Chemistry
Per 5		History		History	
Per 6		Art		Art	
Per 7		Avid		Avid	
Per 8		Language		Language	

Multiple Cycle Days (A Day/B Day) – The periods do not change, but the *classes* offered during specific periods may change depending on the day.

For example, on A Day, period 1 is Drawing & Painting. On B Day, period 1 is Ceramics. Select 2 for multiple cycle days.

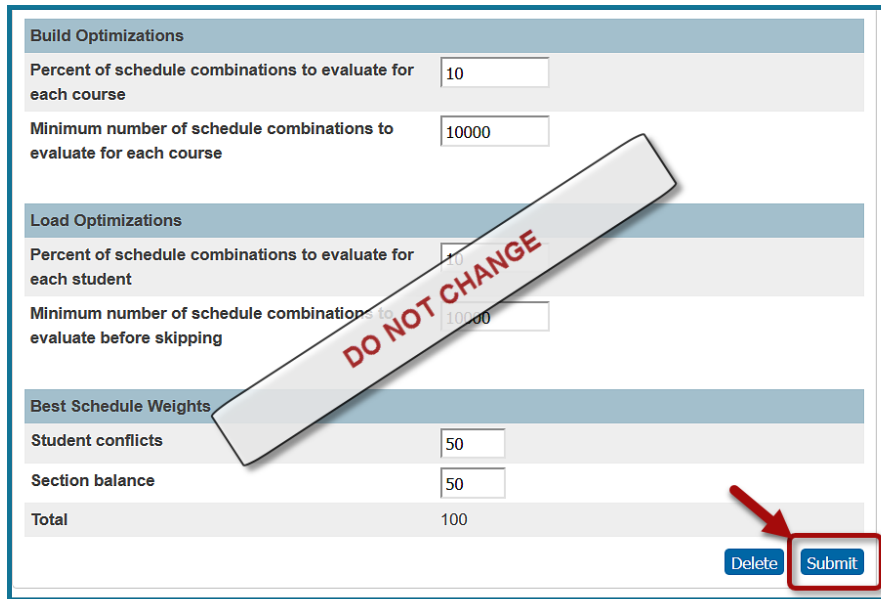
	Monday A Day	Tuesday B Day	Wednesday A Day	Thursday B Day	Friday A Day
Per 1	Drawing & Painting	Ceramics	Drawing & Painting	Ceramics	Drawing & Painting
Per 2	English	English	English	English	English
Per 3	History	History	History	History	History
Per 4	Math	Math	Math	Math	Math
Per 5	Science	Science	Science	Science	Science
Per 6	Language	Language	Language	Language	Language

11. **Build Optimizations** – Do Not Change.

12. **Load Optimizations** – Do Not Change.

13. **Best Schedule Weights** – Do Not Change.

14. Click **Submit**.



Build Optimizations	
Percent of schedule combinations to evaluate for each course	10
Minimum number of schedule combinations to evaluate for each course	10000
Load Optimizations	
Percent of schedule combinations to evaluate for each student	10
Minimum number of schedule combinations to evaluate before skipping	10000
Best Schedule Weights	
Student conflicts	50
Section balance	50
Total	100

Buttons: Delete, Submit

Auto. Scheduler Setup

Insufficient Access Privileges. This item is completed by IT.

Course Catalog

IMPORTANT! Update the **Course Catalog** before you begin course request entry! (See [Scheduling Course Catalog Job Aid](#))

Years & Terms

This item is completed by IT. Click **Years & Terms** to view.

Periods

1. Verify the **Name** and **Abbreviation**.
2. Check the **Core** boxes for periods in which you expect students to be scheduled. By identifying which periods are core periods, the system can base its decision of how successful a student's schedule is according to how many of the core periods have been scheduled.
3. To move a period up or down the list, click the three lines to the right of the ID and drag and drop to the new location. Student schedules will reflect the new sorted order.
4. Click **Submit**.

Edit Periods

ID	Name	Abbreviation	Core	Sort
1	<input type="text" value="1"/>	<input type="text" value="1"/>	<input checked="" type="checkbox"/>	1
2	<input type="text" value="2"/>	<input type="text" value="2"/>	<input checked="" type="checkbox"/>	2
3	<input type="text" value="3"/>	<input type="text" value="3"/>	<input checked="" type="checkbox"/>	3
4	<input type="text" value="4"/>	<input type="text" value="4"/>	<input checked="" type="checkbox"/>	4
8	<input type="text" value="Advisory"/>	<input type="text" value="Adv"/>	<input checked="" type="checkbox"/>	5
5	<input type="text" value="5"/>	<input type="text" value="5"/>	<input checked="" type="checkbox"/>	6
6	<input type="text" value="6"/>	<input type="text" value="6"/>	<input checked="" type="checkbox"/>	7
7	<input type="text" value="7"/>	<input type="text" value="7"/>	<input checked="" type="checkbox"/>	8

Submit

Drag and drop to re-sort periods

Days

1. Verify the **Name** and **Abbreviation**. Make changes if needed.
2. Click **Submit**.

Edit Days

ID	Name	Abbreviation
A	<input type="text" value="A"/>	<input type="text" value="A"/>

Submit

Buildings

Used very remotely for schools within schools or satellite schools, like Twain, Garfield, Non-Public schools, and Home Hospital. This item is completed by IT.

Constraints

It is **Highly Recommended** that you build once with **NO** constraints.

NOTE: If you can make something happen on the **Preference Pages** (see Course, Teacher, Student), do it there rather than use a constraint.

Build Constraints

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** – Do not use. Overrides the global parameters.
- **Course Restrict** – Restricts the sections of a course to specific periods or days or to meet any time except the specified periods or days. For example, normally the system tries to spread sections out over different periods, you could use this constraint to force 3 of 5 sections to schedule at the same time. **HINT!** Try restricting the course on the Course Preference page first.
- **Course Room** – This constraint forces a course to schedule in a particular classroom. For example, your school has several art rooms but only one with a kiln. You could use this constraint to force the Ceramics course to schedule in the room with the kiln.
- **Course Team** – Blocks teachers and courses together so that certain courses can be scheduled at the same time. For example, the music teacher must teach jazz band at the same time the choir teacher offers jazz choir.
- **Pre-Schedule** – Use this constraint to lock sections of a course ahead of time.
- **Room Free** – Keeps a room from being scheduled.
- **Schedule Break** – 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 cycle day (A Day, B Day).
- **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.

Load Constraints

To be used **AFTER the BUILD**, prior to running the LOAD.

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, resulting in less than optimal scheduling.

It is best to use the fewest number of constraints.

- **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 the student is taking a course at another school.
- **Section Link** – Allows for students enrolled in one course section to be enrolled in another specific course section. **NOTE:** The system uses Course Relationships to create Section Links during the BUILD IMPORT process. **IMPORTANT!** Always Import your builds!
- **Student Preferences** – Used to schedule a student in a particular course section, term, or teacher.

Departments

Insufficient Access Privileges. This item is completed by IT.

Facilities

Create Facilities if you have a specific class/course that **MUST** be held in a specific room. (Use this to override the teacher's preferred room).

1. On the **PowerScheduler** page, select **Facilities**.
2. On the **Facilities** page, click **New**.
3. On the **Add/Edit Facility** page, enter the name of the **Facility** in the text field.
4. Click **Submit**.

Houses

The use of Houses is another way to assign students to a specific room and teacher. Students assigned to a specific House can only be scheduled into a section of the same House or a section with no House designation. They cannot be scheduled into a section of another House. Students who are not assigned a House will be scheduled into any section.

NOTE: Be sure the “Use houses” checkbox is selected on the **Edit Advanced Build Scenario** page if using Houses.

1. On the **PowerScheduler** page, select **Houses**.
2. On the **Houses** page, click **New**.
3. On the **Add/Edit House** page, enter the name of the House in the text field.
4. Click **Submit**.

Section Types

Section types are used to differentiate sections of a course and are applied to teacher assignments and student requests during the setup phase.

IMPORTANT! Section types will only allow students with the section type into the tagged section. You must relax section types in order to allow students without section type to “back-fill” the section. **NOTE:** Relaxing section types will apply globally to all section types in your schedule. To request that sections be relaxed, contact the IT Help Desk: (619)209-HELP (4357) or submit a support request online at <https://sdusd.cherwellondemand.com>

FOR HIGH SCHOOLS (And Middle Schools with semester courses): **Section Types** and **Different Term Relationships** are incompatible during the **Build** process. Check the **Use Section Type** box on the course preference page *AFTER the build process completes*.

1. On the **PowerScheduler** page, under Scheduling Setup, select **Section Types**.
2. On the **Section Types** page, click **New**.
3. On the **Add/Edit Section Types** page, enter a **name for the Section Type** (max of 20 characters), and a **section type code** (max of 2 characters).
4. Click **Submit**.

Teams

The use of Teams is another way to group students together. Teams fall into two categories: static or dynamic.

- **Static Teams** – You define a team name, and manually assign the student and teacher to the team. The system will schedule the student with the appropriate teacher team.
 - **Dynamic Teams** – You define a team name and manually assign the teacher to the team. The system will decide which students to assign to the team for the best possible balance.
1. On the **PowerScheduler** page, select **Teams**.
 2. On the **Teams** page, click **New**.
 3. On the **Edit Team** page, enter the name for the Team.
 4. Click **Submit**.

Programs

Leave the default settings.

Part 2: Resources

Resources Menu

The majority of the master schedule prep work will occur using the functions listed under this category. Scheduling information such as Courses, Rooms, Students and Teacher information must be defined before proceeding to the processing functions.



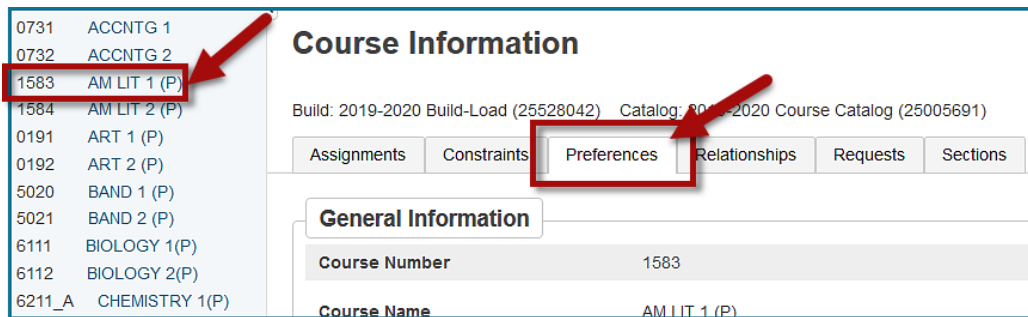
Courses

IMPORTANT! Be sure you have updated your Course Catalog before you enter Course Preferences!

Course Preferences can be defined manually, or by using the Auto-Fill function.

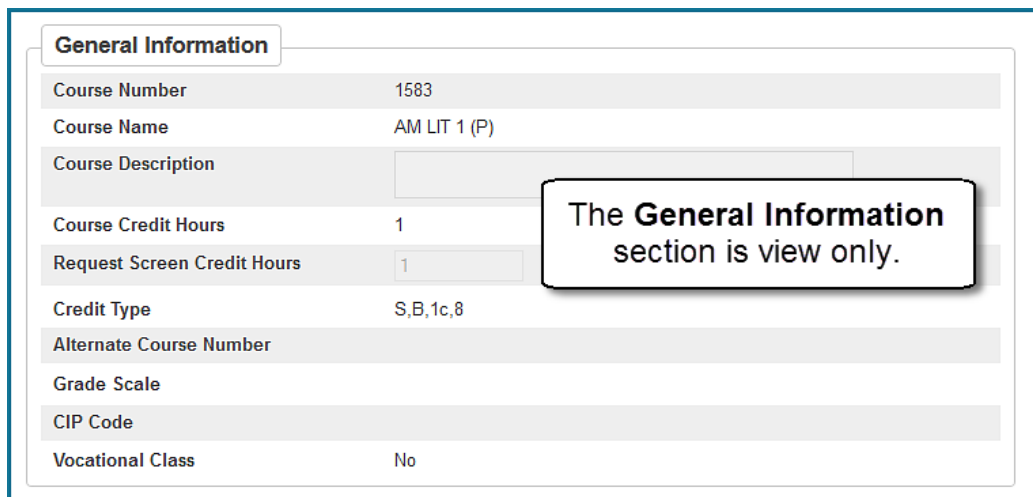
Entering Course Preferences Manually

1. On the **PowerScheduler** page, under Resources, select **Courses**.
2. Select the course from the menu on the left.
3. Select the **Preferences** tab.



General Information Section

The General Information section displays basic course information: Course number, course name, credit hours and credit type. This section is view only and cannot be changed.



Scheduling Preferences (*Required Step)

***Schedule This Course** – check the box

The system will ignore any course that does not have this box checked.

Use The Course for Lunch – Not used

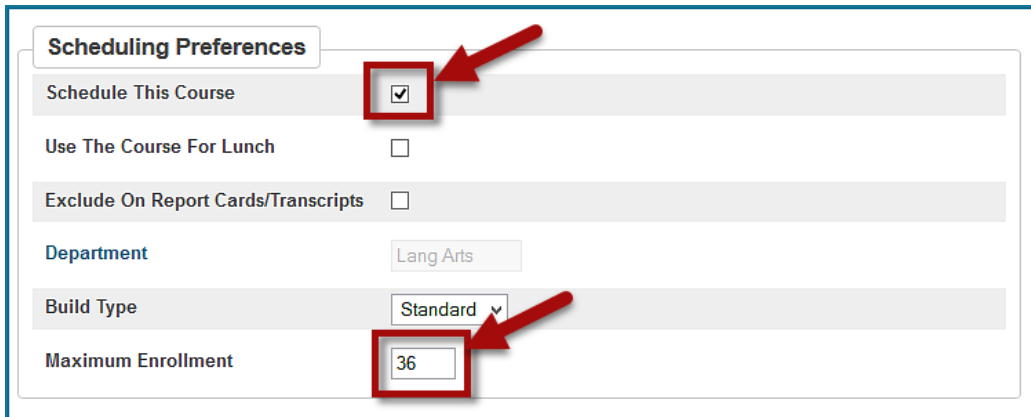
Exclude on Report Cards/Transcripts – Not used

Department – Disabled

Build Type – Standard

***Maximum Enrollment** – Enter the maximum enrollment for each section of this course

IMPORTANT! Once sections have been created, Maximum Enrollment can ONLY be changed on the individual section's edit section page. DO NOT make changes on the Course Preference page.



Scheduling Preferences	
Schedule This Course	<input checked="" type="checkbox"/>
Use The Course For Lunch	<input type="checkbox"/>
Exclude On Report Cards/Transcripts	<input type="checkbox"/>
Department	Lang Arts
Build Type	Standard
Maximum Enrollment	36

Sections Defined (* Required Step)

Target Number of Sections to Offer **OPTIONAL** – Enter the number of sections to offer for this course. **HINT!** Use the **Calculate Target Number of Sections to Offer function** to automatically enter the number. Be sure to enter scheduling preferences for all courses before using this function (See [Determining the Number of Sections Needed Job Aid](#)).

Number of Teacher Assignments – View only. This value is automatically calculated as teacher assignments are added.

Periods per Cycle – View only. This value is automatically calculated.

***Period Per Meeting** – Enter the number of periods the course meets. Most courses meet for one period. Some courses are block classes and meet for two periods.

***Frequency** – Enter the number of days this course meets during a cycle. For example, if you have an A Day and B Day, and this course meets on both of those days, the frequency is 2. If this course only meets on one of the days, then the frequency is 1.

Terms per Year – View only. This value is automatically calculated when a valid term is associated to the course and submitted.

Allow Students Repeats in the Same Term **OPTIONAL** – Check the box to allow the system to schedule a student in more than one section of this course in the same term. The student must have two course requests for the same course.

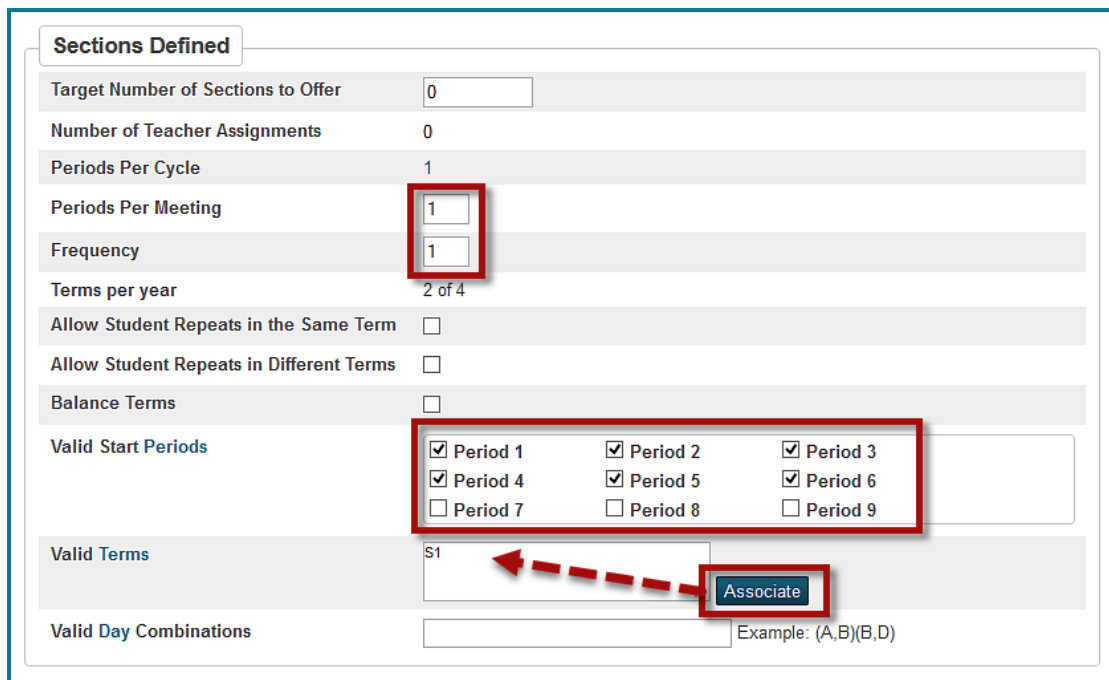
Allow Students Repeats in Different Terms **OPTIONAL** – Check the box to allow the system to schedule the students in more than one section of this course in different terms. The student must have two course requests for the same course.

Balance Terms – Leave box unchecked.

***Valid Start Periods** – Check the appropriate *start periods* for this course. If the boxes are left unchecked, the system will place the course in any period.

***Valid Terms** – Click **Associate**, select the appropriate term from the dialog window, click **Submit**. Hold down the **Ctrl** key to select multiple terms.

***Valid Day Combinations** – *To be used by schools with multiple days.* Enter the valid days this course can meet. For example, if this course should only be scheduled on B Day, enter B. If this course is to be scheduled on both days, enter (A,B).



Sections Defined

Target Number of Sections to Offer: 0

Number of Teacher Assignments: 0

Periods Per Cycle: 1

Periods Per Meeting: 1

Frequency: 1

Terms per year: 2 of 4

Allow Student Repeats in the Same Term:

Allow Student Repeats in Different Terms:

Balance Terms:

Valid Start Periods:

<input checked="" type="checkbox"/> Period 1	<input checked="" type="checkbox"/> Period 2	<input checked="" type="checkbox"/> Period 3
<input checked="" type="checkbox"/> Period 4	<input checked="" type="checkbox"/> Period 5	<input checked="" type="checkbox"/> Period 6
<input type="checkbox"/> Period 7	<input type="checkbox"/> Period 8	<input type="checkbox"/> Period 9

Valid Terms: S1

Valid Day Combinations: Example: (A,B)(B,D)

Associate

Labs Defined

This section is rarely used.



The screenshot shows a form titled "Labs Defined" with the following fields:

- Is This Course A Lab:
- Lab Frequency:
- Lab Periods Per Meeting:
- Valid Lab Day Combinations: Example: (A,B)(B,D)

A red stamp with the text "Rarely Used" is overlaid on the form.

Room Requirements

Facilities OPTIONAL – Click **Associate** to select the special facilities this course requires.

Example – Use facilities to force the course to build a section in a room other than the teacher's preferred room.



The screenshot shows a form titled "Room Requirements" with a "Facilities" section containing a text input field and an "Associate" button. A red stamp with the text "OPTIONAL" is overlaid on the form.

Load Options – *Asterisk Denotes Required Step

***Load Priority** – The Load Priority will determine which course takes precedence in the event a conflict arises between two of the student's course requests. The course with the highest Load Priority is scheduled first. You must enter a Load Priority for every course.

Use the following numbers for Load Priority: 1, 3, 7, 15, 31, 63...

Core Classes – 7

Electives – 31 (or 63)

Singletons – 3 (or 1)

Load Type – Select **Academic** for most courses.

There are two additional Load Types: **Elective** and **Alternate**. The system uses the load type to keep types of courses balanced across terms. This keeps students from having all academic courses first semester and elective courses second semester.

Balance Priority – Set to **Section**. Do not Change.

Use Pre Established Teams **OPTIONAL** – Select the checkbox if you are using teams.

NOTE: Teams do not work with different term relationships.

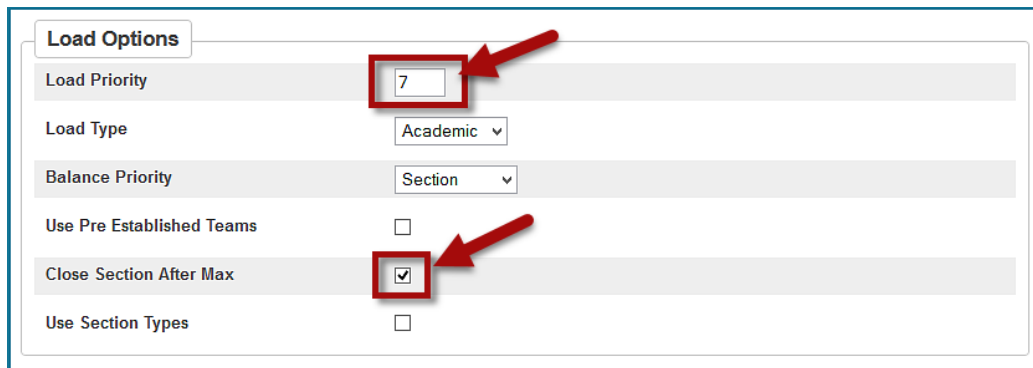
***Close Section at Max** – Check the box.

If this box is checked BEFORE running the Builder, all of the sections created during the Build will be checked. If you create a section manually, you **MUST** check the “Close Section at Max” box *on the section*.

Use Section Types **OPTIONAL** –

IMPORTANT! Section types will only allow students with the section type into the tagged section. You must relax section types in order to allow students without section type to “back-fill” the section. To request that sections be relaxed, contact the IT Help Desk: (619)209-HELP (4357) or submit a support request online at <https://sdusd.cherwellondemand.com>.

Check the “Use Section Type” box on the course preference page *AFTER the build process completes PRIOR to loading students*.



Load Options	
Load Priority	7
Load Type	Academic
Balance Priority	Section
Use Pre Established Teams	<input type="checkbox"/>
Close Section After Max	<input checked="" type="checkbox"/>
Use Section Types	<input type="checkbox"/>

Substitute Information – *Asterisk Denotes Required Step

Don't Allow Student Substitutions – Leave box unchecked.

If the box is checked, the system will not use substitutions.

Global Substitution 1 **OPTIONAL** – Click **Associate** to select the first course substitution you want the system to schedule for every student who cannot be scheduled in this course.

Global Substitution 2 **OPTIONAL** – Click **Associate** to select the next course substitution to use when #1 is no longer available.

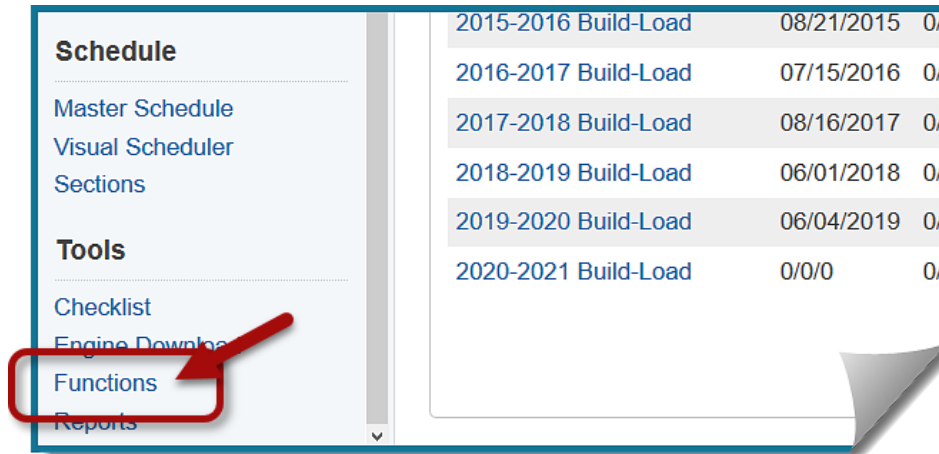
Global Substitution 3 **OPTIONAL** – Click **Associate** to select the next course substitution to use when #2 is no longer available.

4. *Click **Submit**.

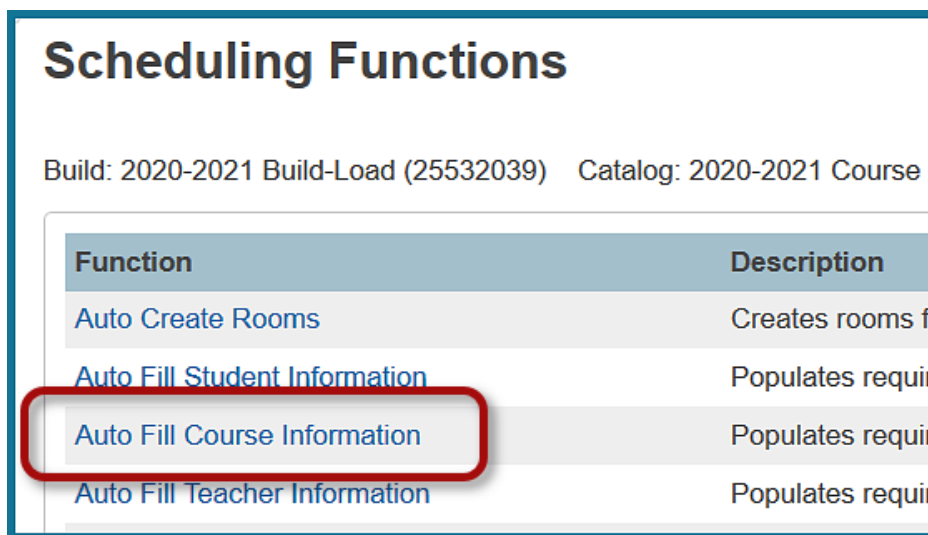
Entering Course Preferences Using Auto Fill Course Information

The Auto Fill Course Information function will allow you to fill in course information simultaneously for all courses in the Active Course Catalog or a group of selected courses (see the **Update Selection – Hand Select Courses** Job Aid).

1. On the **PowerScheduler** page, under Tools, select **Functions**.



2. On the **Scheduling Function** page, select **Auto Fill Course Information**.



-
3. Enter the following on the **Auto Fill Course Information** page:

Apply To: All course in the active catalog

Schedule This Course: Yes

Build Change: No Change

Maximum Enrollment: Enter a value

Target Number of Sections to Offer: Leave blank

Number of Teacher Assignments: Leave blank

Frequency: Enter the number of days this course meets during a cycle.

Periods Per Meeting: Enter the number of periods the course meets. Most courses meet for one period. Some courses are block classes and meet for two periods.

Lab Frequency: Leave blank

Lab Periods Per Meeting: Leave blank

Repeats in Same Term: No Change

Repeats in Different Term: No Change

Balance Terms: No Change

Valid Start Periods: Check the valid start times for the majority of courses, adjust for the few courses that have different start times on the Course Preference page.

Valid Terms: Click the **Associate** button to select the Term for the majority of courses, then adjust the few courses with different terms on the Course Preference page.

Facilities: Leave blank

Load Priority: Enter a value

Load Type: No Change

Balance Priority: No change

Close at Max: Yes

Use Section Types: No Change

Don't Allow Substitutions: No Change

4. Click **Submit**.

Auto-Fill Course Info

Apply To:	<input checked="" type="radio"/> All courses in the active catalog <input type="radio"/> The selected U courses
Field Name	Value
Schedule This Course	Yes
Build Type	No Change
Maximum Enrollment	36
Target Number of Sections to Offer	
Number of Teacher Assignments	
Frequency	1
Periods Per Meeting	1
Lab Frequency	
Lab Periods Per Meeting	
Repeats in Same Term	No Change
Repeats in Different Terms	No Change
Balance Terms	No Change
Valid Start Periods	<input checked="" type="checkbox"/> Period 1 <input checked="" type="checkbox"/> Period 2 <input checked="" type="checkbox"/> Period 3 <input checked="" type="checkbox"/> Period 4 <input checked="" type="checkbox"/> Period 5 <input checked="" type="checkbox"/> Period 6 <input type="checkbox"/> Period 7 <input type="checkbox"/> Period 8 <input type="checkbox"/> Clear Value
Valid Terms	<input type="text"/> <input type="button" value="Associate"/> <input type="checkbox"/> Clear Value
Facilities	<input type="text"/> <input type="button" value="Associate"/> <input type="checkbox"/> Clear Value
Load Priority	7
Load Type	No Change
Balance Priority	No Change
Use Teams	No Change
Close at Max	Yes
Use Section Types	No Change
Don't Allow Substitutions	No Change
<input type="button" value="Submit"/>	

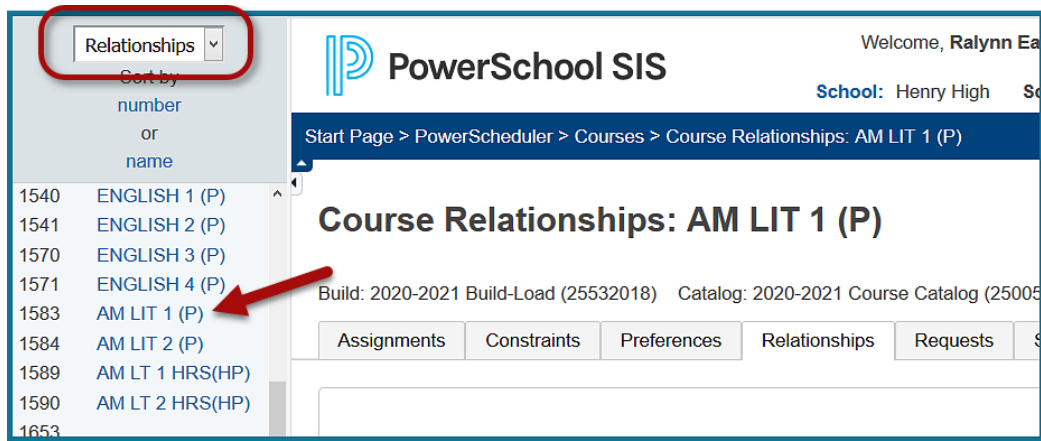
Adding Course Relationships

Course Relationships alert the system that it must consider how courses relate to one another when building and loading.

Using a **Different Terms** relationship between first and second semester courses will force students to be scheduled with the same teacher and period for both semesters. **Simultaneous** and **Concurrent** relationships force courses to be “stacked” which allows multiple courses to be taught at the same time in the same room.

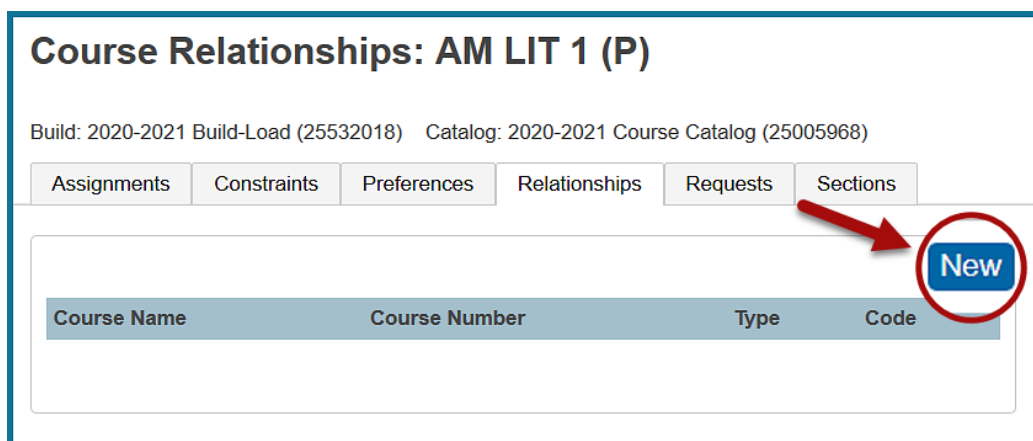
Creating a Different Term Relationship

1. On the **PowerScheduler** page, under Resources, select **Courses**.
2. Above the courses listed on the left, select **Relationships** from the drop-down menu.
3. From the list of courses, select the **Semester 1 (or Quarter 1 or 3)** course.



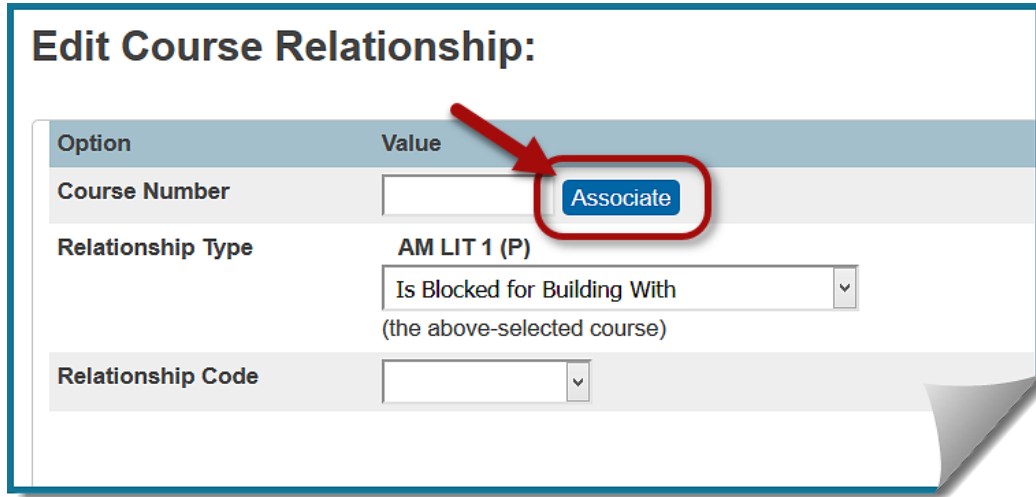
The screenshot shows the PowerSchool SIS interface. At the top right, it says "Welcome, Ralynn Ea" and "School: Henry High". The breadcrumb trail is "Start Page > PowerScheduler > Courses > Course Relationships: AM LIT 1 (P)". The main heading is "Course Relationships: AM LIT 1 (P)". Below the heading, it says "Build: 2020-2021 Build-Load (25532018) Catalog: 2020-2021 Course Catalog (25005)". There are tabs for "Assignments", "Constraints", "Preferences", "Relationships", "Requests", and "Sections". On the left, there is a list of courses with a dropdown menu above it. The dropdown menu is set to "Relationships" and is circled in red. A red arrow points to the "AM LIT 1 (P)" course in the list.

4. On the **Course Relationships** page, click **New**.



The screenshot shows the "Course Relationships: AM LIT 1 (P)" page. It displays the same breadcrumb trail and heading as the previous screenshot. The "Sections" tab is selected. A red arrow points to a blue "New" button, which is circled in red. Below the "New" button is a table with the following columns: "Course Name", "Course Number", "Type", and "Code".

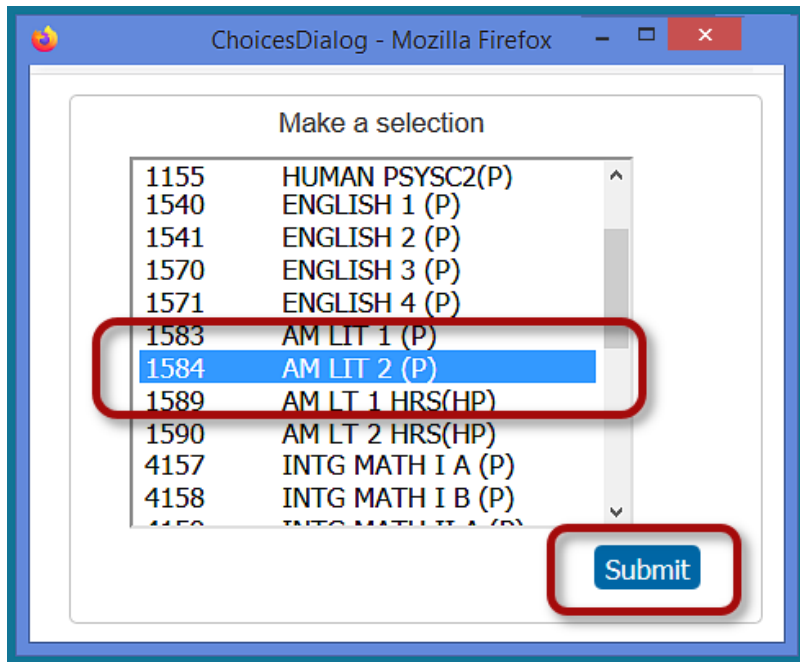
5. On the **Edit Course Relationship:** page, click the **Associate** button.



Edit Course Relationship:

Option	Value
Course Number	<input type="text"/> Associate
Relationship Type	AM LIT 1 (P) Is Blocked for Building With (the above-selected course)
Relationship Code	<input type="text"/>

6. Select the *corresponding Semester 2 (or Quarter 2 or 4)* course from the ChoicesDialog box.
7. Click **Submit**.



ChoicesDialog - Mozilla Firefox

Make a selection

1155	HUMAN PSYSC2(P)
1540	ENGLISH 1 (P)
1541	ENGLISH 2 (P)
1570	ENGLISH 3 (P)
1571	ENGLISH 4 (P)
1583	AM LIT 1 (P)
1584	AM LIT 2 (P)
1589	AM LT 1 HRS(HP)
1590	AM LT 2 HRS(HP)
4157	INTG MATH I A (P)
4158	INTG MATH I B (P)
4159	INTG MATH II A (P)

Submit

8. **Relationship Type** – Verify **Is Blocked for Building With** is selected.
9. **Relationship Code** – Select **Different Terms** from the drop-down menu.
10. Click **Submit**.

Edit Course Relationship:

Option	Value
Course Number	1584 Associate
Relationship Type	AM LIT 1 (P) Is Blocked for Building With (the above-selected course)
Relationship Code	Different Terms

Submit

View of the completed **Different Term Relationship**

Course Relationships: AM LIT 1 (P)

Build: 2020-2021 Build-Load (25532042) Catalog: 2020-2021 Course Catalog (25005992)

Assignments Constraints Preferences Relationships Requests Sections

New

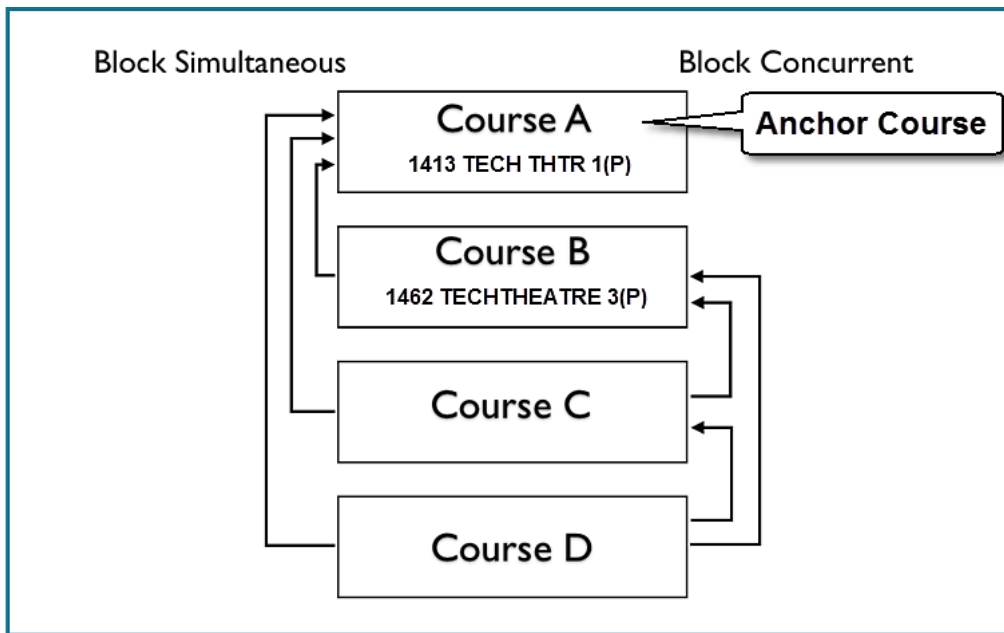
Course Name	Course Number	Type	Code
AM LIT 2 (P)	1584	Is Blocked for Building With	Different Terms

Creating a Simultaneous Relationship – Stacking Two Courses

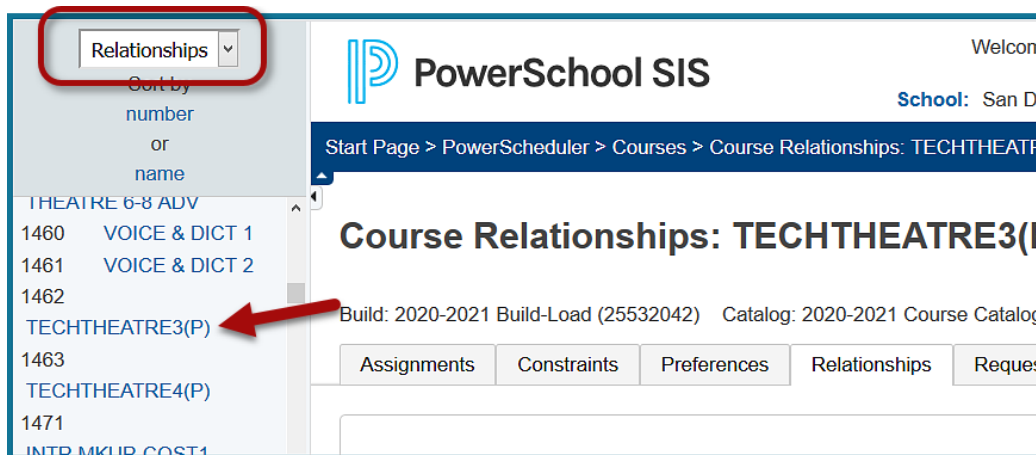
When creating stacked courses, determine an “anchor” course (course A). Typically the **Anchor Course (Course A)** is the one with the most course requests.

IMPORTANT! If you plan to stack first semester courses, you must also stack second semester.

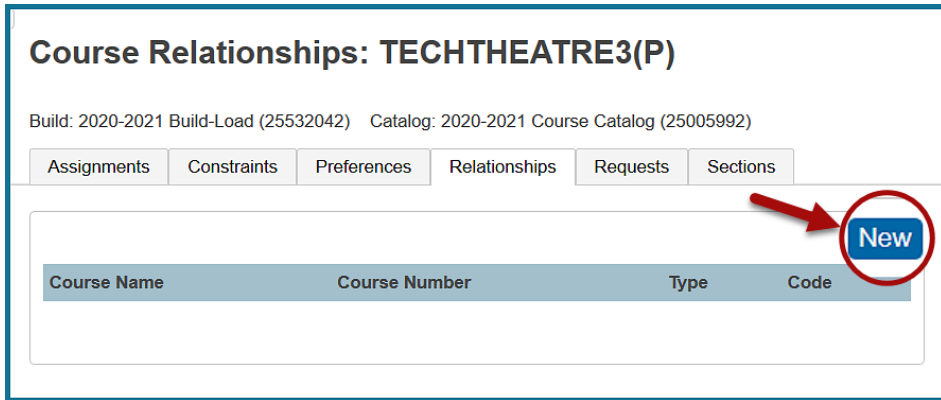
Use the stacking course worksheet to help determine the stacking order.



1. On the **PowerScheduler** page, under Resources, select **Courses**.
2. Above the courses listed on the left, select **Relationships** from the drop-down menu.
3. From the course list, select **Course B** (this should be the course with the least amount of requests).



- On the **Course Relationships** page, click **New**.



Course Relationships: TECHTHEATRE3(P)

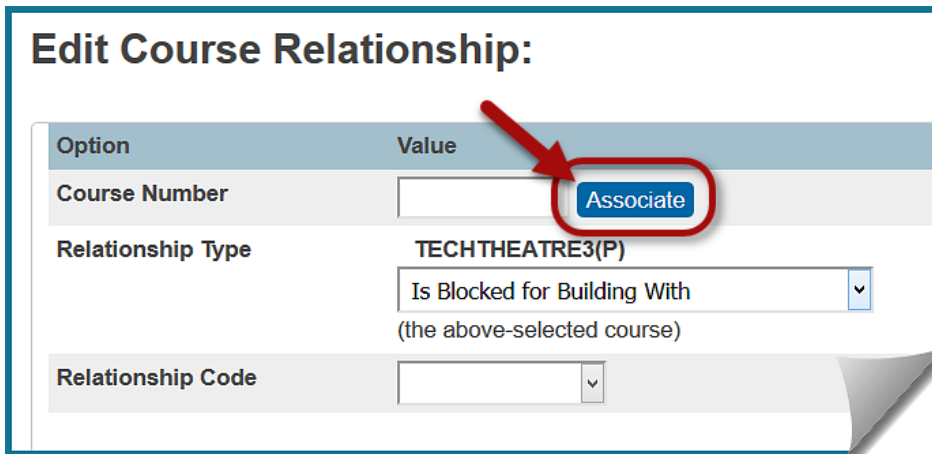
Build: 2020-2021 Build-Load (25532042) Catalog: 2020-2021 Course Catalog (25005992)

Assignments Constraints Preferences Relationships Requests Sections

New

Course Name	Course Number	Type	Code
-------------	---------------	------	------

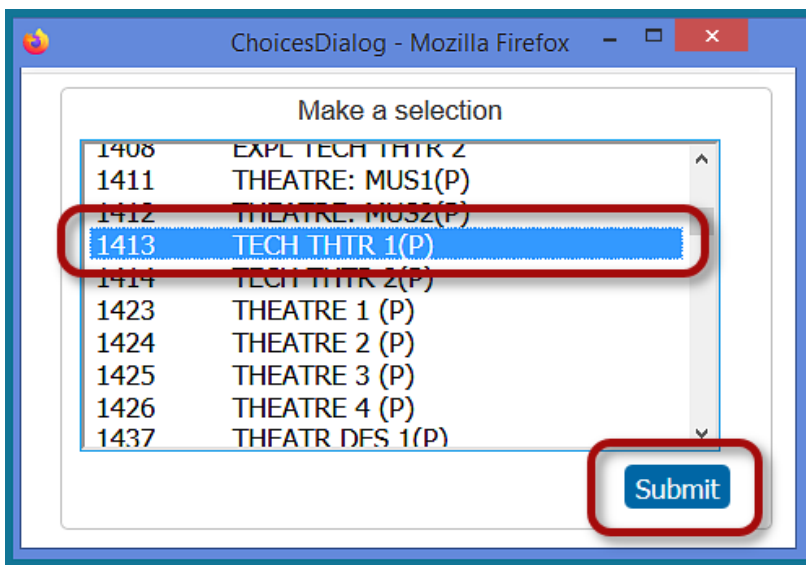
- On the **Edit Course Relationship** page, click the **Associate** button.



Edit Course Relationship:

Option	Value
Course Number	<input type="text"/> Associate
Relationship Type	TECHTHEATRE3(P) Is Blocked for Building With (the above-selected course)
Relationship Code	<input type="text"/>

- Select the **Anchor Course (Course A)** from the ChoicesDialog box. Click **Submit**.



ChoicesDialog - Mozilla Firefox

Make a selection

1408	EXPL TECH THTR 2
1411	THEATRE: MUS1(P)
1412	THEATRE: MUS2(P)
1413	TECH THTR 1(P)
1414	TECH THTR 2(P)
1423	THEATRE 1 (P)
1424	THEATRE 2 (P)
1425	THEATRE 3 (P)
1426	THEATRE 4 (P)
1437	THFATR DFS 1(P)

Submit

7. **Relationship Type** – Verify **Is Blocked for Building With** is selected.
8. **Relationship Code** – Select **Simultaneous** from the drop-down menu.
9. Click **Submit**.

Edit Course Relationship:

Option	Value
Course Number	1413 Associate
Relationship Type	TECHTHEATRE3(P) Is Blocked for Building With (the above-selected course)
Relationship Code	Simultaneous

Submit

View of the completed **Simultaneous Relationship**

Course Relationships: TECHTHEATRE3(P) COURSE B

Build: 2020-2021 Build-Load (25532042) Catalog: 2020-2021 Course Catalog (25005992)

Assignments Constraints Preferences Relationships Requests Sections

New

Course Name	Course Number	Type	Code
TECH THTR 1(P)	1413	Is Blocked for Building With	Simultaneous

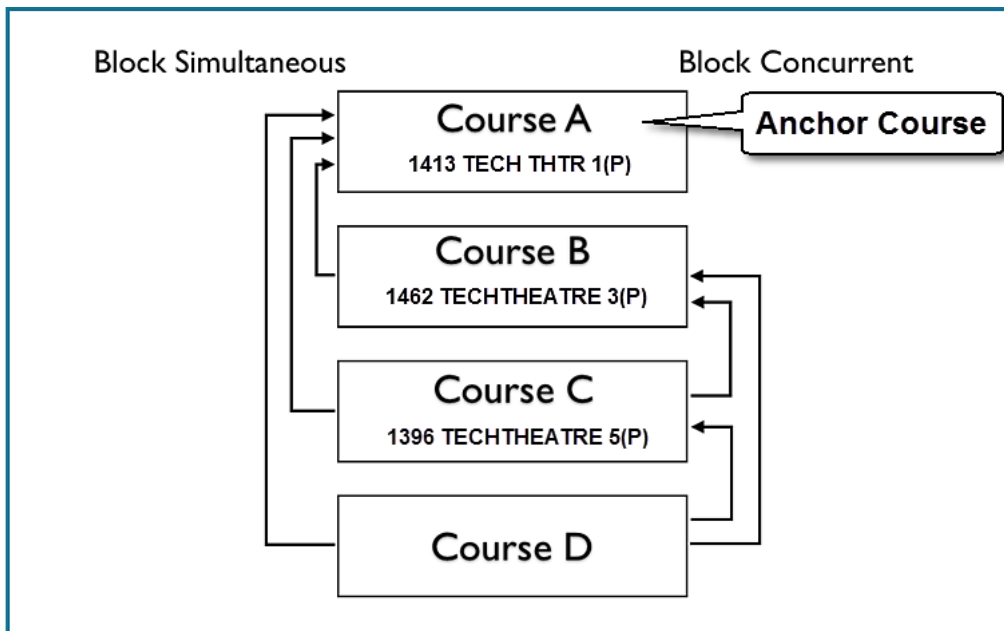
ANCHOR COURSE (COURSE A)

Creating a Concurrent Relationship – Stacking 3 or More Courses

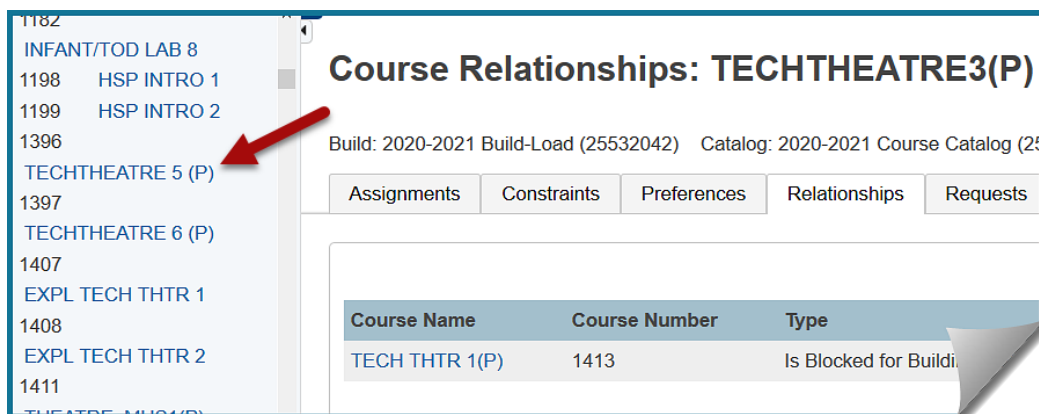
Stack the first two courses by following the instructions beginning on page 34.

IMPORTANT! If you plan to stack first semester courses, you must also stack second semester.

Use the stacking course worksheet to help determine the stacking order.



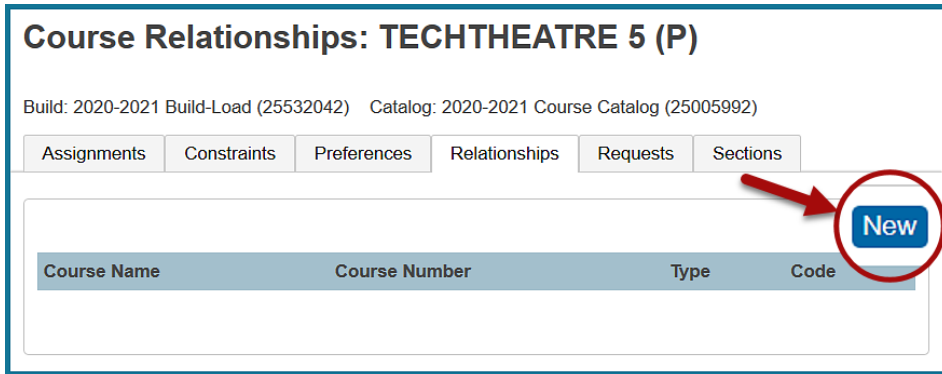
1. From the course list, select **Course C**.



The screenshot shows the PowerSchool interface for setting course relationships. On the left, a list of courses is visible, with 'TECHTHEATRE 5 (P)' highlighted by a red arrow. The main window displays 'Course Relationships: TECHTHEATRE3(P)'. Below the title bar, there are tabs for 'Assignments', 'Constraints', 'Preferences', 'Relationships', and 'Requests'. A table below shows a relationship between 'TECH THTR 1(P)' (Course Number 1413) and 'TECHTHEATRE 3(P)' (Course Number 1396), with the relationship type 'Is Blocked for Build'.

Course Name	Course Number	Type
TECH THTR 1(P)	1413	Is Blocked for Build

2. Click **New**.



Course Relationships: TECHTHEATRE 5 (P)

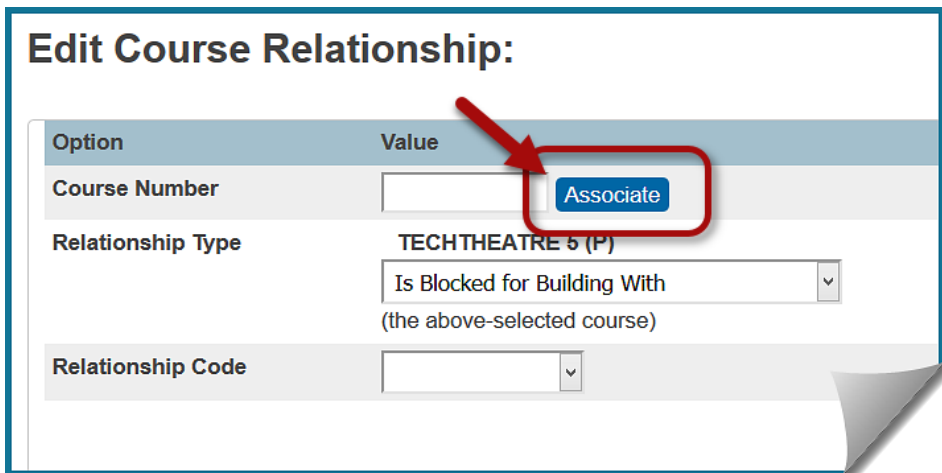
Build: 2020-2021 Build-Load (25532042) Catalog: 2020-2021 Course Catalog (25005992)

Assignments Constraints Preferences Relationships Requests Sections

New

Course Name	Course Number	Type	Code
-------------	---------------	------	------

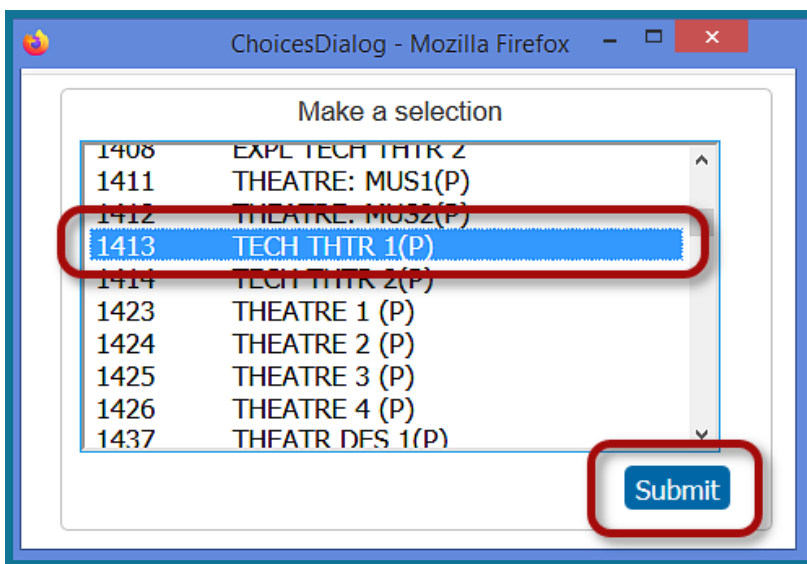
3. On the **Edit Course Relationship:** page, click the **Associate** button.



Edit Course Relationship:

Option	Value
Course Number	<input type="text"/> Associate
Relationship Type	TECHTHEATRE 5 (P) Is Blocked for Building With (the above-selected course)
Relationship Code	<input type="text"/>

4. Select the **Anchor Course (Course A)** from the ChoicesDialog box. Click **Submit**.



ChoicesDialog - Mozilla Firefox

Make a selection

1408	EXPL TECH THIR 2
1411	THEATRE: MUS1(P)
1412	THEATRE: MUS2(P)
1413	TECH THIR 1(P)
1414	TECH THIR 2(P)
1423	THEATRE 1 (P)
1424	THEATRE 2 (P)
1425	THEATRE 3 (P)
1426	THEATRE 4 (P)
1437	THEATR DES 1(P)

Submit

5. **Relationship Type** – Verify **Is Blocked for Building With** is selected.
6. **Relationship Code** – Select **Simultaneous** from the drop-down menu.
7. Click **Submit**.

Edit Course Relationship:

Option	Value
Course Number	1413 Associate
Relationship Type	TECHTHEATRE 5 (P) Is Blocked for Building With (the above-selected course)
Relationship Code	Simultaneous

Submit

8. Back on the **Course Relationships** page, click **New** once more.

Course Relationships: TECHTHEATRE 5 (P)

Build: 2020-2021 Build-Load (25532042) Catalog: 2020-2021 Course Catalog (25005992)

Assignments
Constraints
Preferences
Relationships
Requests
Sections

New

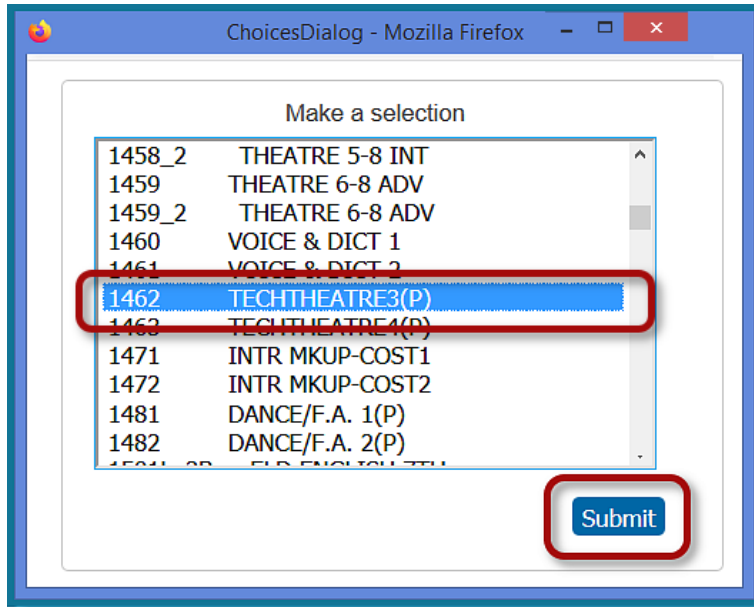
Course Name	Course Number	Type	Code

9. On the **Edit Course Relationship** page, click the **Associate** button.

Edit Course Relationship:

Option	Value
Course Number	<input type="text"/> Associate
Relationship Type	TECHTHEATRE 5 (P) Is Blocked for Building With (the above-selected course)
Relationship Code	<input type="text"/>

10. Select **Course B** from the ChoicesDialog box. Click **Submit**.



ChoicesDialog - Mozilla Firefox

Make a selection

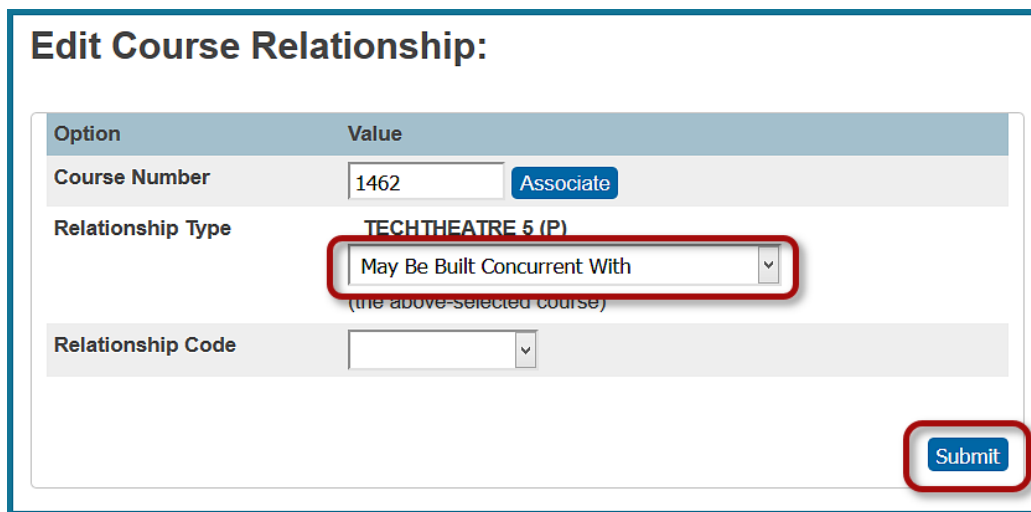
1458_2	THEATRE 5-8 INT
1459	THEATRE 6-8 ADV
1459_2	THEATRE 6-8 ADV
1460	VOICE & DICT 1
1461	VOICE & DICT 2
1462	TECHTHEATRE3(P)
1463	TECHTHEATRE4(P)
1471	INTR MKUP-COST1
1472	INTR MKUP-COST2
1481	DANCE/F.A. 1(P)
1482	DANCE/F.A. 2(P)
1504	SP. ENG ENGLISH T...

Submit

11. **Relationship Type** – Select **May Be Built Concurrent With**.

12. **Relationship Code** – Leave blank.

13. Click **Submit**.



Edit Course Relationship:

Option	Value
Course Number	1462 <input type="button" value="Associate"/>
Relationship Type	TECHTHEATRE 5 (P) May Be Built Concurrent With (the above-selected course)
Relationship Code	

Submit

View of the completed **Concurrent Relationship**

Course Relationships: TECHTHEATRE 5 (P)

COURSE C

Build: 2020-2021 Build-Load (25532042) Catalog: 2020-2021 Course Catalog (25005992)

Prints
Preferences
Relationships
Requests
Sections

**ANCHOR COURSE
(COURSE A)**

New

Course Name	Course Number	Type	Code
TECH THTR 1(P)	1413	Is Blocked for Building With	Simultaneous
TECHTHEATRE3(P)	1462	May Be Built Concurrent With	

COURSE B

Rooms

Rooms carry over from year to year. Verify and update your rooms, if needed.

Adding or Editing Rooms

1. On the **PowerScheduler** page, select **Rooms**.
2. On the **Rooms** page, verify the information is correct. To make changes, do the following:
3. Click on the room **Number** to edit an existing room, or the **New** button to create a new room.
4. On the **Add/Edit Room** page, make changes, as needed:
 - ***Room Number** – Add or edit
 - ***Room Description** – Add or edit
 - **Department** – Leave blank (may create conflict if trying to schedule a course with a different department)
 - **Building** – Not Used
 - **House** – Not Used
 - ***Use for Scheduling** – Check the box. **IMPORTANT!** If the box is unchecked, the room will not be used for scheduling.
 - **Room Always Free** – Leave blank
 - **Department Use Only** – Leave blank
 - **Facility Use Only** – If checked, you must assign a Facility.
 - **Room Facilities** – Click **Associate** to assign a Facility to the Room. Be sure to check the Facility Use Only box.
 - ***Room Maximum** – This number **MUST MEET**, or **EXCEED** course max. Consider courses that have been “stacked.”
5. Click **Submit**.

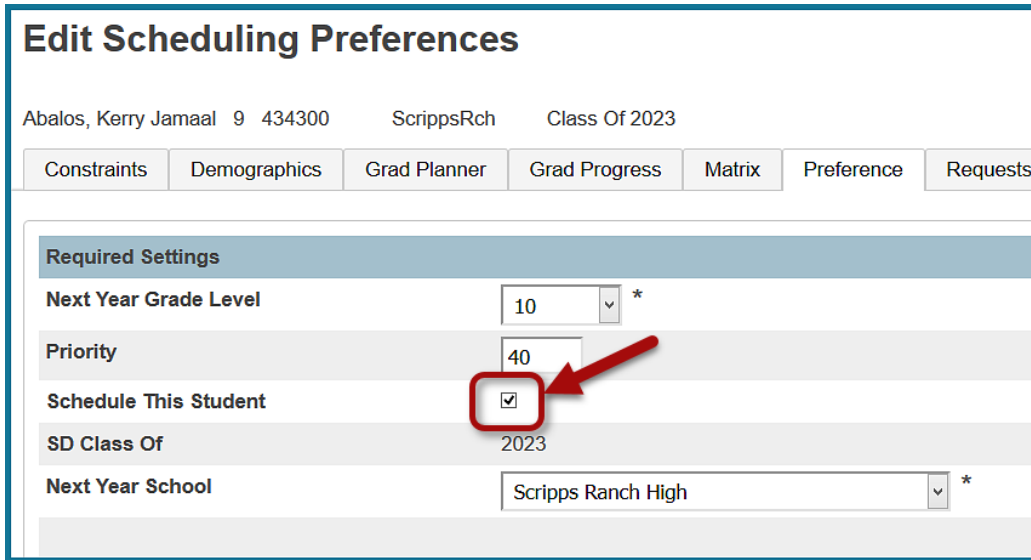
Add/Edit Room

Option	Value
Room Number	<input type="text" value="105"/>
Room Description	<input type="text" value="105"/>
Department	<input type="text"/> Associate
Building	<input type="text"/> Associate
House	<input type="text"/> Associate
Use for Scheduling	<input checked="" type="checkbox"/>
Room is Always Free	<input type="checkbox"/>
Department Use Only	<input type="checkbox"/>
Facility Use Only	<input type="checkbox"/>
Room Facilities	<input type="text"/> Associate
Room Maximum	<input type="text" value="36"/>

Students

When IT runs the Next Year Setup, the **Student Scheduling Preferences** are updated automatically. For students who enroll *after* the Next Year Setup, their scheduling preferences must be updated as part of the enrollment process.

It is important to verify that all students have the **Schedule This Student** box checked in order for the system to schedule them into classes.



Edit Scheduling Preferences

Abalos, Kerry Jamaal 9 434300 ScrippsRch Class Of 2023

Constraints Demographics Grad Planner Grad Progress Matrix Preference Requests

Required Settings

Next Year Grade Level	10	*
Priority	40	
Schedule This Student	<input checked="" type="checkbox"/>	
SD Class Of	2023	
Next Year School	Scripps Ranch High	*

You can apply the **Schedule This Student** value using any of the following methods:

- Using **Auto-Fill** to update student scheduling preferences.
- **Manually** update individual student scheduling preferences.

Using Auto-Fill to Update Student Scheduling Preferences

This function will apply the information to *all students*. Do not apply anything to the out-going grade-level. **NOTE!** If you have purposely unchecked the Schedule This Student box for any student, this function will over-ride and recheck the box.

1. On the **PowerScheduler** page, under Tools, select **Functions**.
2. On the **Scheduling Functions** page, select **Auto Fill Student Information**.
3. Enter the following values:
 - **Priority** – This value will determine the scheduling order. The lower number has the highest priority.
 - **Schedule This Student** – Select **Yes**, to auto-fill the **Schedule This Student** box for all students.
4. Click **Submit**.

Auto-Fill Student Info

Field Name	Grade 8	Grade 9	Grade 10	Grade 11	Grade 12
Priority	<input type="text" value="40"/>	<input type="text" value="30"/>	<input type="text" value="20"/>	<input type="text" value="10"/>	<input type="text" value=""/>
Schedule This Student	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text" value="No Change"/>

Manually Updating Student Scheduling Preferences

Find students missing **Schedule this Student**:

1. On the **PowerScheduler** page under Resources, click **Students**.

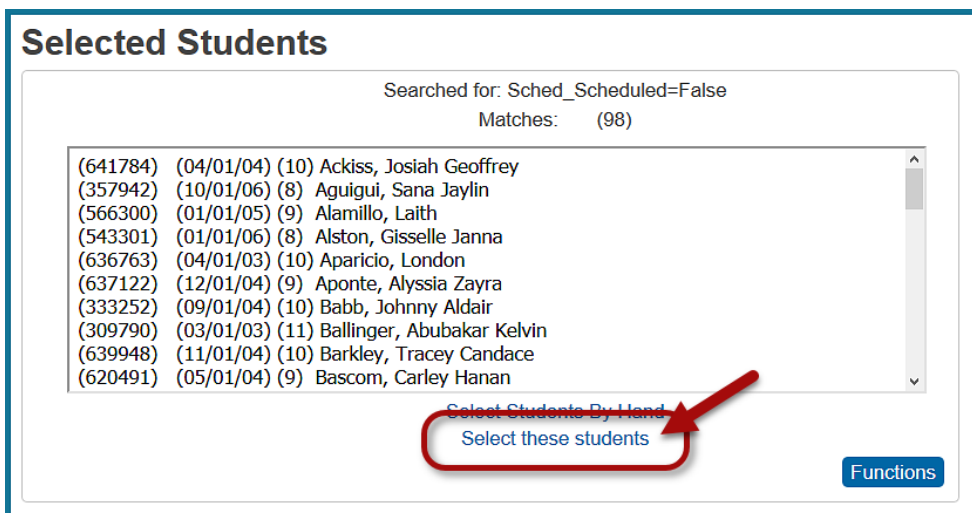


2. On the **Scheduling** page, type the following in the **Student Search Field**:

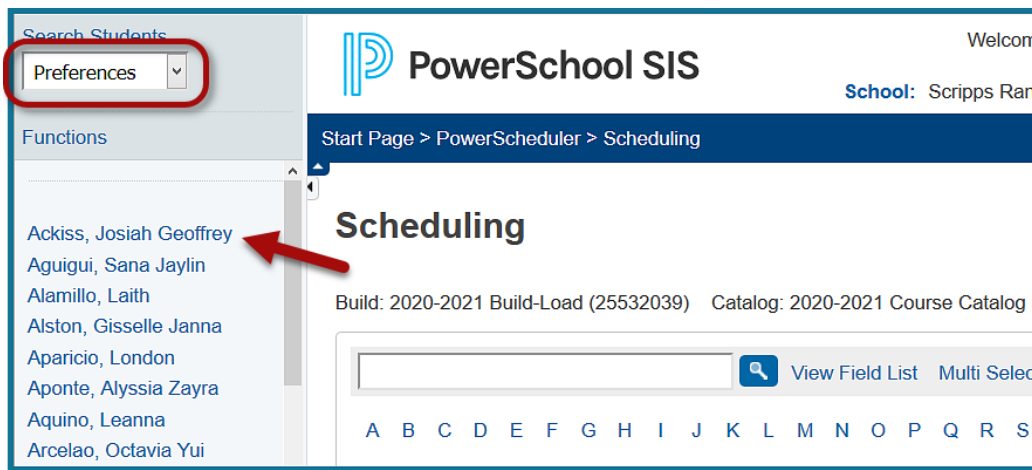
Sched_Scheduled=False



3. On the **Selected Students** page, click the **Select these students** link.



- Above the student list on the left, select **Preferences** from the drop-down menu, then click the first student name.



- Complete the **Edit Scheduling Preferences** page as follows:
 - Next Year Grade** – Set by IT during Next Year Setup, or during the enrollment process on the Student Scheduling Setup page.
 - Priority** – Enter a priority for the system to follow when loading student schedules.
NOTE: The lower the number, the higher the priority.
 - Schedule This Student** – This box must be checked for student to be scheduled. If this box is left unchecked, the system will ignore this student.
 - SD Class of** – Set by IT.
 - Next Year School** – Set by IT during Next Year Setup. Verify or change, as needed.
 - If a student will not be returning to your school for next year, change the **Next Year School** to **Not continuing next year**.
- Click **Submit**.

Edit Scheduling Preferences


Ackiss, Josiah Geoffrey 10 641784 ScrippsRch Class Of 2022

Constraints Demographics Grad Planner Grad Progress Matrix Preference Requests Schedule

Required Settings

Next Year Grade Level 11 *

Priority 30

Schedule This Student 

SD Class Of 2022

Next Year School Scripps Ranch High *

Optional Settings

Next Year Building Associate

Next Year House Associate

Next Year Team

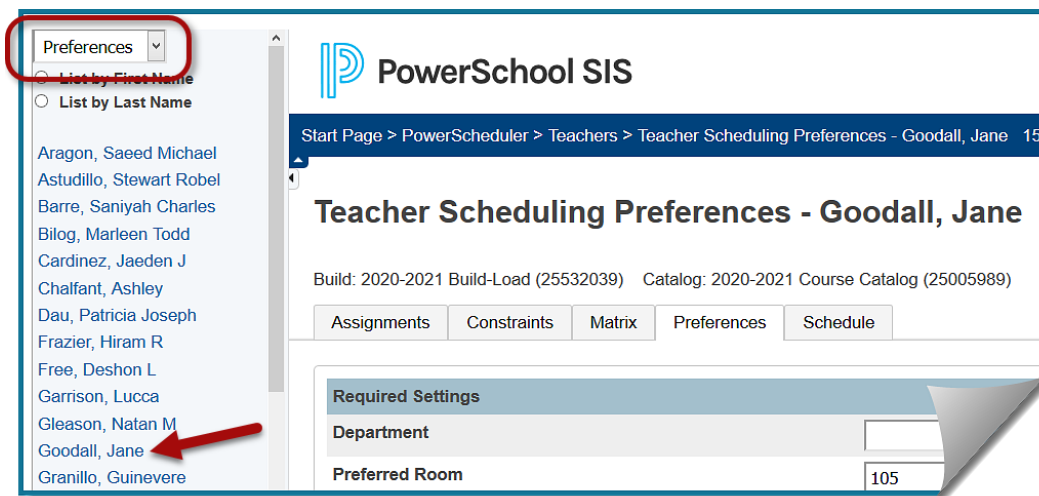
25617357

Teachers

Entering Teacher Scheduling Information

You must define scheduling information for every teacher who instructs at least one course at your school.

1. On the **PowerScheduler** page, under Resources, select **Teachers**.
2. Above the teachers listed on the left, select **Preferences** from the drop-down menu.
3. Select a teacher from the list.



4. Complete the page:

Required Settings (* Required Step)

Department – Leave blank.

Adding a department to Teacher Scheduling Preferences may create a conflict during the Build process if the courses assigned to the teacher belong to different departments. Consider adding the Department to the Teacher Scheduling Preferences *after* the master schedule has been finalized prior to the commit process.

***Preferred Room** – Click **Associate** to assign a preferred room. The system will always attempt to schedule courses assigned to this teacher in the preferred room first.

***Maximum Consecutive Periods** – Select a value from the drop-down field. This number represents how many periods a teacher can teach before they must have a prep.

***Schedule This Teacher** – If the teacher will not be returning next year, uncheck this box.

Is Always Free? – Leave blank.

Schedule For Lunch – Not Used.

Optional Settings

Building Code – Not Used

House Code – Rarely Used

Team Code – Enter, if using

Maximum Student Load – Leave blank. This value is set at the district level.

5. Click **Submit**.

Teacher Scheduling Preferences Page

Teacher Scheduling Preferences - Goodall, Jane

Build: 2020-2021 Build-Load (25532039) Catalog: 2020-2021 Course Catalog (25005989)

Assignments Constraints Matrix **Preferences** Schedule

Required Settings	
Department	<input type="text"/> Associate
Preferred Room	105 Associate
Maximum Consecutive Periods	6 ▾
Schedule This Teacher	<input checked="" type="checkbox"/>
Is Always Free?	<input type="checkbox"/>
Schedule For Lunch	<input type="checkbox"/>

Optional Settings	
Building Code	<input type="text"/> Associate
House Code	<input type="text"/> Associate
Team Code	▾
Maximum Student Load	0

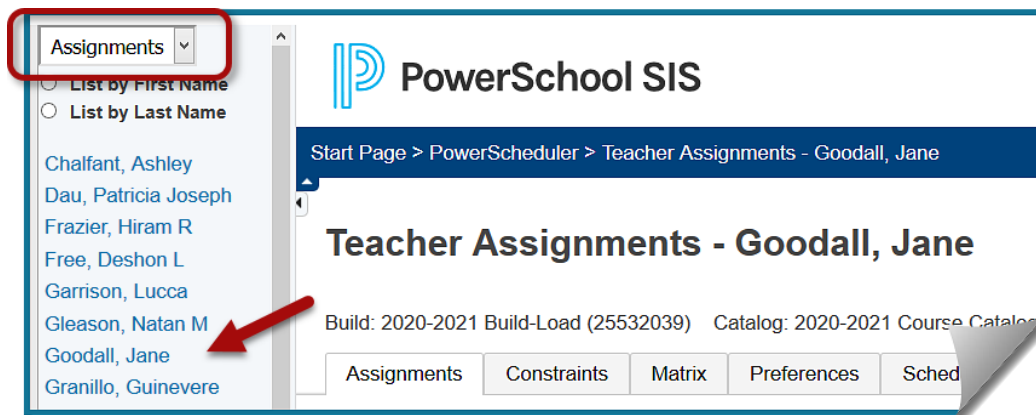
Submit

Entering Teacher Assignments

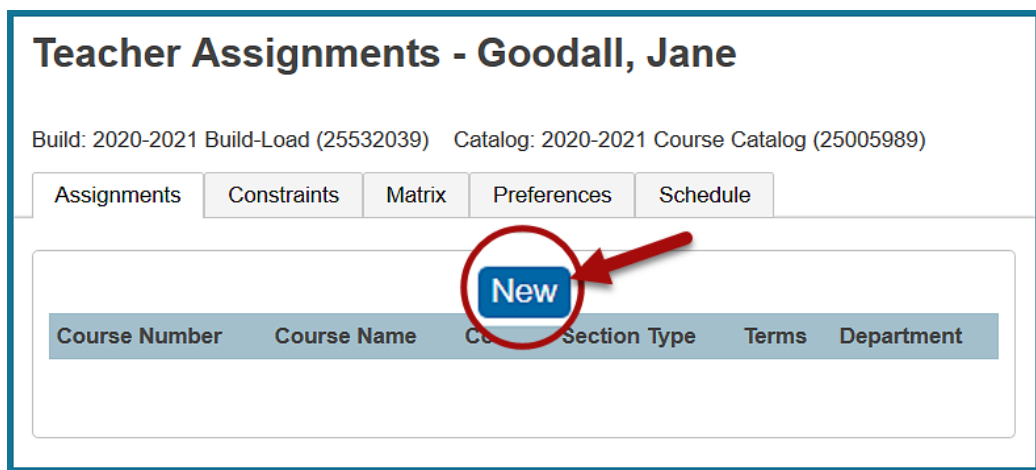
The system uses Teacher Assignments to define which course and how many sections of the course to build for the teacher. **NOTE:** Only the BUILD and LOAD scenario allows for teacher assignments. Teacher Assignments are not used by the Load Only scenario.

NOTE: Teacher Assignments can also be entered on the Course Information page, **Assignments** tab.

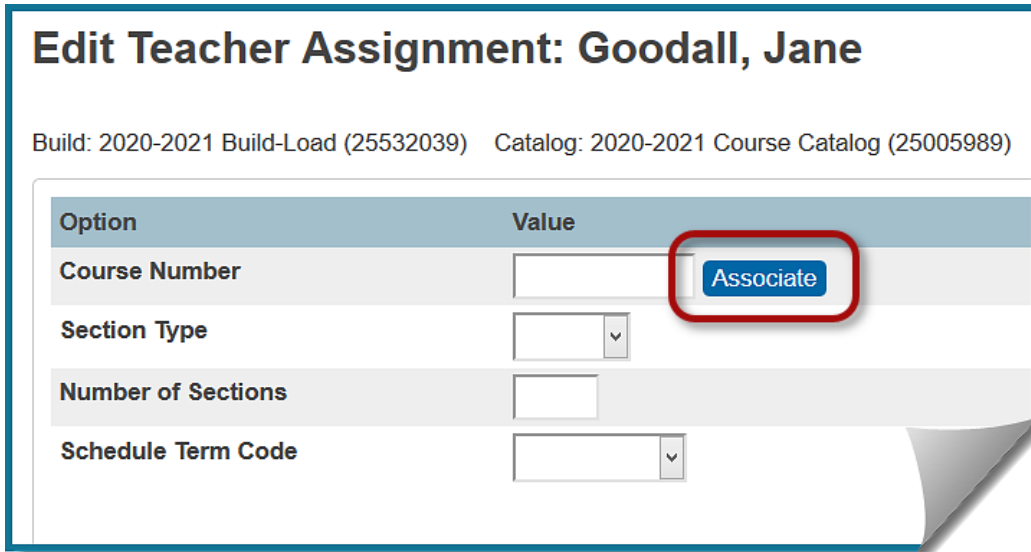
1. On the **PowerScheduler** page, under Resources, select **Teachers**.
2. Above the teachers listed on the left, select **Assignments** from the drop-down menu.
3. Select a teacher from the list.



4. On the **Teacher Assignments** page, click **New**.



- On the **Edit Teacher Assignment** page, click **Associate**.

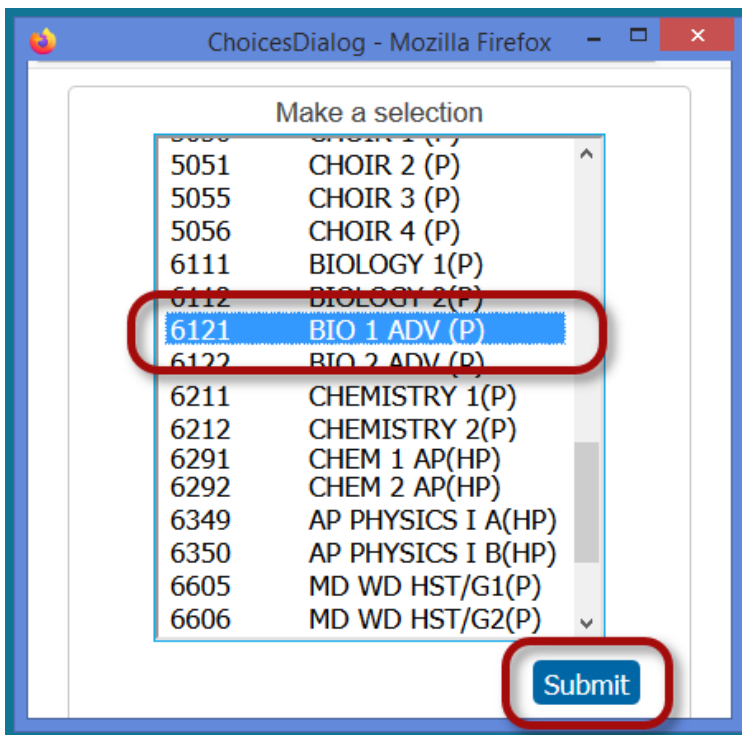


Edit Teacher Assignment: Goodall, Jane

Build: 2020-2021 Build-Load (25532039) Catalog: 2020-2021 Course Catalog (25005989)

Option	Value
Course Number	<input type="text"/> Associate
Section Type	<input type="text"/>
Number of Sections	<input type="text"/>
Schedule Term Code	<input type="text"/>

- Select the **Course** from the ChoicesDialog box.
- Click **Submit**.



ChoicesDialog - Mozilla Firefox

Make a selection

5051	CHOIR 2 (P)
5055	CHOIR 3 (P)
5056	CHOIR 4 (P)
6111	BIOLOGY 1(P)
6112	BIOLOGY 2(P)
6121	BIO 1 ADV (P)
6122	BIO 2 ADV (P)
6211	CHEMISTRY 1(P)
6212	CHEMISTRY 2(P)
6291	CHEM 1 AP(HP)
6292	CHEM 2 AP(HP)
6349	AP PHYSICS I A(HP)
6350	AP PHYSICS I B(HP)
6605	MD WD HST/G1(P)
6606	MD WD HST/G2(P)

Submit

8. Apply a **Section Type**, if using.
9. Enter the **Number of Sections** (classes) assigned to this teacher.
10. **Schedule Term Code** – Leave blank. The system will adhere to the term assigned to the Course.
11. Click **Submit**.

Edit Teacher Assignment: Goodall, Jane

Build: 2020-2021 Build-Load (25532039) Catalog: 2020-2021 Course Catalog (25005989)

Option	Value
Course Number	6121 Associate
Section Type	<input type="text"/>
Number of Sections	5
Schedule Term Code	<input type="text"/>

Submit

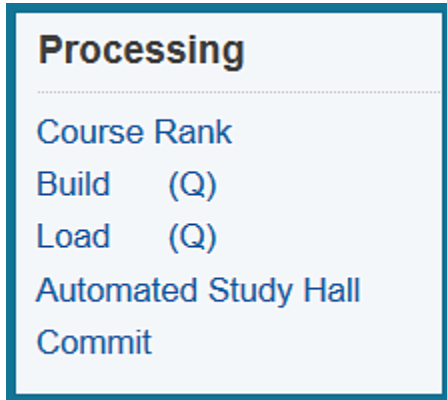
Enter the number of classes assigned to the teacher.

Part 3: Processing

Processing Menu

The functions listed under this category represent the mechanics of the build and load process.

IMPORTANT! Verify that all parameters have been defined and checked for errors before proceeding.



After all of the scheduling parameters (courses, rooms, students, teachers) have been defined, proceed by building the master schedule:

- Build the Course Rank.
- Validate the data that has been entered. Fix any errors.
- Begin the Build.
- Fix any issues the system finds when building the schedule. Utilize the Build Logs to help determine issues.
- Import the results of the Build.
- Validate the Load.
- Load to students into the master schedule.
- Commit the master schedule.

Course Rank

Building the course rank is the last step before building the master schedule.


The course rank defines the order in which the system schedules the course 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 system considers the number of sections per term, the demand for the class (course request total), and any constraints.

During the process of building your master schedule, as adjustments are made to courses, teachers, constraints, and other parameters, it is important to keep the course rank updated.

Building or Updating the Course Rank

When the course rank is built for the first time, the order displayed is based on how the courses and constraints were defined. The ranking numbers are sequential in increments of ten. The smaller the number the higher the course rank.

1. On the **PowerScheduler** page, under Processing, select **Course Rank**.
2. On the **Course Rank** page, select **Build Rank**.

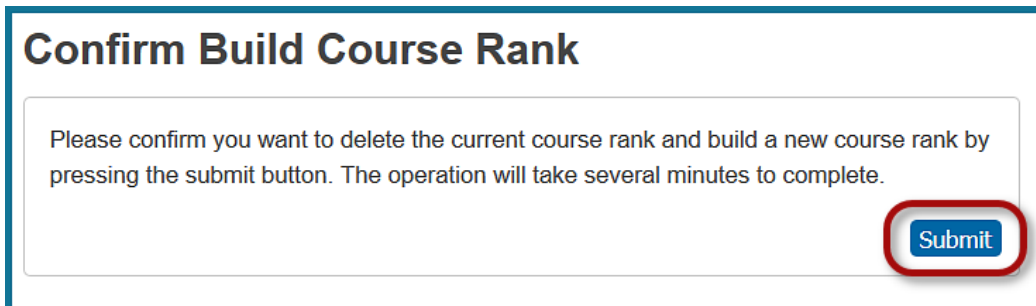


Course Rank

Build Rank Update Rank

Delete Rank	Sys Rank	Rank	Crs Num	Crs Name	Sections	PPC	Demand	Crs Conflicts	Stu Conflicts	Constraints	Comments
-------------	----------	------	---------	----------	----------	-----	--------	---------------	---------------	-------------	----------

3. Click **Submit** on the **Confirm Build Course Rank** page.



Confirm Build Course Rank

Please confirm you want to delete the current course rank and build a new course rank by pressing the submit button. The operation will take several minutes to complete.

Submit

When the course rank is built for the first time, the order displayed is based on how the courses and constraints were defined. The ranking numbers are sequential in increments of ten. The smaller the number the higher the course rank.

Course Rank

Delete	Sys Rank	Rank	Crs Num	Crs Name	Sections	PPC	Demand	Crs Conflicts	Stu Conflicts	Constraints	Comments
<input type="checkbox"/>	10	<input type="text" value="10"/>	5503	PHYS ED 1	10	1	482	10	4338		
<input type="checkbox"/>	20	<input type="text" value="20"/>	5701	PHYS ED 3	11	1	542	10	4878		
<input type="checkbox"/>	30	<input type="text" value="30"/>	5504	PHYS ED 2	10	1	482	10	4338		
<input type="checkbox"/>	40	<input type="text" value="40"/>	5753	PE DANCE 11TH-12TH 1	11	1	501	10	4509		
<input type="checkbox"/>	50	<input type="text" value="50"/>	5702	PHYS ED 4	11	1	542	10	4878		
<input type="checkbox"/>	60	<input type="text" value="60"/>	5757	PE STRENGTH/COND 1	12	1	554	10	4986		
<input type="checkbox"/>	70	<input type="text" value="70"/>	5754	PE DANCE 11TH-12TH 2	11	1	501	10	4509		
<input type="checkbox"/>	80	<input type="text" value="80"/>	5758	PE STRENGTH/COND 2	12	1	554	10	4986		
<input type="checkbox"/>	90	<input type="text" value="90"/>	6211	CHEMISTRY 1(P)	14	1	501	10	4509		
<input type="checkbox"/>	100	<input type="text" value="100"/>	1583	AM LIT 1 (P)	14	1	501	10	4509		

Course ranking can be edited, for example a course can be moved up or down the rank by editing the rank number to fall between the sequential increments of ten. The rank of a course can never be above a pre-scheduled course. The system always builds pre-scheduled courses first. After making changes to the rank number, click **Submit**.

When to Re-Build the Course Rank: Re-Build the course rank if you add or delete a course. Rebuilding will overwrite and changes you have made to the ranking.

When to Update the Course Rank: Update the course rank if the number of sections of a course have been changed, when there is a significant change to the number of student course requests, or constraints have been added or deleted.

Build

NOTE: Download and install the PowerScheduler Scheduling Engine before proceeding. If the Engine was previously installed on the computer, there is no need to do it again (See page 67, **Engine Download**).

Validate the Build

Before initiating the Build process, all defined scheduling information must be validated. The validation process alerts to potential problems with the entered data.

Validation errors represent conflicts, missing data, or wrong information that must be corrected before the schedule can be finalized.

There are three types of validation messages:

Info – These messages are not errors and do not need to be cleaned up.

Warning – These messages could be potential issues, but do not need to be cleaned up. These messages warns that the information is not 100% accurate, but will not impede the Build process.

Error - These Validation errors must be corrected in order for the Build to run.

Many validation errors relate to one another, therefore clearing up one error may end up clearing others that are associated to the course, teacher or student.

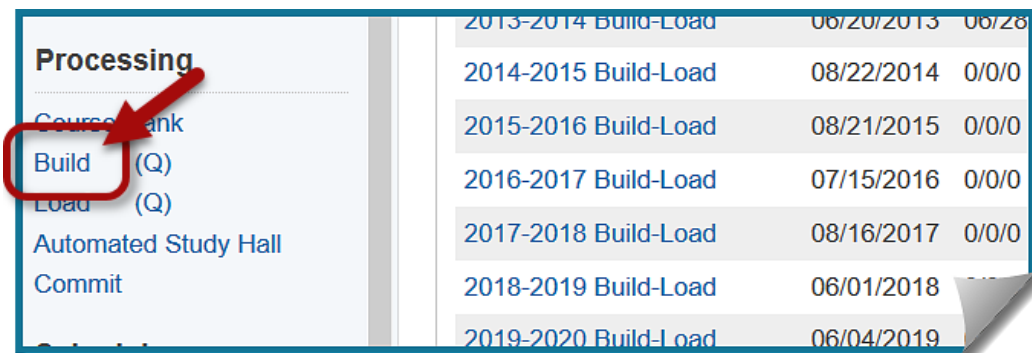
Some Common Validation Errors

Validation ERROR	Possible Solution
The Teacher is oversubscribed: The teacher has been assigned too many courses/sections	Check the teacher Assignments and/or the Maximum Consecutive Periods on the teacher's Scheduling Preferences.
The Student requests multiple times of the same course, but the course does not allow repeating requests	Check the student's course requests for possible duplicates. If duplicates are intentional, check Allow Student Repeats in the Same (or Different) Term on the Course Preference page to allow for repeats.
The previous error message has occurred 25 times. This error message will not be printed again	When the same type of error is listed 25 times, check all the courses for the same potential error. If you fix only the initial 25 errors listed, the next time you run the validation report, the next 25 will appear. BE AWARE that there could be more errors than the 25 listed.

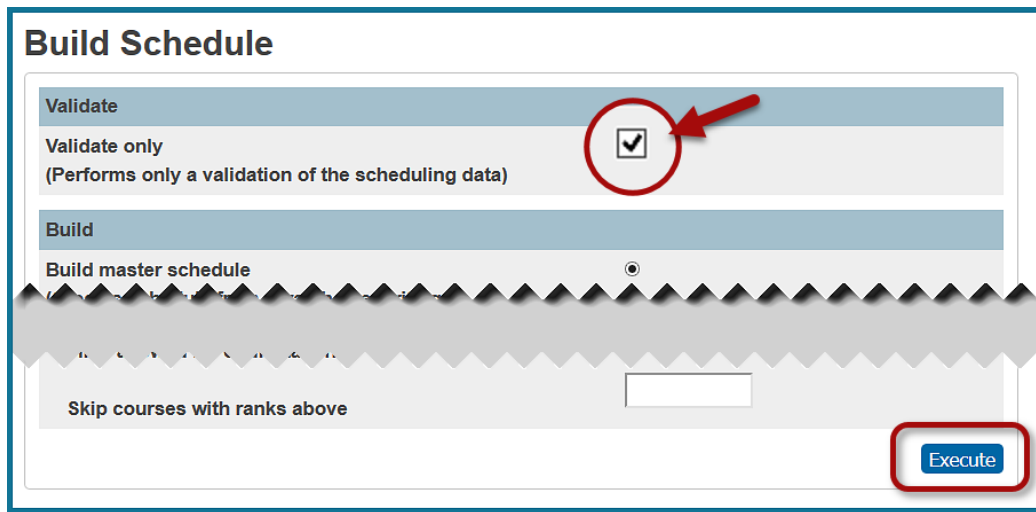
Validation ERROR	Possible Solution
Sections offered is zero	There are no Assignments for the course, or Schedule This Course is not checked.
Invalid section count found in the Course file. The Course is XXXX, the section count is X, and the assignment count is X	This usually mean that changes occurred to teacher Assignments . Run the Reset Section Meetings function.

To **Validate the Build**, do the following:

1. On the **PowerScheduler** page, under Processing, select **Build**.

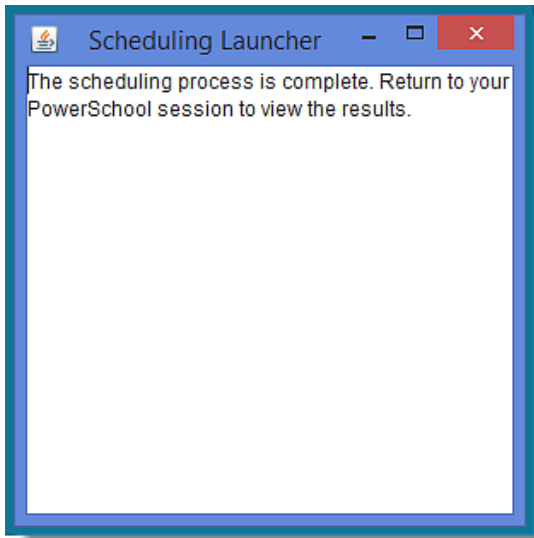


2. On the **Build Schedule** page, select the **Validate Only** checkbox.
3. Click **Execute**.

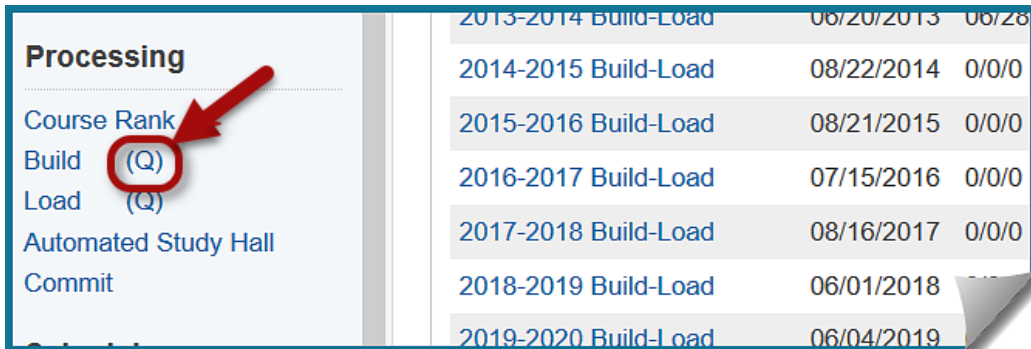


IMPORTANT TO KNOW! If you have previously **Imported** a **Build**, clicking the Execute button to initiate a new Validation will delete all Section Links.

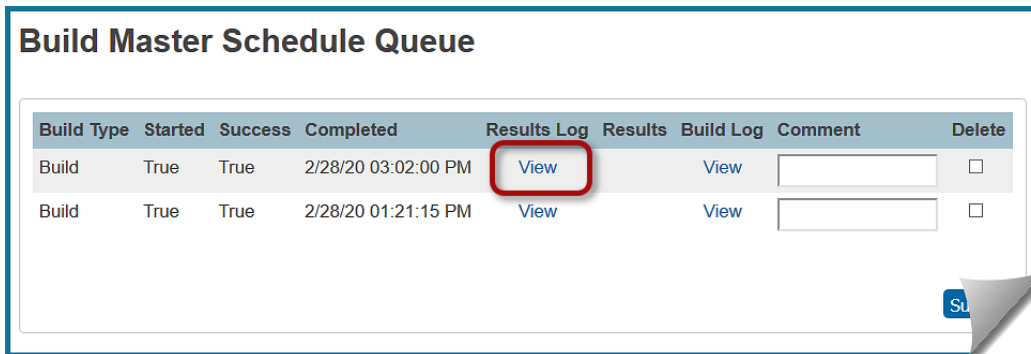
When the engine is finished with validating, the Scheduling Launcher will indicate the process is complete. Close the box and return to PowerScheduler to view the results.



- Under **Processing**, select **(Q)** next to Build.



- On the **Build Master Schedule Queue** page, click the **View** link under Results Log.

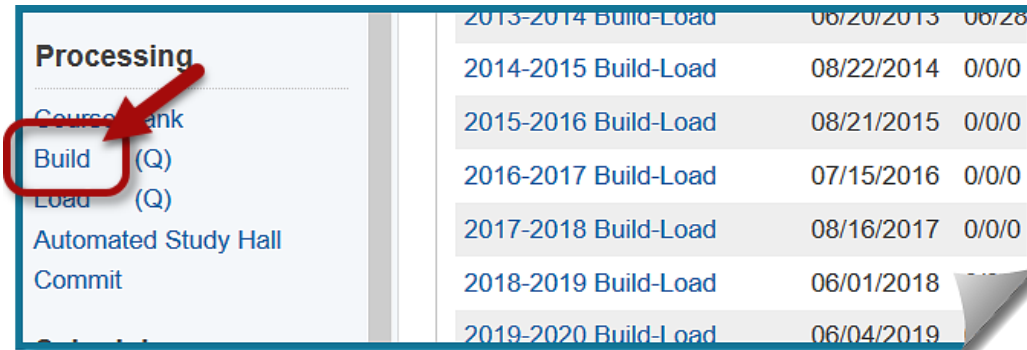


- Continue to **Validate** the data until it is error-free.

Build the Master Schedule

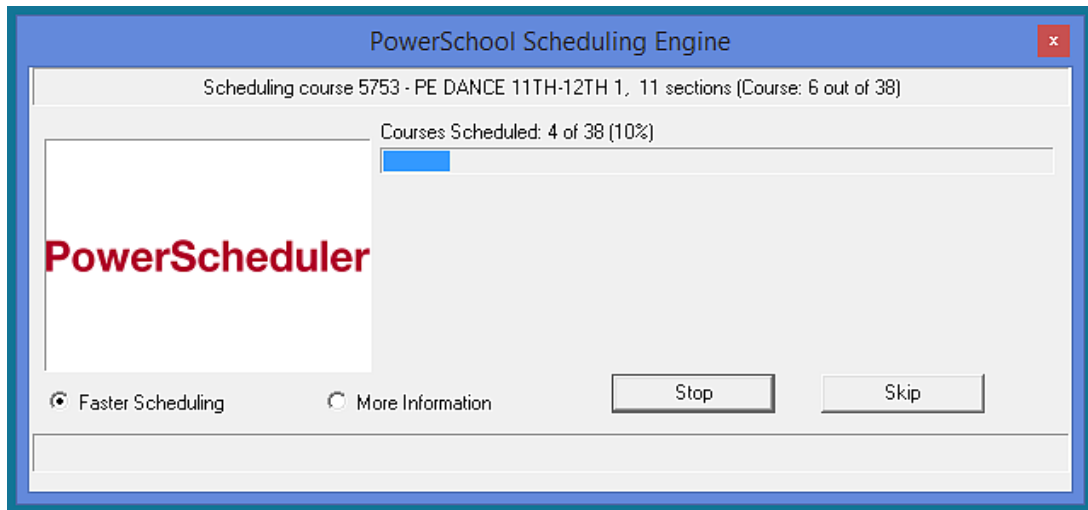
Once all Validation errors have been cleared, begin to build the master schedule.

1. On the **PowerScheduler** page, under Processing, select **Build**.



2. On the **Build Schedule** page, click **Execute**.

The build process can take a long time. The scheduling engine is cycling through the thousands of scheduling possibilities to produce the most optimal schedule while taking into account student course requests, courses and constraints.



When the Build Stops

The build process may stop for a number of reasons:

- There are Validation errors.
- The system cannot schedule a Course due to constraints that cannot be honored, data entry errors, or some other problem.
- The build process is complete.

If the process stops immediately and the page displays the following message: “No longer listening for incoming connections,” this means there are uncorrected validation errors.

Check the **Build Master Schedule Queue** for more information.

Results Log

The Results Log displays the results of the Build, or any new validation errors that were discovered.

Build Log

The Build Log displays the possible reasons the engine stopped the build while scheduling a particular course.

Build Master Schedule Queue

Build Type	Started	Success	Completed	Results Log	Results	Build Log	Comment	Delete
Build	True	True	2/28/20 04:03:59 PM	View	Import	View	<input type="text"/>	<input type="checkbox"/>
Build	True	True	2/28/20 03:02:00 PM	View		View	<input type="text"/>	<input type="checkbox"/>
Build	True	True	2/28/20 01:21:15 PM	View		View	<input type="text"/>	<input type="checkbox"/>

Importing the Master Schedule

When the build is imported, all sections are locked into place and the master schedule is viewable. Changes to the master schedule can be made manually or by using the Visual Scheduler.

IMPORTANT! Each time a new Build is executed and *imported*, ALL manual changes to the master schedule are lost.

The import process also creates the Section Links. Each time a new Validation or Build is **Executed** the *section links are deleted*. Section links will remain deleted until the new Build is imported.

Build Master Schedule Queue

Build Type	Started	Success	Completed	Results Log	Results	Build Log	Comment	Delete
Build	True	True	2/28/20 04:03:59 PM	View	Import	View	<input type="text"/>	<input type="checkbox"/>
Build	True	True	2/28/20 03:02:00 PM	View		View	<input type="text"/>	<input type="checkbox"/>
Build	True	True	2/28/20 01:21:15 PM	View		View	<input type="text"/>	<input type="checkbox"/>

[Submit](#)

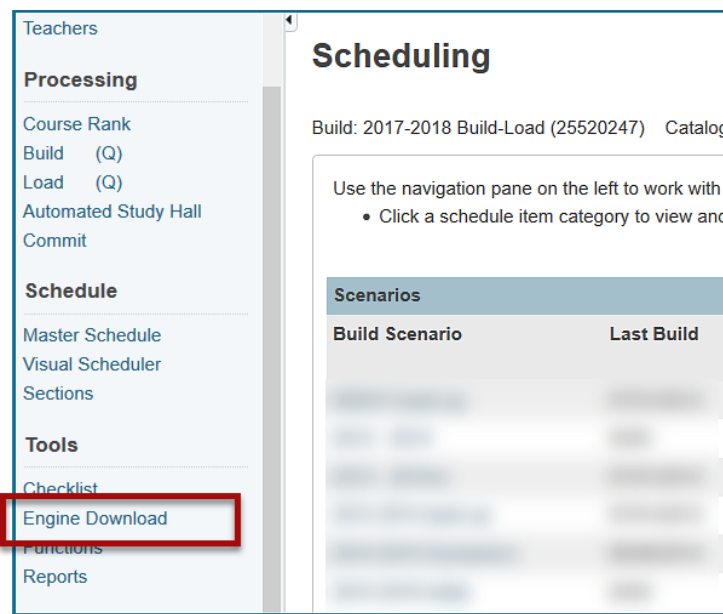
Part 4: Tools

Engine Download

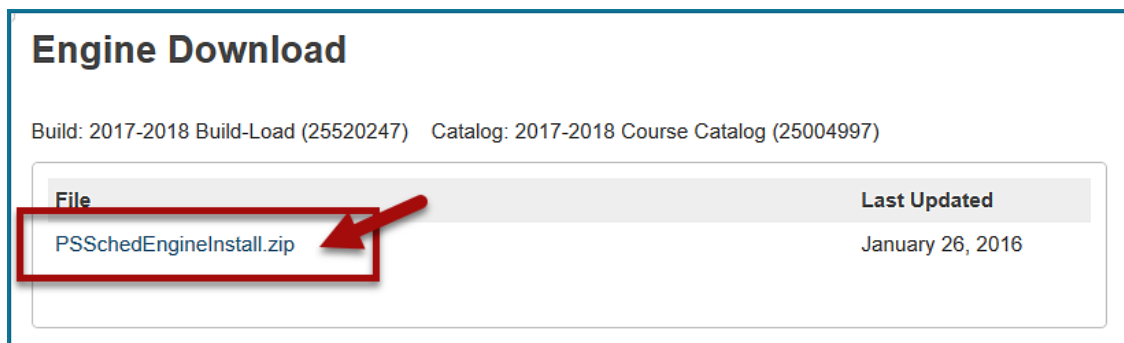
Before building the master schedule, download and install the Scheduling Engine. If the Engine was previously installed on the computer, there is no need to do it again.

The Scheduling Engine allows the PowerScheduler Builder to assign sections to a period and schedules the sections into classrooms based on the teacher assignments. The Scheduling Engine must be installed for the Builder to work. **NOTE:** Occasionally, the engine needs updating. If the scheduling engine was previously installed on your computer, it must be uninstalled before re-installing the updated version.

1. On the **PowerScheduler** page, under Tools, select **Engine Download**.



2. From the **Engine Download** page, Click **PSSchedEngineInstall.ZIP**.

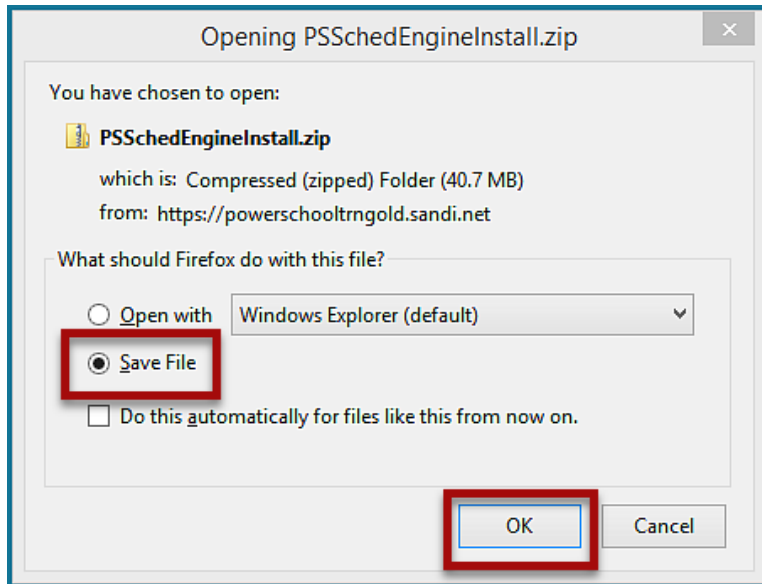


The following instructions will vary depending on the browser you are using:

IF YOU ARE USING FIREFOX

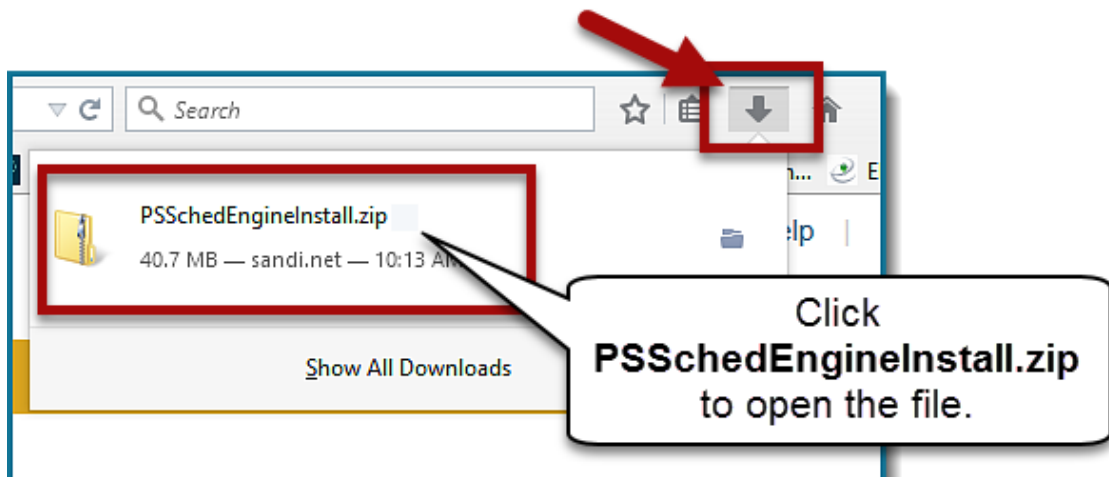
3. Select **Save File**, if it isn't already selected.

Click **OK**.



The download progress will appear in the upper right corner of your browser. A blue arrow ↓ will indicate when the download is complete.

4. Click the **arrow** to open the Download menu, then select **PSSchedEngineInstall.zip** to open the file.

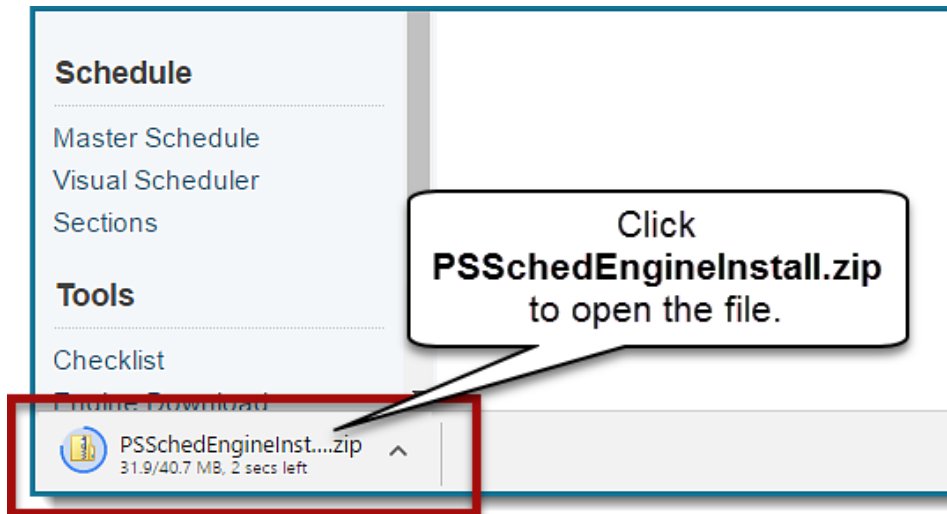


IF YOU ARE USING CHROME

3. You will *not* be prompted to save the zip file, it will automatically save to the **Downloads** folder on your computer.

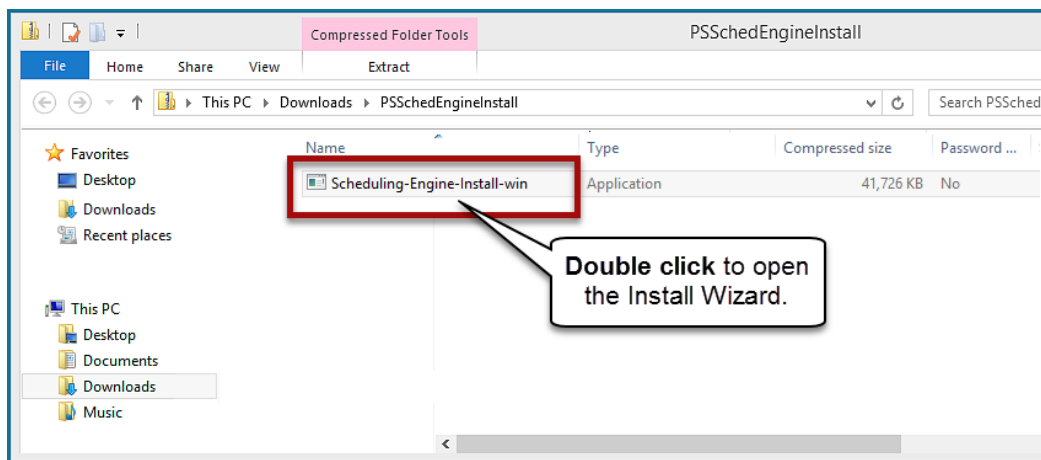
The download progress will appear in the lower left corner of your browser.

4. When the download is complete, click **PSSchedEngineInstall.ZIP** to open the file.



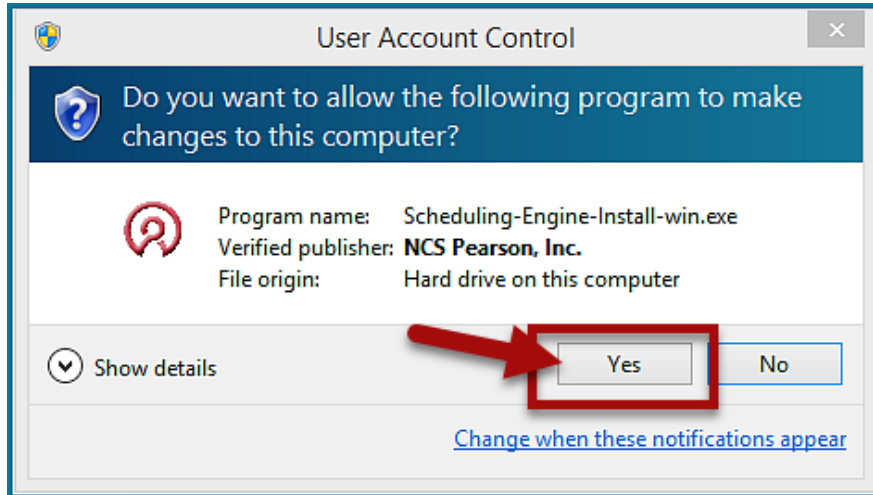
In either Browser, the file will open in the Downloads Folder on your computer.

5. Double-click **Scheduling-Engine-Install-win.exe** to open the InstallShield Wizard.



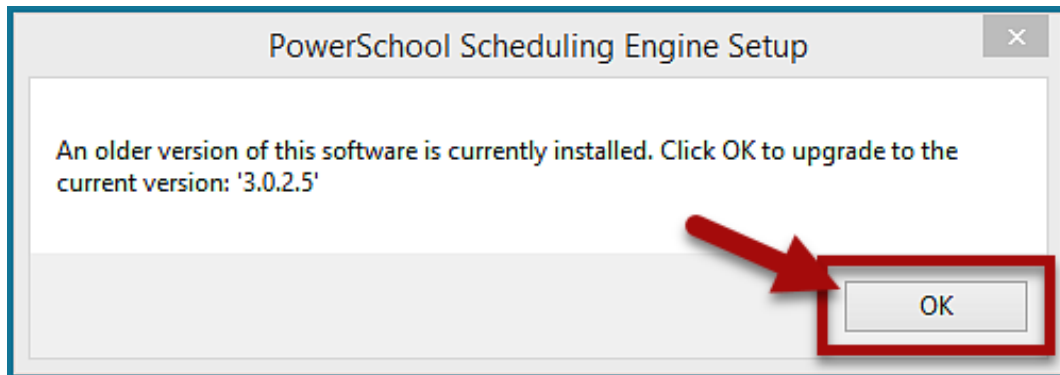
NOTE: If you get a **User Account Control pop-up window**, prompting you to allow the program to make changes to your computer.

Click **Yes**.



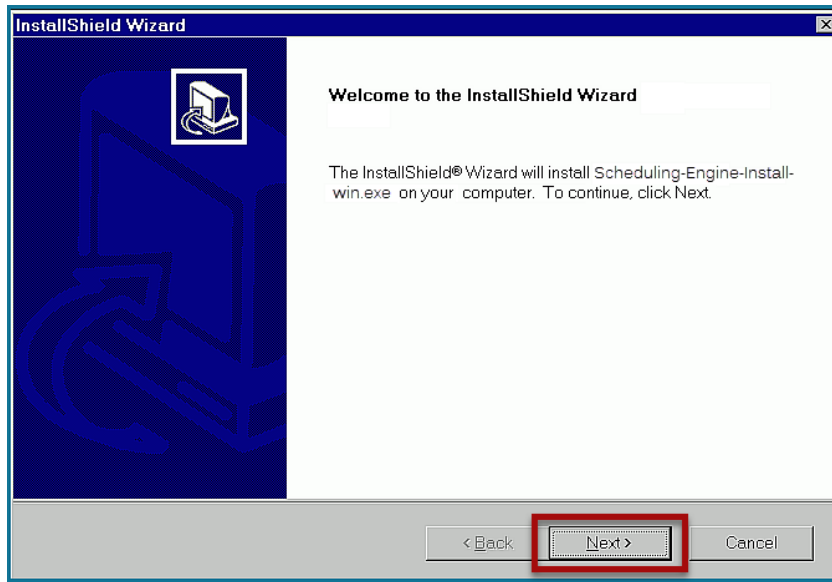
NOTE: If you get a **message advising you that an older version of the Scheduling Engine is currently installed**.

Click **OK** to upgrade to the current version.



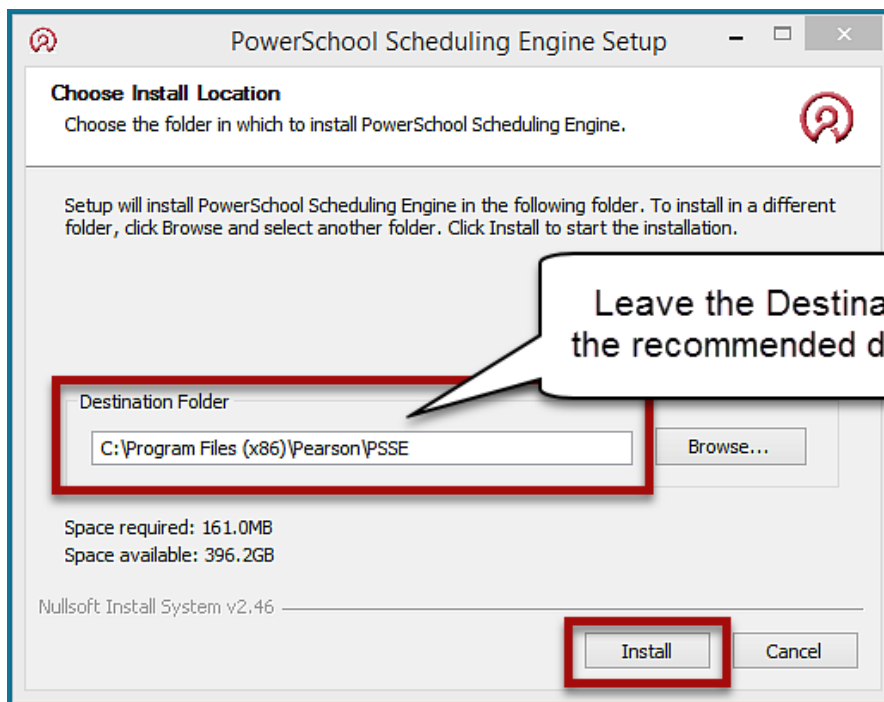
NOTE: Or you may be taken directly to the InstallShield Wizard.

Click Next.

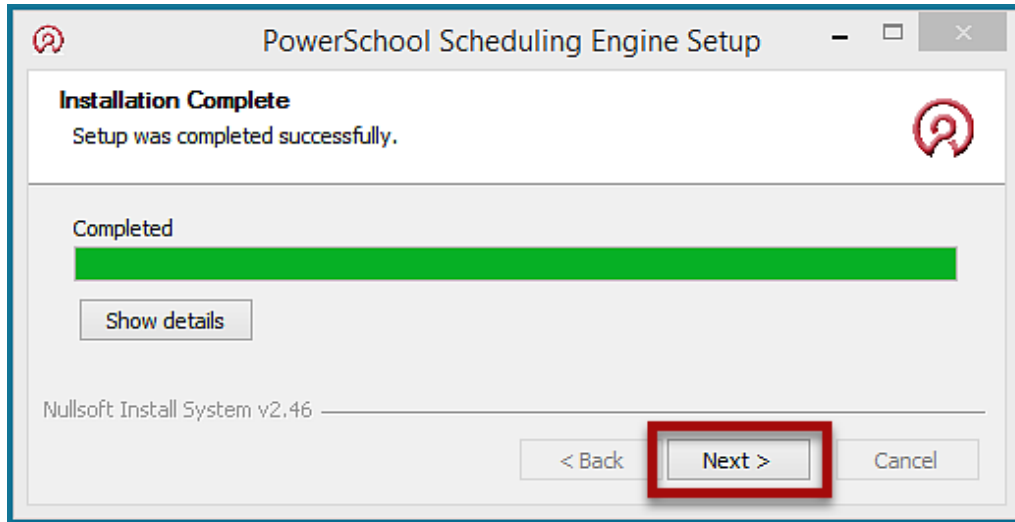


Once you are on the **Choose Install Location** page, leave the Destination Folder in the recommended default location.

6. Click **Install**.



7. When the installation is complete. Click **Next**.



8. Before you click **Finish**, read the "Following the Installation" message.

