### PowerSchool Handbook

### Creating the Master Schedule Manually

Version 2.0 March 6, 2019





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### About this Handbook

This handbook was created by the San Diego Unified IT Training Department as reference material for the Site Tech/Power User, or other staff members responsible for creating the master schedule manually and using the PowerScheduler Loader to 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).



**NOTE:** 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 Kathryn Smart at ksmart@sandi.net.

If you have questions regarding master schedule theory or any other course related questions, please contact the **Office of School Innovation.** 





## Part 1: Gathering Data



### Updating the Course Catalog

### See Scheduling Course Catalog Job Aid

Each year, IT creates a new course catalog that contains all courses available to your school for use in the next school year. When the course catalog is updated, the list of available courses is narrowed down to only the courses your school plans to offer.

If the course catalog is missing a course that your school plans to offer, contact Kathryn Smart at <a href="mailto:ksmart@sandi.net">ksmart@sandi.net</a> to request the course be made available for next year.

**IMPORTANT!** Before disabling (unchecking) a course from the course catalog, any scheduling course setup associated to that course must be deleted; course requests, teacher assignments, course relationships, constraints (including section links), course sections created by the Builder or by hand, and "Schedule this Course" in course preferences.

New courses made available to your school **after** IT creates the course catalog will appear *unchecked*. The new course must be enabled (checked) in order to schedule it for the future year.



### **Entering Student Course Requests**

See the Student Course Requests Handbook.

Student course requests are vital to scheduling. During the PowerScheduler Build process, student Course Requests are used to determine how many sections of a course are required. During the Load process, the Requests are used to schedule the students into their selected or required courses. Requests can also be used to load students into selected sections of a course.

There are several methods to enter or delete student course requests. Course requests can be manually entered or deleted for an individual student, or mass added or deleted for a student group. Course Requests can also be entered by the student or counselor via the online Student Registration Screen (see the Course Request Management Handbook).

**IMPORTANT!** Prior to entering Course Requests, the Scheduling Course Catalog must be updated to include only the courses your school plans to offer.



### Determining The Number of Sections Needed.

See the Determining the Number of Sections Needed Job Aid.

Once Course Requests have been added, two methods can be used to determine the number of sections needed:

- Use the results from the **Course Request Tally** report to create a spreadsheet to calculate the target number of sections to offer.
- Use the **Calculate Target Number of Sections to Offer** function to allow the system to calculate the recommended number of section needed for each course.



# Part 2: Defining Schedule Setup



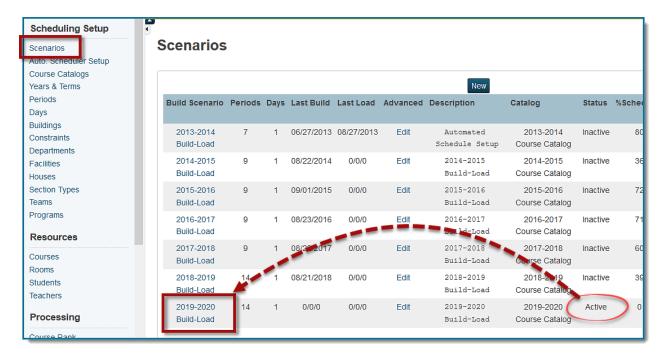
### Scheduling Setup

Before you can begin to create your master schedule, you must define certain pieces of information to be used during the process. Not all scheduling setup need to be defined.

### **Scenarios**

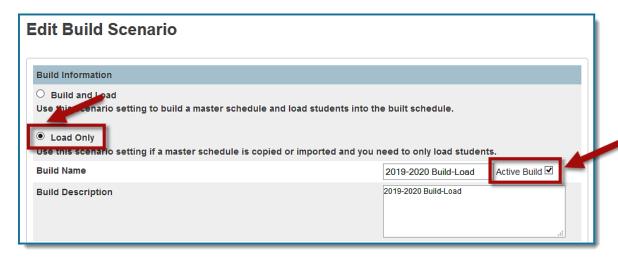
The next year build Scenario is setup by IT based on your current year Scenario. Verify and update information, as needed.

- 1. On the Start Page, under Applications, select PowerScheduler.
- 2. Under Scheduling Setup, click **Scenarios**.
- 3. Click on the Active Scenario name.

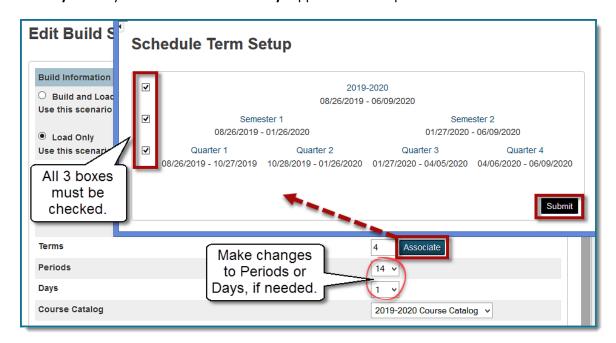




- 4. On the **Edit Build Scenario** page, select the **Load Only** option. Use this option whether you plan to use the Loader to schedule students or schedule students by hand.
- 5. Verify the **Active Build** box is checked.

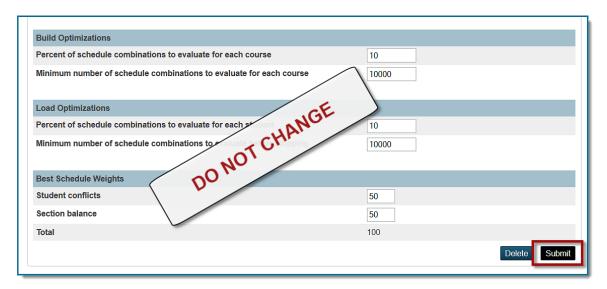


- 6. **Terms** Verify that the number 4 appears in the Term box (click the associate button and verify all 3 boxes are checked).
- 7. **Periods** Verify the correct number of **periods** appear. If you are changing the number of periods being offered, select the new number from the drop-down menu.
- 8. **Days** Verify the correct number of **Days** appear in the drop down menu.





- 9. **Build Optimizations** Do Not Change.
- 10. **Load Optimizations** Do Not Change.
- 11. Best Schedule Weights Do Not Change.
- 12. Click Submit, if changes were made.



### **Auto. Scheduler Setup**

This item is completed by IT.

### **Course Catalog**

Update the Course Catalog (see page Error! Bookmark not defined.).

### Years & Terms

This item is completed by IT.

### **Periods**

Verify the Name and Abbreviation. Click Submit, if changes are made.

### Days

Verify the Name and Abbreviation. Click Submit, if changes are made.

### **Buildings**

Used remotely at a few schools, must be setup by IT.



### **Constraints: Load Constraints**

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 student is taking a course at another school.
- **Section Link** Section Link constraints are used by the Loader and Automated Walk in Scheduler on the live side, to allow students enrolled in one course to be enrolled in another specific course section. (See page 35).
- Student Preferences Used to schedule a student in a particular course section, term, or teacher.

### **Departments**

Insufficient Access (completed by IT)

### **Facilities**

Not used when building the master schedule manually

### **Houses**

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.

### How to define a House:

- On the PowerScheduler page, under Scheduling Setup, select Houses.
- On the Houses page, click New.
- On the **Add/Edit House** page, enter the name of the House in the text field.
- Click Submit.



### **Section Types**

Section types are used to differentiate sections of a course and are applied to student requests and the appropriate section.

You must check the "Use Section Type" box on the course preference page if you plan to use the Loader to schedule students.

**IMPORTANT!** Only students with a specific section type will be scheduled into the section with the same section type. The section will not *back-fill* with non-section typed students. Section types must be "relaxed" in order to allow students without a section type to back-fill the section. (Call Help Desk to have section types relaxed).

### **How to define Section Types:**

- On the **PowerScheduler** page, select **Section Types**.
- On the **Section Types** page, click **New**.
- 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).
- Click Submit.

### **Teams**

Teams are 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.

### How to define a Team:

- On the **PowerSchedule**r page, select **Teams**.
- On the Teams page, click New.
- On the **Edit Team** page, enter the name for the Team.
- Click Submit.

### **Programs**

Leave default values.



## Part 3: Defining Scheduling Resources

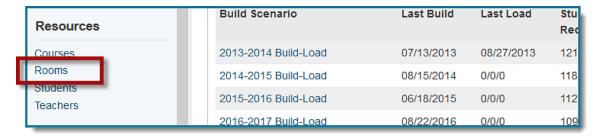


### Resources

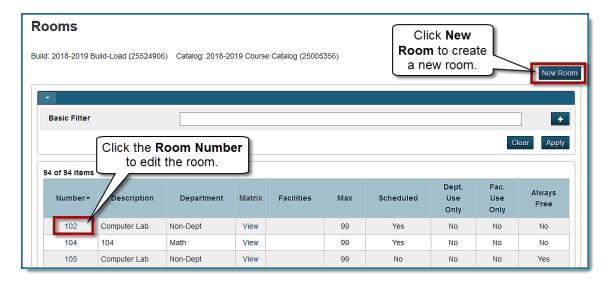
### Rooms

### Adding/Editing a Room

1. On the **PowerScheduler** page, under Resources, select **Rooms**.

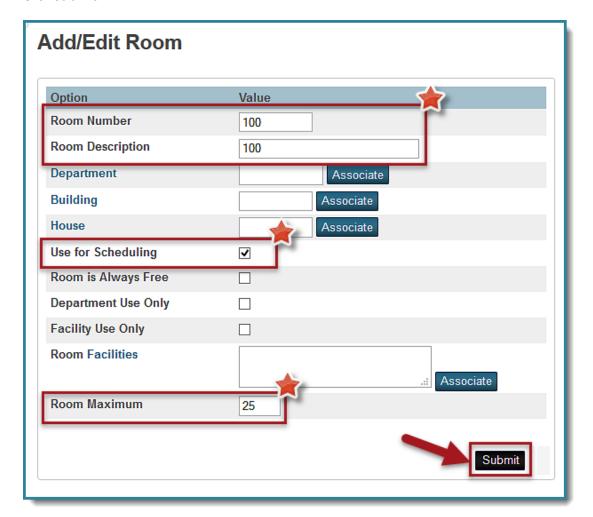


- 2. On the **Rooms** page, do the following:
  - Click the New Room button to create a new room.
  - Click on the Room Number to edit the room.





- 3. On the **Add/Edit Room** page, enter or modify:
  - Room Number
  - Room Description
  - **Department** Do not use.
  - Use for Scheduling Check box.
  - Room Maximum Enter the maximum number of seats for this room.
  - All other fields can be left blank.
- 4. Click Submit.





### **Students**

If you plan to use the **Loader** to schedule students in PowerScheduler, the **Schedule this Student** box must be checked.

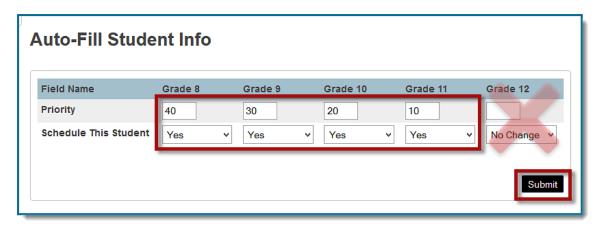
When IT runs the Next Year Setup, the **Student Scheduling Preferences** are updated automatically. For students who enroll <u>after</u> the Next Year Setup, their scheduling preferences will be updated through the enrollment process. However, it is important to verify that all students have the **Schedule This Student** box checked in order for the system to schedule them into classes.

You can enter or update student scheduling preferences using any of the following methods:

- Updating student scheduling preference using Auto-fill Student Information.
- Updating individual student scheduling preference.

### **Updating Student Scheduling Preference using Auto-Fill**

- 1. On the **PowerScheduler** page, 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.
- Click Submit.

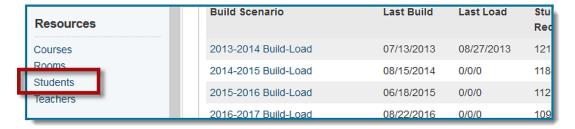




### **Updating Individual Student Scheduling Preference**

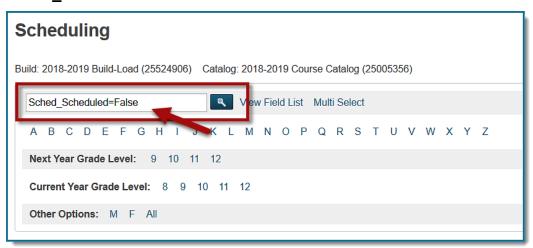
Find Students Missing Schedule this Student:

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

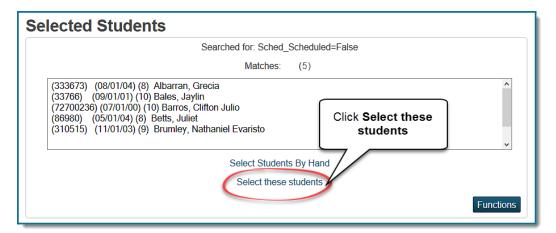


2. On the **Scheduling page**, type the following in the **Student Search Field**:

### Sched Scheduled=False

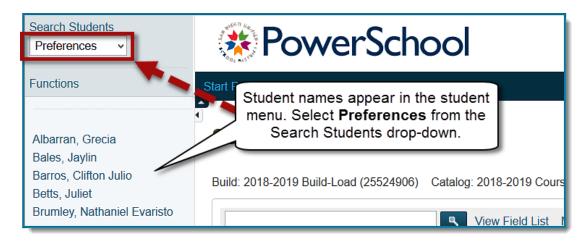


3. On the Selected Students page, click the Select these students link.



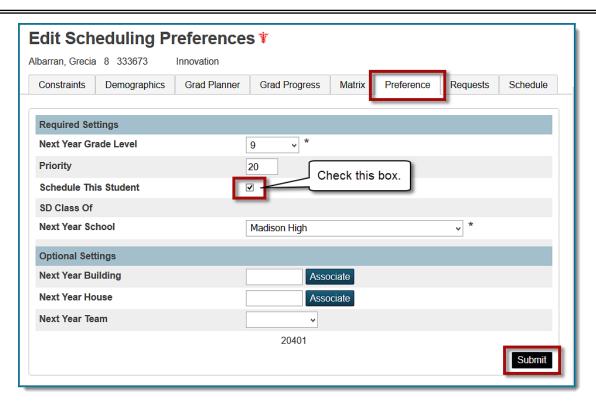


4. The selected student names will appear in the student menu. Select **Preferences** from the drop-down menu. Select the first student.



- 5. 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. Verify or change, as needed.
  - **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 (View only field)
  - Next Year School Verify this information is correct. Only students with the Next Year School listed as your school, will show up in PowerScheduler.
     NOTE: If you have a student who does not show up in PowerScheduler, go to the live side and verify your school is listed on the Student Scheduling Setup page.
- 6. Click Submit.





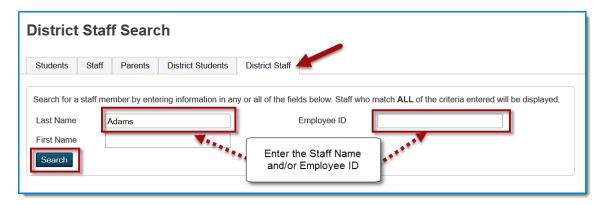


### **Teachers**

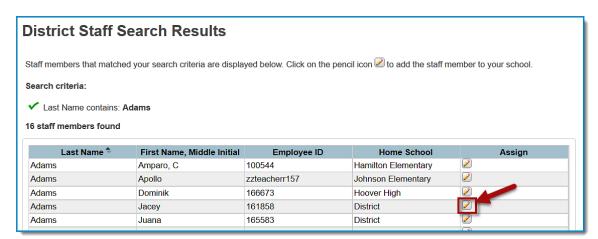
### Adding a Teacher to Your School

Use the **District Staff** tab to search for new teachers and assign them to your site. Once a new teacher has been added, the Power User can then assign the appropriate role/permission, and add them to an existing class.

- 1. On the Start Page, select the District Staff tab.
- 2. On the **District Staff Search** page, enter the **Staff Name and/or Employee ID**.

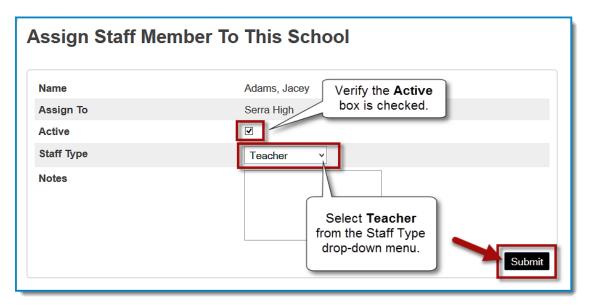


3. On the **District Staff Search Results** page, click on the **pencil icon** to assign the staff to your site.

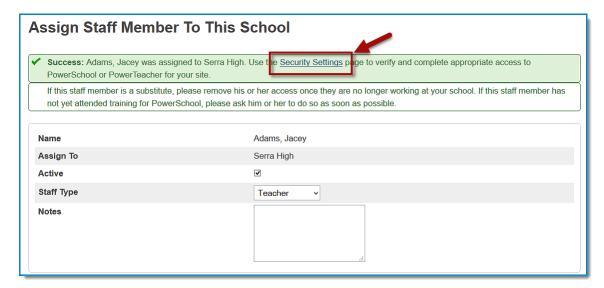




- 4. On the Assign Staff Member to This School page, turn on the Active checkbox.
- 5. Select **Teacher** from the **Staff Type** drop-down menu.
- 6. Click **Submit**.

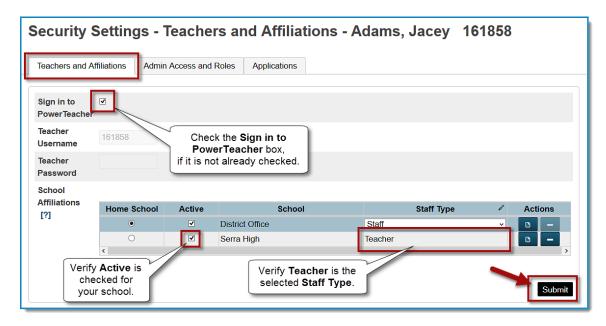


7. Click the Security Settings link at the top of the page to access the Security Settings page.





- 8. On the first tab of the **Security Settings** page, turn on the checkbox for **Sign in to PowerTeacher**.
- 9. Verify the **Active** checkbox is selected for your school, and **Teacher** is selected as the **Staff Type**.
- 10. Click Submit.

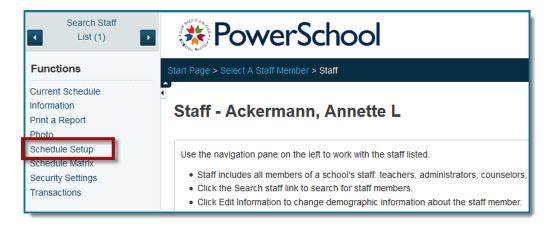




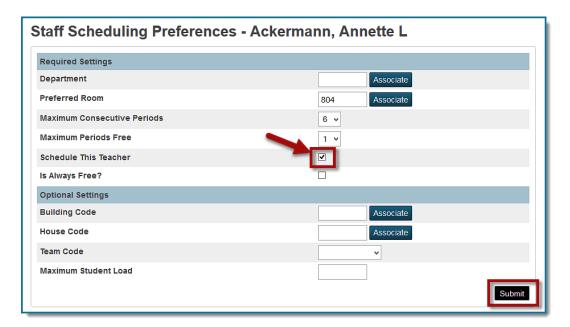
### Making a Teacher Visible in PowerScheduler

If **Schedule this Teacher** is not checked on the teacher's **Schedule Setup** page, they will not show up on the PowerScheduler side.

- 1. On the **Start Page**, select the **Staff** tab and search for the teacher.
- 2. On the **Staff** page, under Functions, click **Schedule Setup**.



- 3. On the **Staff Scheduling Preferences** page, check the **Schedule This Teacher** box.
- 4. Click Submit.







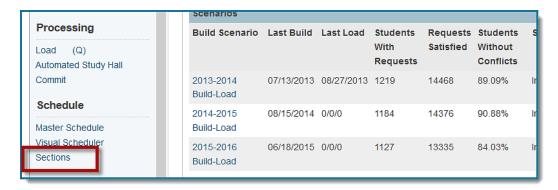
# Part 4: Master Schedule Construction



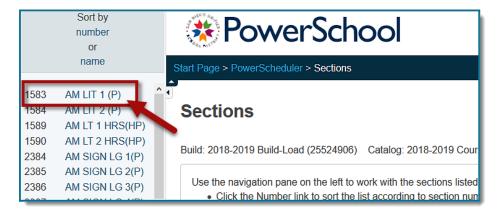
### **Creating Sections**

A Section is one occurrence of a course. Each course can have multiple sections that meet with different teachers at different times. The section identifies who is teaching the course, at what time, and in which room.

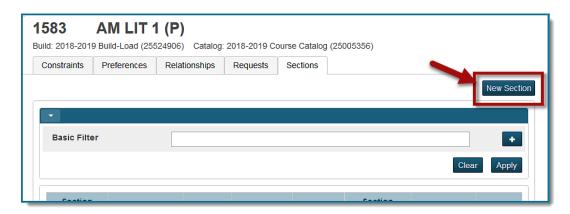
1. On the **PowerScheduler** page, under Schedule, click **Sections**.



2. From the **Course menu** select the course.

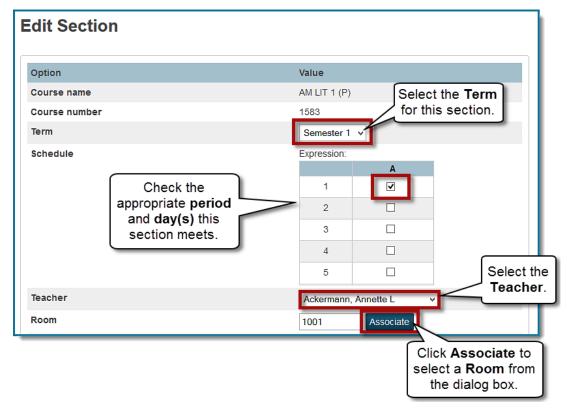


3. On the Course page, click New Section.





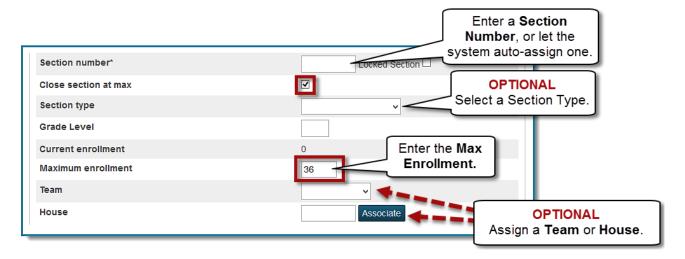
- 4. Complete the **Edit Section page** as follows:
  - **Term**: Select the term in which the section is offered.
  - **Schedule Expression**: Check the period for the appropriate day(s) on which the section is taught.
  - **Teacher**: Select the Teacher from the drop-down menu.
  - Room: Click the Associate button to select a room. Click the Submit button to save the selection, and close the dialog box.



- Section Number: The system will automatically assign a section number if this field is left blank. (OPTIONAL) Enter a unique section number for this section. You will receive a validation alert if you create a duplicate section.
- Close section at Max: Check the box to close the section when it reaches the maximum enrollment.
- Section Type: (OPTIONAL) Select the appropriate Section Type.
- Maximum enrollment: Enter the maximum enrollment for this section.

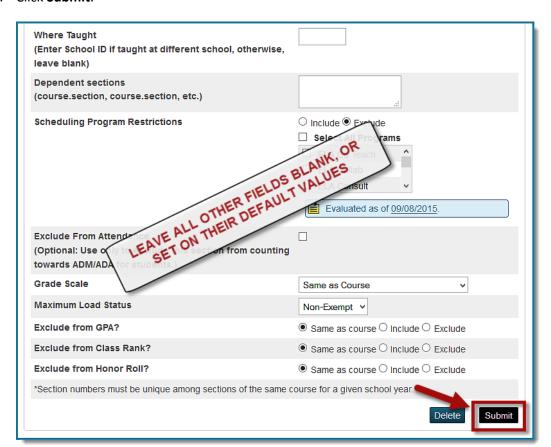


- **Team**: (OPTIONAL) Select the team associated to this section.
- House: (OPTIONAL) Click Associate to assign a House to this section.



Leave all other fields blank, or set on their default values.

### 5. Click Submit.

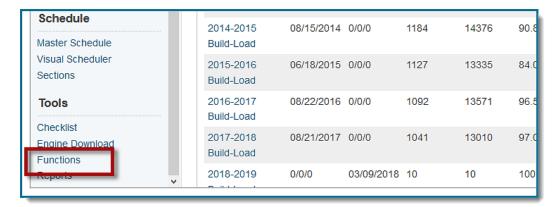




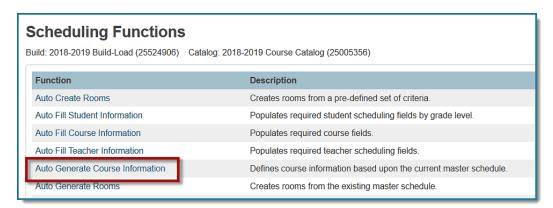
### Auto Generate Course Info Function

**IMPORTANT!** You will not be able to use the Loader to schedule students in PowerScheduler, or the Automated Scheduler option on the live side, if this step is not completed.

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



2. On the Scheduling Functions page, select Auto Generate Course Information.



- 3. On the Auto Generate Course Info screen, check the box Set the following fields to their default values.
- 4. Click Submit.



### **Auto Generate Course Info**

This function will derive course information for the following fields from the existing Sections in PowerScheduler.

- · Target Number of Sections to Offer
- Valid Terms
- · Terms per Year
- · Periods per Meeting
- · Periods per Cycle
- Frequency
- Is This Course a Lab
- · Lab Periods per Meeting
- Lab Frequency
- Maximum Enrollment
- · Build Type

### ✓ Set the following fields to their default values

- Load Priority: 10
- Load Type: Academic
- . Balance Priority: Section
- . Schedule This Course: True

NOTE: This function only applies to Madison High.

Submit



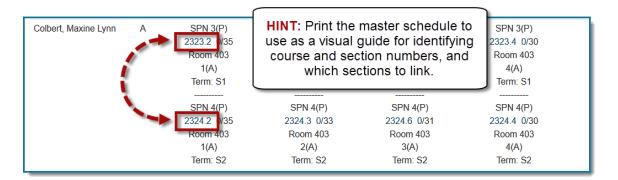
### Creating Section Links

Section Links are required if you plan to use the **Loader** to schedule students on the PowerScheduler side, or the **Automated Walk-in Scheduler** option on the live-side.

Section links ensure students scheduled in one course section, will also be scheduled in another specific course section.

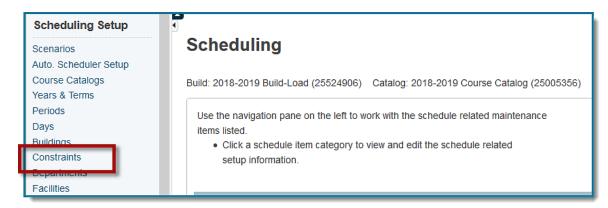
For example, for sections that are term specific (S1, S2), a section link will allow a student to be scheduled with the same teacher and period from one term to the next.

**HINT:** Use the printed master schedule as a visual guide for identifying course and section numbers, and which sections to link.



To create a Section Link, do the following:

1. On the **PowerScheduler page**, under Scheduling Setup, click **Constraints**.

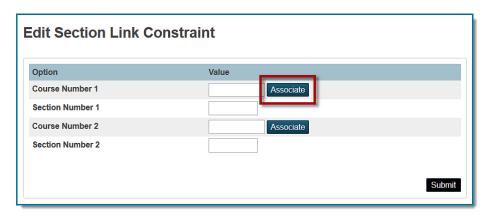




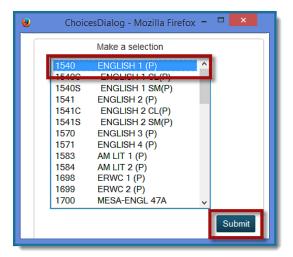
- 2. Under the Load Constraints menu, click Section Link.
- 3. Click **New** on the Section Link Constraints page.



4. On the Edit Section Link Constraint page, click the Associate button of Course Number 1.



- 5. From the ChoicesDialog box, select Course Number 1.
- 6. Click Submit.

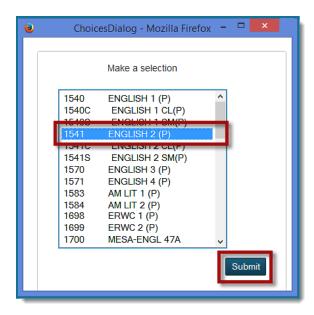




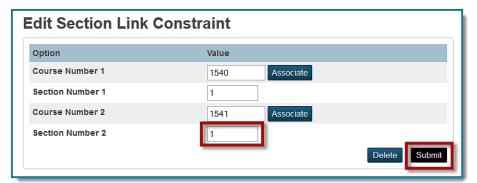
7. Back on the **Edit Section Link Constraint** page, enter the **Section Number** for course number 1, and then click the **Associate** button for **Course Number 2**.



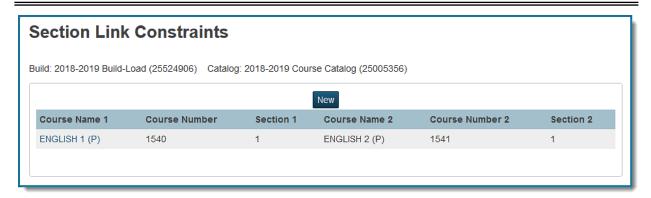
8. From the ChoicesDialog box, select Course Number 2, then click Submit.



- 9. Add the **Section Number** for Course Number 2.
- 10. Click Submit.







Repeat step 3 – 10, until you have created Section Links for all of your Term courses.

### Part 5: Loading Students



### **Load Validation**

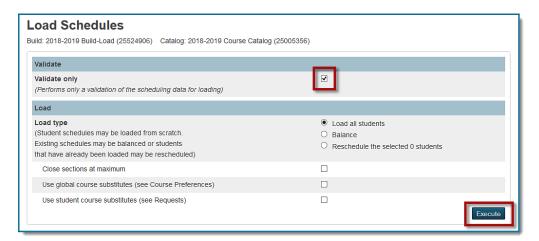
Once you are satisfied with your master schedule, you can begin to schedule your students by running a Load.

Before running the Loader, you must validate the data. This process finds any errors in your data and reports the potential problems.

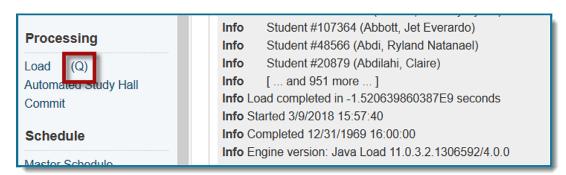
1. On the **PowerScheduler page** under Processing, select **Load**.



- 2. On the **Load Schedules** page, check the **Validate only** checkbox.
- 3. Click Execute.

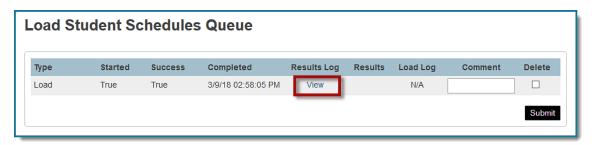


4. After the engine completes its process, under **Processing**, click the **(Q)** next to Load.





5. On the **Load Student Schedules Queue** page, click **View** in the Results Log column.



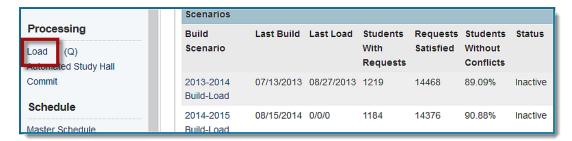
6. Correct any validation errors. Continue to Validate until you are error-free.



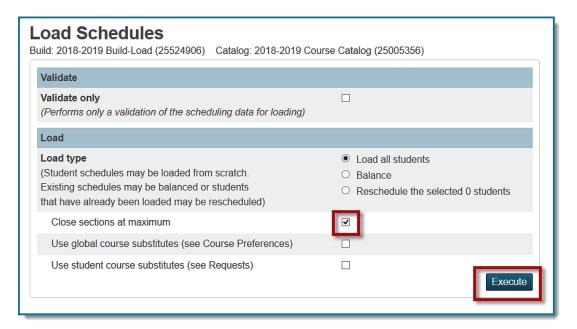
### **Load Students**

**NOTE:** Do not run the loader until you are satisfied with your master schedule.

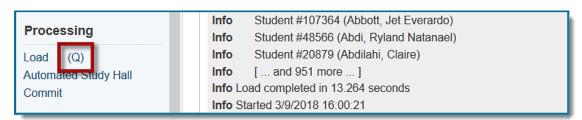
1. On the **PowerScheduler page** under Processing, select **Load**.



- 2. On the **Load Schedules** page, select the **Close Sections at maximum** checkbox.
- 3. Click Execute.



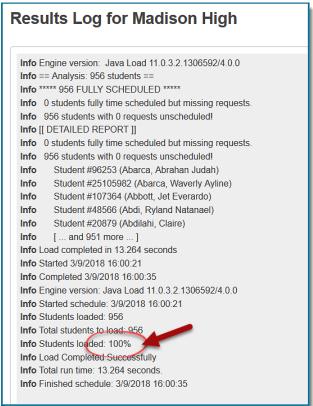
4. After the engine completes its process, under **Processing**, click the **(Q)** next to Load.





5. On the **Load Student Schedules Queue** page, click **View** to see errors and messages regarding the load.





6. After successfully loading schedules, click **Import** to display the student schedules in the master schedule.

