

PowerScheduler: Prepare to Build

PowerSchool
Student Information System

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This edition applies to Release [7.x] of the PowerSchool software and to all subsequent releases and modifications until otherwise indicated in new editions or updates.

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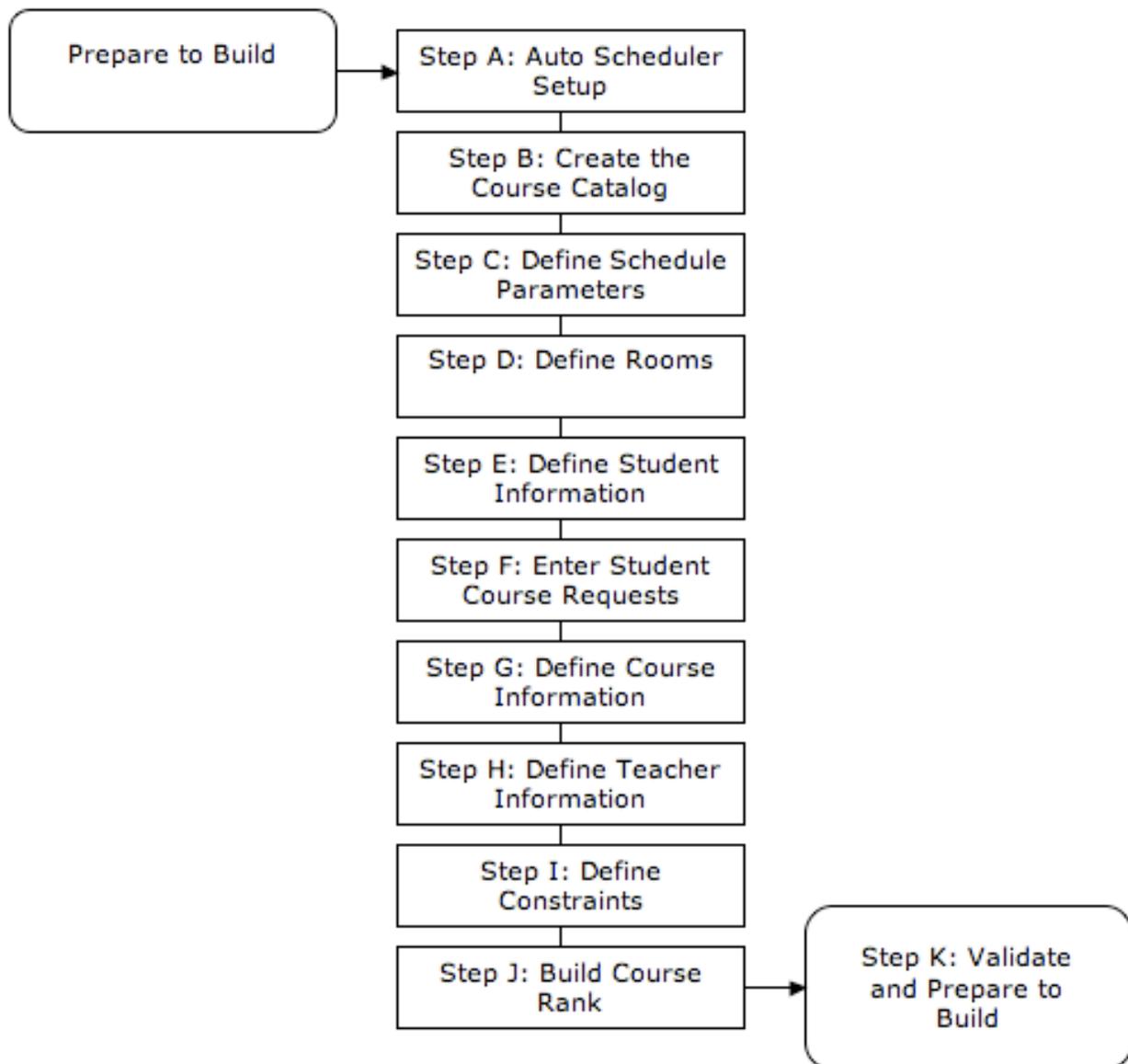
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Introduction

Use these instructions to complete each step in the Prepare to Build process in the PowerSchool Student Information System (SIS). The following diagram outlines the steps of the process, but not all steps are required. Those optional steps will be described later in the course.



While several people may schedule students, only one person should perform Step A: Auto Scheduler Setup. While completing the scheduling process, the PowerSchool Help menu is another great source of information. Keep in mind that the PowerScheduler and the live (or active) side share three items: courses, teachers, and students.

Step A: Using the Auto Scheduler Setup

The Auto Scheduler function sets up the terms, periods, and days associated with the school schedule. Using the Auto Scheduler is optional, but setting up terms, periods, and days is required. If you created years and terms on the scheduling side previously, performing the Auto Scheduler function overwrites those years and terms, whether created manually or by using the Automatic Schedule Setup. However, the Auto Scheduler does not overwrite the years and terms created on the live side.

1. On the Start Page, click **PowerScheduler**

The image below is a reminder that you need to download the PowerSchool Scheduling Engine before you build your schedule. Not every district needs to perform the next step, but first-time PowerScheduler users will.

Important Notice:

The PowerSchool Scheduling Engine has been updated. Before attempting to build or load a master schedule you must download and install the new engine by choosing the Engine Download option on the left.

Please check the box below and press the Submit button to acknowledge you understand.

Submit

2. Select the option, and click **Submit**
3. Below Scheduling Setup, click **Auto Scheduler Setup**

Option	Value
Lowest term level division	Semesters
Number of periods	4
Number of days	2

Continue

4. Choose the appropriate lowest level term, number of periods, and number of days, and click **Continue**

The "Lowest term level division" menu refers to course offerings (it does not refer to when you store grades or send out report cards). For example, your school sends out report cards every quarter. However, students don't change courses each quarter, they change each semester. You would choose **Semesters** from the "Lowest term level division" menu. If your school uses blocks instead of periods, use the Period menu to select your number of blocks. "Days" refers to the number of days in your

rotation or day cycle, not how many days school meets each week. It refers to how many days occur before the cycle repeats.

Full Year
 Semester Semester

Continue

5. Check the appropriate terms to define for your school, and then click **Continue**

The terms apply to scheduling only, not grading terms. Check **Full Year**, since the Full Year term is required.

Term	Abbreviation	First Day of Term	Last Day of Term
Full Year	FY (MM/DD/YYYY)	<input type="text" value="9/01/2013"/>	<input type="text" value="6/30/2014"/>
Semester 1	S1 (MM/DD/YYYY)	<input type="text"/>	<input type="text"/>
Semester 2	S2 (MM/DD/YYYY)	<input type="text"/>	<input type="text"/>

Continue

6. Enter the dates for each of your terms, and click **Continue**

Make sure no gaps exist between the term dates. If your school hasn't finalized the exact dates, don't worry. You can change the dates until you commit the schedule. Committing the schedule is your last step in PowerScheduler.

Build Information	
<input checked="" type="radio"/> Build and Load	Use this scenario setting to build a master schedule and load students into the built schedule.
<input type="radio"/> Load Only	Use this scenario setting if a master schedule is copied or imported and you need to only load students.
Build Name	2013 - 2014 <input checked="" type="checkbox"/> Active Build
Build Description	Automated Schedule Setup
Terms	2
Periods	4
Days	2
Course Catalog	

7. Select **Build and Load** to use the scenario to build a master schedule and load students into the schedule

Select **Load Only** if you plan to load students into a previously or manually created master schedule.

8. Enter a build name, enter a description of the build, and check **Active Build** if this is the scenario you are going to use to build the master schedule

The future scheduling year will be the Build Name unless you make a change.

9. The Terms, Periods, and Days fields will contain the information you just set up

If you need to change the terms, periods, or days, do not navigate to the Auto Scheduler Setup again. Instead, select the active scenario and make the necessary changes.

10. The Course Catalog menu will not contain options for first-time PowerScheduler users

When first-time users submit the scenario, PowerScheduler will create a course catalog. If course catalog options are present, don't choose one. You should create a new course catalog every year.

11. Do not change the default values in the Build Optimizations, Load Optimizations, and Best Schedule Weights fields at this time

Use these fields if you are actively building the schedule and encounter problems with the amount of time it takes to build your schedule.

12. Click **Submit**

13. Click **Scenarios**, and select the active scenario name

First-time users will see that a course catalog is chosen even though that step was not completed. PowerScheduler created the course catalog automatically, based on

your existing catalog from the current year.

Build Name	2013 - 2014	Active Build <input checked="" type="checkbox"/>
Build Description	Automated Schedule Setup	
Terms	2	Associate
Periods	4	
Days	2	
Course Catalog	2013-2014	

14. Below Scheduling Setup, click **Years & Terms**

Edit the years and terms you created through the Auto Scheduler Setup because the name and abbreviation are vague. Also, add years and terms manually by clicking **New**.

New				
Year	Abbrev.	1st Day	Last Day	Edit Terms
Full Year	FY	09/01/2013	06/30/2014	Edit Terms

15. Click **Full Year**

Option	Value
Name of School Year	Full Year (example: 2000-2001)
Abbreviation	FY (example: 00-01)
First Day of School	09/01/2013 (MM/DD/YYYY)
Last Day of School	06/30/2014 (MM/DD/YYYY)

Delete **Submit**

16. In the "Name of School Year" field, enter 2013-2014

The school year, 2013-2014, will be listed in the navigation bar of PowerScheduler as the scheduling year.

17. Enter **13-14** in the Abbreviation field
18. Click **Submit**

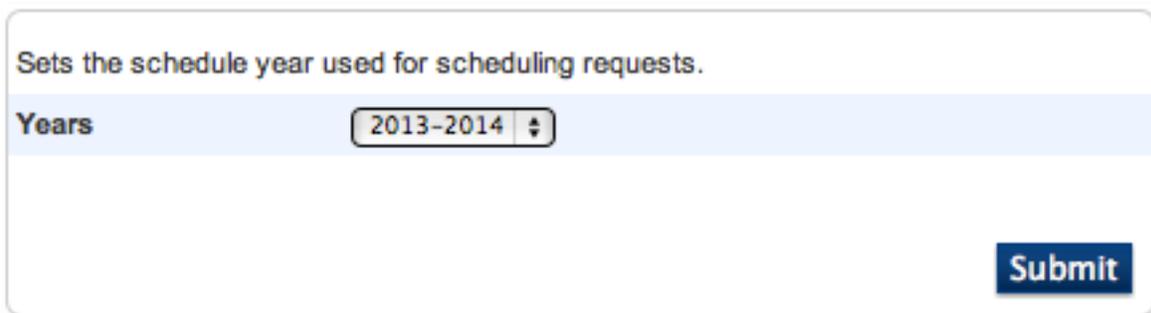
If you need to edit the term dates, navigate to Years & Terms again. Then, click **Edit Terms**. You can edit the term dates as long as you haven't committed the schedule.

Setting the Schedule Year

You can make course requests for the current year or for future years. But, you need to identify which schedule year to use for student course requests that come in via the PowerScheduler, PowerSchool Student Portal, or the Modify Future Requests student page.

You set up the schedule year through the Auto Scheduler Setup and modified the year information for clarity. Now set the scheduling year to 2013-2014, the future year, so that students can enter course requests in PowerSchool Student Portal for the 2013-2014 year. In this case, the request screens you create in the PowerScheduler will apply also to the 2013-2014 school year.

1. On the Start Page, click **PowerScheduler**
2. Below Tools, click **Functions > Set Schedule Year**



Sets the schedule year used for scheduling requests.

Years

Submit

3. Choose the future schedule year from the menu
 - Only the years established on the Years & Terms page are listed.
4. Click **Submit**

Defining Years and Terms Manually

If you use the Auto Scheduler Setup, your terms will be defined already. But some districts may prefer to define terms manually. The following steps describe defining years and terms manually.

1. On the Start Page, click **PowerScheduler**
2. Below Scheduling Setup, click **Years & Terms > New**

		Example Entry
Name of School Year	<input type="text"/>	2002-2003
Abbreviation	<input type="text"/>	02-03
First Day of School	<input type="text"/>  (MM/DD/YYYY)	08/23/2002
Last Day of School	<input type="text"/>  (MM/DD/YYYY)	06/05/2003
		Submit

- Enter the name, abbreviation, and first and last days of the school year, and click **Submit**

New				
Year	Abbrev.	1st Day	Last Day	Edit Terms
2013-2014	13-14	09/01/2013	06/30/2014	Edit Terms

- Click **Edit Terms** > **New**

You can also click **Edit Terms** to modify existing terms.

Option	Value
Name of Term	<input type="text"/>
Abbreviation	<input type="text"/> (example: Q1) Note: This abbreviation must start with a letter. Do not use a number by itself.
First Day of Term	<input type="text"/>  (MM/DD/YYYY)
Last Day of Term	<input type="text"/>  (MM/DD/YYYY)
What portion of the school year does this term represent?	<input type="text" value="1/2"/> 
Import File Term #	<input type="text"/>

- Define terms sequentially from largest to smallest

For example, create the year, then all the semesters, then all the quarters. Failure to create the terms in sequential order results in an incorrect internal term ID. Enter the name, abbreviation, and first and last days of the term.

- Define what fraction of the school year the term represents, and click **Submit**

- Repeat steps 4-5 to define all of the terms of the schedule year

After you define all terms, the hierarchy will look similar to the image seen below.



Creating a Build Scenario Manually

A build scenario is a schedule you might want to use next year. You can create one or several build scenarios. The system uses the scenarios and parameters you define to build your master schedule. If you use the Auto Scheduler function, the Edit Build Scenario page will appear automatically in Step A. The scenario on the Edit Build Scenario page will also contain the information you entered during the Auto Scheduler setup. While you can create several scenarios, only one can be active at a time in each school.

- On the Start Page, click **PowerScheduler**
- Below Scheduling Setup, click **Scenarios > New**

Build Information	
<input checked="" type="radio"/> Build and Load	Use this scenario setting to build a master schedule and load students into the built schedule.
<input type="radio"/> Load Only	Use this scenario setting if a master schedule is copied or imported and you need to only load students.
Build Name	<input type="text"/> Active Build <input type="checkbox"/>
Build Description	<input type="text"/>
Terms	<input type="text"/> Associate
Periods	<input type="text" value="1"/> ↓
Days	<input type="text" value="1"/> ↓
Course Catalog	<input type="text"/>

- Select **Build and Load** if you plan to use the scenario to build a master schedule and load students into the schedule

Select **Load Only** if you plan to load students into a previously or manually created master schedule.

4. Enter a build name, enter a description of the build, and check **Active Build** if this is the scenario you are going to use to build the master schedule
5. Click **Associate**

<input checked="" type="checkbox"/>	2013-2014	
	09/01/2013 - 06/30/2014	
<input checked="" type="checkbox"/>	Semester 1	Semester 2
	09/01/2013 - 01/24/2014	01/25/2014 - 06/30/2014

Submit

6. Select the terms associated with the build, and click **Submit**
7. From the Periods menu, choose the number of periods per day in the schedule
8. From the Days menu, choose the number of days in the days cycle for the master schedule
9. From the Course Catalog menu, choose the catalog you want to associate with the master schedule

The system schedules the courses in the course catalog you choose. Additionally, you can edit only the course catalog associated with the active build scenario.

10. Do not change the default values in the Build Optimizations, Load Optimizations, and Best Schedule Weights fields when you first define a scenario

Use these fields if you are actively building the schedule and encounter problems with the amount of time it takes to build your schedule.

11. Click **Submit**

Step B: Creating the Course Catalog

The Course Catalog is a group of courses offered during a specific school year. To create the catalog, add any new courses you plan to offer, and associate them with your school. Then, make course selections available for student course requests. Finally, you can modify the catalog, if necessary, and attach it to the build scenario you will use to build your master schedule. The system schedules only the courses in the course catalog that you associate with the active build scenario. When first-time users perform the Auto Scheduler Setup, PowerScheduler creates a course catalog after you submit the scenario. Create a new course catalog every year. You can add new courses to PowerSchool and associate them to the PowerScheduler catalog at any time.

Adding a New Course

Add courses on the live side of PowerSchool, not in PowerScheduler. Also, avoid adding duplicate courses. Verify that courses aren't in the Master Course List already before adding them.

1. On the Start Page, click **School > Courses > + New Course**

Course Name	<input type="text"/>
Course Number	<input type="text"/>
Alternate Course Number	<input type="text"/>
Credit Hours	<input type="text"/>
CIP Code	<input type="text"/> <input type="checkbox"/> Vocational Class
Credit Type	<input type="text"/> (no spaces)
Default Maximum Enrollment	<input type="text"/>
Course Notes	<input type="text"/>
Grade Scale	Default <input type="button" value="v"/>
GPA Added Value Points	0 <input type="text"/> (usually zero)
Exclude from GPA?	<input checked="" type="radio"/> Include <input type="radio"/> Exclude
Exclude from Class Rank?	<input checked="" type="radio"/> Include <input type="radio"/> Exclude
Exclude from Honor Roll?	<input checked="" type="radio"/> Include <input type="radio"/> Exclude
Use The Course For Lunch	<input type="checkbox"/>

2. Enter information in the fields
3. Click **Submit**

Course Prerequisites

The prerequisite setup establishes the requirements that a student must meet before requesting a course. You can do more than associate two courses together. You can specify that a student must earn a particular grade in order to request the next course. You can require that the student earn a certain number of credits before he or she can request the next course. You can even require that a teacher submit a recommendation before the student can request the course. You have access to the following prerequisites rules:

- Letter Grade
- Percent Grade
- Average Percent Grade
- Credit Hours
- Concurrent Request
- Recommend
- Any of
- None of

Keep in mind that prerequisites limit the requests students can select on the request pages. Prerequisites do not stop the PowerScheduler engine from loading a course into the student's schedule.

Adding Course Prerequisites

Since students submit most requests before second semester ends, you could define the rule on the assumption that the student will complete the course. For example, a set of prerequisite rules may specify that students must take Chemistry I prior to Physics I, and that students must earn an A, B, or C letter grade in Chemistry I before requesting Physics I.

The course requirements are the result of two prerequisite rules between Chemistry I and Physics I. Add prerequisites on the live side of PowerSchool.

1. On the Start Page, click **School > Courses**
2. Find and select **Physics I**
3. Click the Prerequisites tab
4. In the Prerequisite Note field, enter **Completion of Chemistry I**
5. Click the **+** sign in the Prerequisites rules section
6. Choose **Letter Grade** from the menu

Add New Letter Grade Rule ✕

Require the student to have passed another class with one of the specified letter grades.

Course Number:

Store Codes (blank for any):

List of Grades:

If the Student Retakes:

Presume Completion:

The course which the student needs to have passed

Make Defaults **Cancel** **Add**

7. Enter the beginning of the course number (a list of matching courses will appear)
8. Select the course
9. In the List of Grades field, enter **A,B,C**
10. From the "If the Student Retakes" menu, choose **One must pass**
11. Check **Presume Completion**, and click **Add**

Check Presume Completion to ignore the prerequisite rule and allow students to request the class without completing the prerequisite. To add flexibility to the Presume Completion, navigate to **School > Final Grade Setup**. At the bottom of the Final Grade Setup page, enter the number of days to extend the Presume Completion beyond the end of the term. Also, enter a negative number to stop the Presume Completion before the course ends.

12. Click the **+** sign again
13. Choose **Recommend** from the menu

If the student must pass *or* receive a recommendation, choose the **Any Of** rule. Then, repeat steps 12 and 13 again. The Any Of rule states the student must meet one of the prerequisites, not all.

14. Enter the department of the teacher, such as **sci**
15. Click **Add**
16. Finally, click **Save**

Creating the Course Catalog

If you are a first-time PowerScheduler user, and you complete the Auto Scheduler Setup, you do not need to create a course catalog manually. One reason you would create a new catalog is if you were changing last year's catalog completely. Also, create a new course catalog to keep track of which courses your school offers each year. If you always use the same catalog, the catalog will be overwritten each year, and you will have no way to track the offerings from year to year.

1. On the Start Page, click **PowerScheduler**
2. Below Scheduling Setup, click **Course Catalogs > New**
3. Enter a name and description for the catalog
4. Click **Submit**

The course catalog you create appears in the list, but the catalog is not active yet. You can edit only the course catalog associated with the active build scenario.

New				
Catalog	Edit Catalog	Status	Courses	Description
2010-2011 Build and Load	Not active catalog	Inactive	Edit	
2011-2012 Course Catalog	Not active catalog	Inactive	Edit	
2013-2014	Not active catalog	Inactive	Edit	

5. Click **Scenarios**, and select the active scenario

Build Name	<input type="text" value="2013 - 2014"/>	Active Build <input checked="" type="checkbox"/>
Build Description	<input type="text" value="Automated Schedule Setup"/>	
Terms	<input type="text" value="2"/>	Associate
Periods	<input type="text" value="4"/>	
Days	<input type="text" value="2"/>	
Course Catalog	<input type="text"/>	

6. From the Course Catalog menu, choose **2013-2014**
7. Click **Submit**
8. Below Scheduling Setup, click **Catalogs**
9. Click **Edit Course Catalog** in the row of the catalog you created

This screen lists all courses that are either associated to this school or that have previously been added to this catalog directly from the master course file. The **bolded courses** identify those courses that have been associated to the school. Courses currently active for this catalog are so indicated by a checkbox. To add a course to the catalog, click the checkbox(s) and then click submit. To remove a course simply uncheck the box and click submit. To view all courses in the district select the [View Master Course List](#) link.

[View Master Course List](#)

Sort list by: Course Name Course Number Active Status			
<input checked="" type="checkbox"/>	Algebra MAT1100	<input checked="" type="checkbox"/>	Health 11 HE11
<input checked="" type="checkbox"/>	Algebra II mat1101	<input checked="" type="checkbox"/>	Health 12 HE12
<input checked="" type="checkbox"/>	Anatomy/Physiology SCI3000	<input checked="" type="checkbox"/>	Health 9 HE09
<input checked="" type="checkbox"/>	AP American Lit and Comp ENG3000	<input checked="" type="checkbox"/>	Home Ec HEC9
<input checked="" type="checkbox"/>	AP Calculus MAT3000	<input checked="" type="checkbox"/>	Home Repair LS1000

10. By default, the system checks all courses

Clear the check box next to each course you want to remove from the course catalog. New courses added in PowerSchool after you created the catalog will appear unchecked. Select the new courses to make them available for scheduling in the future year. If you don't see a course that was offered previously, click **View Master Course List** to find the course and make it active. Then, navigate back to the course catalog to make it available for scheduling.

11. Click **Submit**

Step C: Defining Optional Schedule Parameters

Depending on your schedule and school, you can define departments, facilities, section types, and teacher teams. Each of the sections in Step C describes how to add options to the schedule parameters. You will learn about assigning the parameters to rooms, courses, and teachers in subsequent steps.

Periods

Perform the steps below to make manual modifications to the default name, abbreviation, and sort order of the periods.

1. Below Scheduling Setup, click **Periods**

The number of period IDs that appear on the Edit Periods pages depends on the number you choose from the Periods field on the Edit Scenario page. You cannot alter the ID. This ID is listed on the Master Schedule report.

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

2. In the 4 Name field, enter **Homeroom**

By default, the period IDs match the period names, so when the ID is listed, you know which period the ID refers to. But you do have the option to modify the name in the Name field. For example, many schools have a homeroom period and change a period name to "Homeroom" for easy identification. Changing the last period to Homeroom and using the sort order to list Homeroom first is a best practice.

3. In the 4 Abbreviation field, enter **HR**

- Use the drag and drop bars to make Homeroom first on the list

Your periods should look similar to the image below.

ID	Name	Abbreviation	Core	Sort
4	Homeroom	HR	<input checked="" type="checkbox"/>	1
1	1	1	<input checked="" type="checkbox"/>	2
2	2	2	<input checked="" type="checkbox"/>	3
3	3	3	<input checked="" type="checkbox"/>	4

Submit

Days

Perform the following steps to make manual modifications to the default name and abbreviation of the days.

- Below Scheduling Setup, click **Days**

Use the Auto Scheduler Setup or Edit Scenario page to determine the number of day IDs that appear.

ID	Name	Abbreviation
A	A	A
B	B	B

Submit

- Enter the name and abbreviation for each day

Changing the default name and abbreviation is optional.

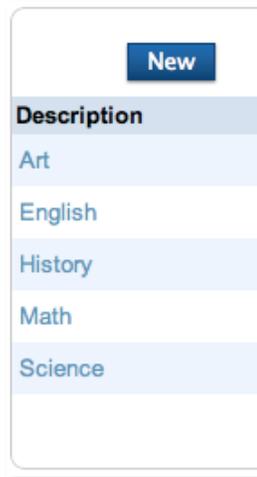
- Click **Submit**

Departments

Courses, rooms, and teachers can belong to departments. When building a master schedule that uses departments, the system attempts to schedule courses in one of the rooms belonging to that department. Creating departments is optional, but it helps to ensure accurate scheduling.

Before adding departments in PowerScheduler, navigate to School Setup in PowerSchool. Then, click **Departments**. If you have departments created in PowerSchool already, create the same departments in PowerScheduler. The departments must match exactly or errors can occur when building the schedule.

1. Below Scheduling Setup, click **Departments**



2. Click **New**
3. Enter a name for the department
4. Click **Submit**

Facilities

Use Facilities to force a course into a particular room or rooms. For example, you may have five science rooms, but only two of the rooms are chemistry labs. Create a facility titled Chemistry Lab, and associate the lab with those two rooms. Also, attach the Chemistry Lab facility to the course. When the system schedules Chemistry, it will schedule the course into those two rooms, and not the other three science rooms.

1. Below Scheduling Setup, click **Facilities > New**
2. Enter a name for the facility, such as Computer Lab or Kitchen
3. Click **Submit**

Section Types

Use Section Types to differentiate sections of a course. For example, the freshman PE course needs a section for male students and a section for female students. Other section types are Honors and Bilingual. Assign the section type to teacher assignments and student requests. Then, when PowerScheduler loads students into the master schedule, it filters students with the appropriate section type into the appropriate teacher's section.

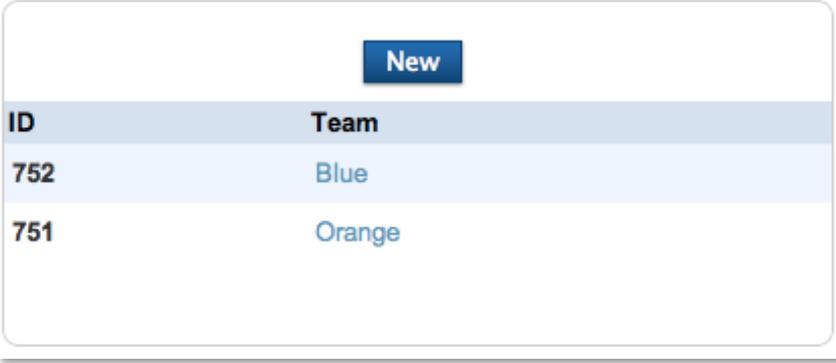
1. Below Scheduling Setup, click **Section Types > New**
2. Enter a name and code for the section type
3. Click **Submit**

Teacher Teams

Use the Teams method to group students together. Additionally, some schools use teams to monitor student progress. Teams fall into two categories: static or dynamic. To create static teams, assign each student and teacher to a team manually. To create dynamic teams, assign teachers to a team. Then, the system assigns students to the appropriate team for the best balance.

1. Below Scheduling Setup, click **Teams > New**
2. Enter a name for the team
3. Click **Submit**

If you decide to mass assign students to teams, you will need the ID.



The screenshot shows a user interface for managing teams. At the top center is a blue button labeled "New". Below it is a table with two columns: "ID" and "Team". The table contains two rows of data.

ID	Team
752	Blue
751	Orange

Houses

Define houses to group students together. For example, you can assign half the student body to House Blue and the other half to House Gold. Associate houses with teachers, students, and rooms. The system references which house a room is assigned to before scheduling courses in that room and gives scheduling priority to the appropriate house. Check **Use houses** under Advanced settings on the Edit Scenario page to use Houses in the build or load.

1. Below Scheduling Setup, click **Houses > New**
2. Enter a name for the house
3. Click **Submit**

Buildings

If your school holds classes in several buildings, you can define which teachers, students, and rooms are associated with each building. Buildings ensure that the system schedules courses in the appropriate building, taught by the appropriate teacher, and taken by the appropriate students. Check **Use buildings** under Advanced settings on the Edit Scenario page to use Buildings in the build or load.

1. Below Scheduling Setup, click **Buildings > New**
2. Enter a name for the building
3. Click **Submit**

Step D: Defining Rooms

Your school's layout and classrooms are essential parts of the scheduling process. You've created the necessary facilities and departments in your school. Now, create or update your rooms, and associate the appropriate facilities and departments with each room. Associating rooms with teachers is optional and will not apply to all schools.

When defining rooms, you can do any combination of the following:

- Define and update your rooms one at a time
- Auto-generate rooms to create rooms from your existing master schedule
- Auto-create rooms to create rooms with a predefined set of criteria
- Use the Update Selections function to update one field of information for a group of rooms at one time

Defining Rooms Manually

Depending on the size of the school, create or edit your rooms one at a time.

1. On the Start Page, click **PowerScheduler**
2. Below Resources, click **Rooms**
3. Click **New** to create a new room, or click the room number to edit an existing room

Option	Value
Room Number	<input type="text" value="2"/>
Room Description	<input type="text" value="2"/>
Department	<input type="text" value="Art"/> 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 checked="" type="checkbox"/>
Facility Use Only	<input type="checkbox"/>
Room Facilities	<input type="text"/> Associate
Room Maximum	<input type="text" value="25"/>
Submit	

4. Enter a Room Number, Room Description, and Room Maximum

The Room Maximum field is essential. Make sure that the course maximum does not exceed the room maximum.

5. For Department, click **Associate** and select a department
6. Check **Use for Scheduling**
7. Click **Submit**

Auto-Creating Rooms

You can create rooms all at once with the Auto Create Rooms function. Once the system creates the list, you can go back to each room and modify names and other information.

1. Below Tools, click **Functions > Auto Create Rooms**

Option Name	Value
Start Number	<input type="text" value="100"/>
Increment Number	<input type="text" value="1"/>
Number of Rooms	<input type="text" value="20"/>
Room Prefix	<input type="text"/>
Field Name	Value
Department	<input type="text"/> Associate
Building	<input type="text"/> Associate
House	<input type="text"/> Associate
Use for Scheduling	<input type="button" value="Yes"/>
Room is Always Free	<input type="button" value="No"/>
Department Use Only	<input type="button" value="No"/>
Facility Use Only	<input type="button" value="No"/>
Room Facilities	<input type="text"/> Associate
Room Maximum	<input type="text"/>

2. Enter a Start Number, Increment Number, and Number of Rooms
3. From the "Use for Scheduling" menu, choose **Yes**
4. The remaining fields are optional and may or may not apply, depending on the group of rooms you are creating

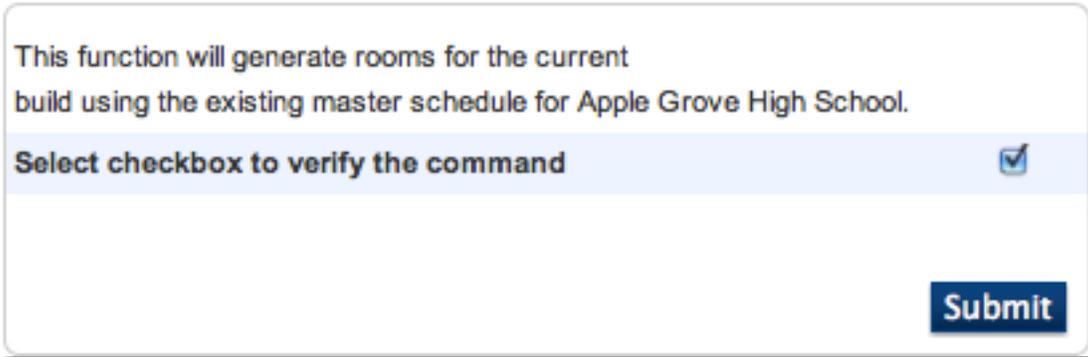
For example, you are creating rooms for a new wing of the school, but the room maximums vary. Leave the Room Maximum field blank or enter the most common maximum, and change the exceptions after auto-creating.

5. Click **Submit** to create the rooms with the scheduling information you defined

Auto-Generating Rooms

To use the Auto Generate Rooms function, you must have defined rooms in a previous year and copied the master schedule from that year. Only first-time PowerScheduler users need to perform the Auto Generate Rooms function. Auto Generate overwrites any manual changes or rooms you created for the new schedule year.

1. Below Tools, click **Functions > Auto Generate Rooms**



This function will generate rooms for the current build using the existing master schedule for Apple Grove High School.

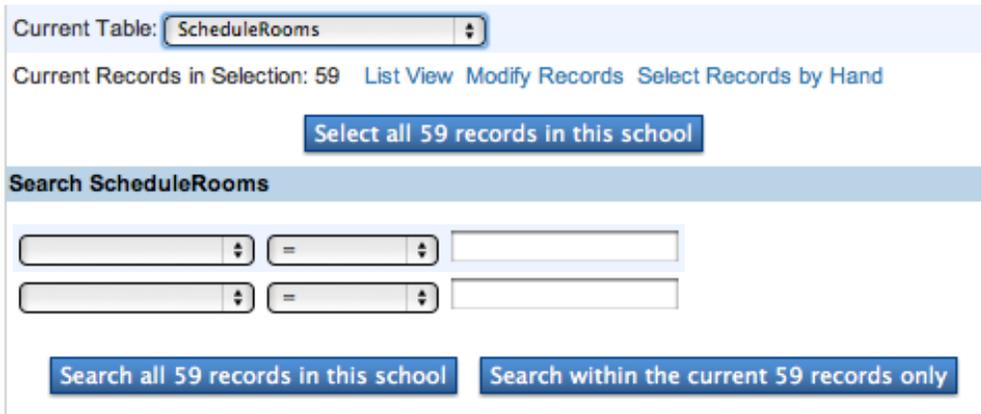
Select checkbox to verify the command

Submit

2. Check **Select checkbox to verify the command** to copy all rooms from the current year's master schedule to the new master schedule you are building
3. Click **Submit**

Modifying Room Data Using Update Selections

1. Below Tools, click **Functions > Update Selections**



Current Table:

Current Records in Selection: 59 [List View](#) [Modify Records](#) [Select Records by Hand](#)

Select all 59 records in this school

Search ScheduleRooms

=

=

Search all 59 records in this school **Search within the current 59 records only**

2. From the Current Table menu, choose **ScheduleRooms**

3. Do one of the following:
 - a. Click **Select all [x] records in this school** to select all rooms
 - b. Use the Search ScheduleRooms fields to search for and select rooms that meet specific criteria, such as all rooms in the English department
4. Click **Modify Records**

Current Table: ScheduleRooms

Current number of records in selection: 59

Maximum := 30

Note: This function will permanently modify your database. Use only if you know exactly what you are doing, and then only with extreme caution. Changes are permanent. You may use ^ to reference the existing value of the field.

Modify Selected Records

5. Choose the room field you want to edit from the menu

For example, all the rooms in the English department need the same room maximum, so choose **Maximum**.

6. Enter a value for the selected rooms, such as 30
7. Click **Modify Selected Records**

Step E: Defining Student Information

In PowerScheduler, "student information" doesn't refer to addresses and phone numbers. Instead, student information refers to scheduling preferences, such as next year grade. You must define student information for successful scheduling. For example, the "Next Year Grade" field not only tells PowerSchool what grade level the student will have next year, but also which request form to associate with the student.

Moving Student Information to PowerScheduler

Before you can start scheduling your students, you need to get your students into PowerScheduler. Begin the process on the PowerSchool side with the Scheduling Setup student page.

1. On Start Page, search for and select a student
2. Click **Scheduling Setup**

As you enter new students into PowerSchool, complete the Scheduling Setup page as part of the data entry process. Then, each year, the Scheduling Setup page will update with the end of year process. You need to complete several fields, but only one field places a student in PowerScheduler: the Next School Indicator.

Required Settings	
Next Year Grade	<input type="text" value="10"/>
Priority	<input type="text" value="0"/>
Schedule This Student	<input type="checkbox"/>
Year of Graduation	<input type="text" value="2016"/>
Summer School Indicator	<input type="text" value="None"/>
Note for Summer School Admin	<div style="border: 1px solid gray; height: 40px; width: 100%;"></div> 80 characters left
Next School Indicator	<input type="text" value="Apple Grove High School"/>
Optional Settings	
Next Year Campus/Building	<input type="text"/> <input type="button" value="Associate"/>
Next Year House	<input type="text"/> <input type="button" value="Associate"/>
Next Year Team	<input type="text"/>

- From the Next School Indicator menu, choose **Apple Grove High School**

If you don't have options in the Next School Indicator menu, navigate to the Start Page. Click **School > Next School > New** to add the next school options.

- Click **Submit**

You don't have to set this field manually for every student. Use the Next School Indicator group function to set this field for an entire grade level. Use the group function on a regular basis to catch any new student records that might be missing this information. Remember when running the group function for the highest grade level in your school that those students will be graduating or moving to a different school. The remaining fields on the Scheduling Setup page will be covered in the next section.

Student Scheduling Preferences

You must enter scheduling preferences before your students start submitting requests. If you don't enter the preferences, students will have access to the wrong request forms or no form at all. You can enter or update student scheduling preferences using any of the following methods:

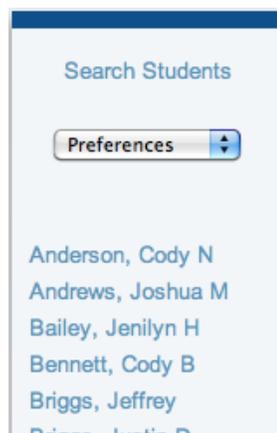
- Update or enter scheduling preferences for each student manually, one at a time
- Auto-fill scheduling preferences for students by year of graduation
- Use the Update Selections function to update specific fields of information for several students at a time

Updating Student Scheduling Preferences Manually

Depending on the size of the school body, you might choose to update scheduling preferences one at a time. However, manually updating takes the most time.

- On the Start Page, click **PowerScheduler**
- Below Resources, click **Students**
- Search for and select a student or group of students

The students you select appear in the students menu.



- Choose **Preferences** from the menu at the top of the student list, and click a student's name

Constraints	Demographics	Grad Planner	Grad Progress	Matrix	Preference	Requests	Schedule
Required Settings							
Next Year Grade	<input type="text" value="10"/>						
Priority	<input type="text" value="0"/>						
Schedule This Student	<input type="checkbox"/>						
Year of Graduation	<input type="text" value="2016"/>						
Next School Indicator	<input type="text" value="Apple Grove High School"/>						
Optional Settings							
Next Year Building	<input type="text"/>	<input type="button" value="Associate"/>					
Next Year House	<input type="text"/>	<input type="button" value="Associate"/>					
Next Year Team	<input type="text"/>						
24013							

- Enter the next year grade or verify that it is correct

The Next Year Grade field indicates the request screen each student will use to submit his or her course requests for the next school year and which grade level the student will promote to.

- Enter a number in the Priority field or verify that it is correct

Use the Priority field to tell PowerScheduler which students to schedule first. For example, upcoming seniors have a higher priority than upcoming freshman. The lower the number, the higher the priority. Use the priorities 10, 20, 30, and 40. If you have one senior that needs a higher priority than the rest, enter the priority 9. Use the priority gaps for scheduling flexibility.

- Verify that **Schedule This Student** is checked for every student you want to schedule

The Schedule This Student check box includes the student in the Load Process.

- Enter the student's graduation year in the Year of Graduation field
- Verify that the Next School Indicator field is correct
- Complete the Optional Settings if your school uses Buildings, Houses, and Teams

Buildings, Houses, and Teams are described and set up in Step C.

- Click **Submit**

- Repeat steps 5-11 to enter scheduling preferences for each of the students you select

Auto-Filling Student Scheduling Preferences

Use the "Auto Fill Student Information" function to fill student information for a group of students. You'll use the auto fill function *before* you set your retentions.

- Below Tools, click **Functions** > **Auto Fill Student Information**

The "Auto Fill Student Information" page is always blank and does not store the information you auto-filled last.

Field Name	Grade 8	Grade 9	Grade 10	Grade 11	Grade 12
Next Year Grade	<input type="text" value="9"/>	<input type="text" value="10"/>	<input type="text" value="11"/>	<input type="text" value="12"/>	<input type="text" value="99"/>
Priority	<input type="text" value="40"/>	<input type="text" value="30"/>	<input type="text" value="20"/>	<input type="text" value="10"/>	<input type="text"/>
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"/>
Year of Graduation	<input type="text" value="2017"/>	<input type="text" value="2016"/>	<input type="text" value="2015"/>	<input type="text" value="2014"/>	<input type="text" value="2013"/>

Submit

- Enter values similar to those in the image above

When completing the page, remember that graduating seniors don't need to be scheduled.

- Click **Submit**

Updating Student Scheduling Preferences Using Update Selections

- Below Tools, click **Functions** > **Update Selections**

Current Table:

Current Records in Selection: 723 [List View](#) [Modify Records](#) [Select Records by Hand](#)

Select all 723 records in this school

Search Students

=

=

Search all 723 records in this school **Search within the current 723 records only**

2. From the Current Table menu, choose **Students**
3. Do one of the following:
 - a. Click **Select all [x] records in this school** to select all students
 - b. Click **Select Records by Hand** to select a specific group of students
 - c. Use the Search Students fields to search for and select students who meet specific criteria, such as all students graduating in 2014
4. Click **Modify Records**

Current Table: Students

Current number of records in selection: 180

Sched_NextYearTeam := 826

Note: This function will permanently modify your database. Use only if you know exactly what you are doing, and then only with extreme caution. Changes are permanent. You may use ^ to reference the existing value of the field.

Modify Selected Records

5. Choose the student field you want to edit from the menu

For example, to identify the team the selected students will be scheduled with next year, choose **Sched_NextYearTeam**.
6. Enter a value in the blank field, such as the team ID

You can find this ID number by clicking **Teams** below Scheduling Setup.
7. Click **Modify Selected Records**

Step F: Entering Student Course Requests

It's important to complete all the previous steps before entering student course requests for next year. This means performing the Auto Scheduler Setup, creating Build scenarios, completing the course catalog, and entering student information. You do not have to complete the optional steps.

Defining Grade-Level Requirements

Rather than jumping right in, spend some time researching and gathering course information. Outline the grade-level course requirements to save time and errors throughout the process. First, collect the following information for each grade level:

- Required courses
- Number of credits students must earn
- Possible semester elective courses
- Possible year-long elective courses
- Possible no-credit courses
- Number of terms for each request
- Before- or after-school courses
- Possible lunch periods

Take the time to gather requirement information first so you can perform all of the following steps quickly. Use requirement information to create course groups and course request pages for each grade level.

Course Recommendations

Teacher recommendations are another element of the request process. Certain courses will require a teacher's recommendation prior to submitting course requests. Teachers submit their recommendations in PowerTeacher. (You can edit and delete recommendations that teachers have submitted.) Administrative staff submits recommendations in Request Management on the student pages.

1. On the Start Page, search for and select a student
2. Click **Request Management > Manage Recommendations**
3. If the teacher submitted a recommendation for the student, that recommendation will be listed on the Manage Recommendations student page
4. Click the pencil icon to make changes or to delete the recommendation
5. To enter a new recommendation, click **Create New Recommendation**
6. In the Course Number field, enter the beginning of the course number, such as **MAT**
7. Choose the correct math class
8. Choose **13-14**, your future scheduling year, from the Scheduling Year menu
9. In the Comments field, enter a comment describing the recommendation, such as **Teacher recommends placement in this class**

10. Click **Submit**

Creating Course Groups

Use Course Groups to organize courses into groups that satisfy specific requirements like Math or English. Create course groups to apply to your student request screens. For example, every student must select an English class from the English course group. You can create as many course groups as needed.

1. On the Start Page, click **PowerScheduler**
2. Below Requesting, click **Course Groups**
3. Choose the order in which you want courses to be listed on the student course request pages from the menu

You can sort courses by name or number.

4. Click **New** at the top of the group list

Option	Value
Name	<input type="text" value="Grade 11 English"/>
Type	<input type="text" value="Scheduling Only"/>
Applies to	<input type="radio"/> all schools <input checked="" type="radio"/> Apple Grove High School 1
Show Courses: School Master Schedule Current Catalog	
<input type="checkbox"/> MAT1100 Algebra	<input type="checkbox"/> HE10 Health 10
<input type="checkbox"/> mat1101 Algebra II	<input type="checkbox"/> HE11 Health 11
<input type="checkbox"/> SCI3000 Anatomy/Physiology	<input type="checkbox"/> HE12 Health 12
<input checked="" type="checkbox"/> ENG3000 AP American Lit and Comp	<input type="checkbox"/> HE09 Health 9
<input type="checkbox"/> MAT3000 AP Calculus	<input type="checkbox"/> HEC9 Home Ec
<input type="checkbox"/> SOC3100 AP History	<input type="checkbox"/> LS1000 Home Repair
<input type="checkbox"/> ART9 Art	<input type="checkbox"/> PE2100 Individual Sports
<input type="checkbox"/> 18001 Band	<input type="checkbox"/> ART1000 Intro to Art
<input type="checkbox"/> THP1000 Beginning Acting	<input checked="" type="checkbox"/> ENG1100 Journalism

5. Click **Current Catalog**

Use the Current Catalog—the catalog from PowerScheduler, not the School Master Schedule—when creating your course groups. Use the Current Catalog to ensure that a course group doesn't contain classes that are no longer offered.

6. Enter a name for the course group
7. From the Type menu, choose **Scheduling Only**
8. Select where to apply the course group: all schools or the current school
9. Check the name of each course that belongs to the course group
10. Click **Submit**

Creating Student Course Request Pages

You must create new request pages every year. Creating the pages involves several steps. Click the name of the course request page for a grade level. Then, add requirements to each page by creating single-course, multi-course, and/or core requirements. Finally, preview the page to make sure it works correctly. Remember, course requests are linked to the student's next year grade level.

1. Below Requesting, click **Screen Setup**
2. In the Requests menu, click the appropriate grade level

For example, to create a course request page for next year's 9th graders, click **Grade 9**.

This grade may register for classes
 [Preview Student Registration Screen](#)

Message to display on registration screens for students in this grade:

Number of credit hours
each student must submit
(excluding alternate requests)

Minimum: Maximum:

Instructions and options presented to students in this grade

[New Single Course Requirement](#)
[New Multi-Course Requirement](#)
[New Core Requirement](#)

Sort Order	Requirement Name	Type	Course Group

3. Enter the minimum and maximum number of credit hours each student must request to complete the page

Entering values for minimum and maximum credit hours prevents students from over-scheduling or under-scheduling, but using these fields is optional.

4. Enter the message you want to display on the request screen in the text box
5. Click **Submit**

Creating Requirements

Requirements make up the body of the request page, informing students which courses they must take and offering them selections from course groups. The three types of requirements are:

- Single-course requirement
- Multi-course requirement

- Core requirement

Single Course Requirements

Use a single-course requirement when students need to make one selection from a course group. For example, the juniors must choose one English class from a list of possible English classes.

1. Below Requesting, click **Screen Setup**
2. Select the appropriate grade level
3. Click **New Single Course Requirement**

Single-Course Requirement	
Name of this requirement	11th Grade English Class
Description/Instructions This information will be presented to the student as instructions on how to comply with this requirement	You must choose one course.
List of courses to present to the student in the pop-up menu	Grade 11 English
Must students select a course from the pop-up, or may they leave it blank?	Must select one
Message to display if students are required to select a course, but they leave it blank instead (leave blank for a generic message)	You forgot to select an English class!
Request type (alternates will be used if an elective cannot be filled)	Required
Number of requests to generate	1
Item sort order (affects display only)	2 (a number from 0 to 100)

4. Enter a requirement name, description, message to display if the requirement isn't completed correctly, and sort order
5. Choose a valid course group for the requirement
6. Choose if the student must select a course or if the student can leave the requirement blank

Complete the page entirely to ensure a successful request form. For example, if each student must select a course from the group, choose **Must select one**.

7. From the Request type menu, choose **Elective**, **Alternate**, or **Required**

Use the Request type field to define a general priority for the request. The system schedules required requests first, elective requests second, and alternate requests

third. If an elective course cannot be scheduled, an alternate takes the elective's place.

8. Enter a sort order number for the placement of the requirement on the request screen

Again, complete the page entirely to ensure a successful request form. For example, enter the sort order number 0 to place the requirement first.

9. Click **Submit**

Multi-Course Requirements

Use a multi-course requirement when students need to make a number of selections from a course group. You define the number they must select.

1. Below Requesting, click **Screen Setup**
2. From the Requests menu, click the appropriate grade level
3. Click **New Multi-Course Requirement**

Multi-Course Requirement	
Name of this requirement	<input type="text" value="10th Grade Semester Electives"/>
Description/Instructions Advises students on how to comply with this requirement	<input type="text" value="Select up to two courses."/>
List of valid courses for this item	<input type="text" value="Grade 10 Electives"/>
Number of courses student must select to meet this requirement	Min: <input type="text" value="0"/> Max: <input type="text" value="2"/>
Message to display if the number of courses selected is not correct (leave blank for a generic message)	<input type="text"/>
Request type (alternates will be used if an elective cannot be filled)	<input type="text" value="Elective"/>
Number of requests to generate	<input type="text" value="1"/>
Item sort order (affects display only)	<input type="text" value="2"/> (a number from 0 to 100)

4. Enter a requirement name, description, message to display if the requirement isn't completed correctly, and sort order
5. Choose a valid course group for the requirement
6. Enter the minimum and maximum number of courses the student must select

Complete the page entirely to ensure a successful request form. For example, if the student doesn't have to select a course, enter 0 in the Min field.

7. Enter a sort order number for the placement of the requirement on the request screen

8. Click **Submit**

Core Requirements

Use a core requirement to display a set of predefined requests, such as core classes for 9th graders. Students cannot make or change selections and the core requests are added when the request page is submitted. For example, if PE9 is a core requirement, then even handicapped students will receive the request upon submitting the request screen. You will need to manually remove the requests for any student who will not be taking the course.

1. Below Requesting, click **Screen Setup**
2. From the Requests menu, click the appropriate grade level
3. Click **New Core Requirement**

Core Requirement	
Requirement Name	<input type="text" value="10th Grade Requirements"/>
Description/Instructions Advises students on how to comply with this requirement	<input type="text" value="Every 10th grader must take the following courses."/>
List of valid courses for this item	<input type="text" value="Grade 10 Core"/>
Number of requests to generate per course	<input type="text" value="1"/>
Item sort order	<input type="text" value="0"/> (a number from 0 to 100)

4. Enter a requirement name and description
5. Choose a valid course group for the requirement
6. Enter a sort order number for the placement of the requirement on the request screen
7. Click **Submit**

Previewing the Student Course Request Page

As you create all of the requirements for a grade level, preview the request page to determine if you should make any changes.

1. Below Requesting, click **Screen Setup**
2. From the Requests menu, click a grade level
3. Click **Preview Student Registration Screen**

10th Grade Requirements Every 10th grader must take the following courses.	Biology 11003A - 1 credits	World History I 13003A - 1 credits	 
	PhysEd 10 16002 - 0.5 credits	Drivers Education 17002 - 0.5 credits	
10th Grade English Requirement You must select one English course.	Click the edit button to request a course →  		
10th Grade Semester Electives Select up to two courses.	Click the edit button to request a course →  		
			Requires at least 0 credit hours.  Requesting 3 credit hours.

4. Review the request form

Click the pencil icon to edit the course requests for that requirement. The green check mark confirms a selection or signifies an optional requirement. The red exclamation mark indicates that the student has not selected a course yet to satisfy that requirement.

5. Navigate back to the Screen Setup to make changes

Entering Student Course Requests

Use one of three methods for collecting student course requests:

- Enter requests manually for students one at a time
- Mass add requests for students groups
- Use the course request form online

You will learn each method of entering course requests. Remember to activate the request form first.

Students, parents, or administrative staff members enter course requests using the request screens. Students and their parents enter course requests using PowerSchool's Student and Parent Portals, and administrative staff members enter course requests using the Modify Future Requests student page in PowerSchool or the Requests page in PowerScheduler.

Do *not* modify requests by selecting a student from the Start Page and accessing the Modify Current Requests student page.

Activating the Course Request Forms

1. On the Start Page, click **PowerScheduler**
2. Below Requesting, click **Screen Setup**
3. From the Requests menu, click the appropriate grade level
4. Check **This grade may register for classes**
5. Click **Submit**

Entering Course Requests in PowerScheduler

1. On the Start Page, click **PowerScheduler**
2. Below Resources, click **Students**
3. Search for and select your student
4. Click **Requests > New > Associate**

Hold down the COMMAND key to make multiple selections

18001	Band
ART1000	Intro to Art
ART1100	Drawing and Design
ART2000	Studio Pottery
ART2100	Beginning Pottery
ART2200	Painting
ART3000	Studio Art
ART9	Art
CS1000	Keyboarding
CS1001	Word Processing
CS1002	Computer Applications
CS2000	Programming
CS3000	Computer OS
CS9	Computer
ENG1000	English 1
ENG1100	Journalism
ENG2000	English 2
ENG2100	Speech
ENG2200	Technical English

Submit

5. To select multiple courses, click the courses while holding the Command key (Mac) or Control key (PC)
6. Click **Submit**

Courses

ENG2000,HE11,LAN1100,MAT2001,PE11,SCI1000,SCI2100

Associate

7. You cannot edit the courses in the text box

If you need to make changes, click **Submit** and repeat steps 4-7. Otherwise, click **Submit**.

Constraints Demographics Grad Planner Grad Progress Matrix Preference Requests Schedule

New

Number	Course Name	Note	Alt	Code	Priority	Section Type	Alternate 1	Delete
10004A	Geometry		<input type="checkbox"/>		0			Associate <input type="checkbox"/>
12002A	English 10		<input type="checkbox"/>		0			Associate <input type="checkbox"/>
14002	Word Processing		<input type="checkbox"/>	E	0			Associate <input type="checkbox"/>
14003	Relational Database		<input checked="" type="checkbox"/>	E	0			Associate <input type="checkbox"/>
15002	Spanish II		<input type="checkbox"/>		0			Associate <input type="checkbox"/>

8. Click the Note icon to view prerequisite information

Course Prerequisite for MAT2001

Must pass Algebra 1 with a C or better.

Close

9. Check **Alt** to make the course request an alternate for any elective course that can't be scheduled, and enter an **E** in the Code field
10. Enter **E** in the Code field for elective courses, and don't select Alt to denote courses that could be replaced by alternates during the load process

Identifying elective courses is optional, but elective course requests are scheduled after required courses.

11. Use the Priority field to define alternate requests further

Priority identifies an alternate course that needs to be scheduled before another alternate course. The higher the number, the lower the priority.

- From the Section Type menu, choose an option if the course uses section types

For example, Journalism has an Honors section and a regular section. Choose **Honors** so the student won't be scheduled in the regular section of the course.

- Click **Associate** to select an alternate for a course

If PowerScheduler can't schedule the course, it will attempt to schedule the alternate. Selecting an alternate this way ensures the alternate course will replace only one specific course.

- Click **Submit**

Entering a Course Request for Several Students

- On the Start Page, click **PowerScheduler**
- Below Resources, click **Students**
- Search for and select the students for whom you want to enter the course request, such as the entire 9th grade
- Click **Functions** > **Mass Add Requests**

Option	Value
Course Number	<input type="text" value="SCI1010"/> <input type="button" value="Associate"/>
Section Type	<input type="button" value="v"/>
Request Type	<input type="button" value="Required v"/>
Priority	<input type="text"/>
<input type="button" value="Submit"/>	

- Click **Associate** to select the course, then enter information in the fields
- Click **Submit**

After mass adding requests or manually adding requests, perform the Invalid Requests group function. Invalid Requests collects all the requests a selection of students has made for the specified school year, and re-evaluates each request against the course prerequisites and recommendations. When you mass add requests or manually add requests, course prerequisites and recommendations are not taken into account. Therefore, it is important to perform Invalid Requests and remove any requests that don't meet course requirements.

Entering Course Requests in PowerSchool's Student Portal

1. Enter your school's URL for PowerSchool's Student and Parent Portals in the Address field of your web browser
2. Enter your username and password, and click **Enter**
3. Click **Class Registration**
4. Select your course requests
5. Click **Submit**

Entering Course Requests in PowerSchool

1. On the Start Page, search for and select a student
2. Click **Request Management > Modify Future Requests**
3. Select the student's course requests
4. Click **Submit**

Course Prerequisites

You build a request form for the general student body, but sometimes, individual students need to meet certain course requirements. Course requirements, if not met, can stop a student from requesting a course. Course requirements include taking or passing a prerequisite course, having a teacher recommendation, or a combination of these requirements. Define course requirements in the Course information found in School Setup or District Setup.

When students select a course group on the request screen, they check the class they want to take. However, students cannot check classes if they haven't met the prerequisites. For example, a 10th-grade student wants to take Speech. However, he can't select the course because he hasn't met the English teacher recommendation requirement. The image below shows the Speech class with no check box.

Choose one english class.

<input checked="" type="checkbox"/>	Course Name	Number	Credits	Prerequisite Note	Alerts
<input type="checkbox"/>	Journalism	ENG1100	1		
<input type="checkbox"/>	Speech	ENG2100	1		Prerequisites have not been met
<input type="checkbox"/>	Technical English	ENG2200	1		Prerequisites have not been met

<< first < prev 1 next > last >>

! You may select 1 course. You have selected 0 courses.

Cancel Okay

You have some flexibility when using the prerequisites. You can define the prerequisite based on the assumption that the student will complete the course. If the student doesn't complete the prerequisite course, but he made the request for the next course already, the request becomes invalid. Additionally, you can override any prerequisite by navigating to the student pages and clicking **Request Management > Override Prerequisites**. The request pages and PowerScheduler don't contain overridden information or notes.

Course Request Tools

Once you or the students have entered all requests, use the following request tools to analyze and confirm the success of the request process.

- Course Request Tally Report
- Requests by Course Report
- Requests by Student Report
- Calculate Target Number of Sections to Offer
- Invalid Requests

Step G: Defining Course Information

You've created new courses you'll offer next year and associated them with the appropriate school. However, there is more course information to define than just adding a course to the catalog. You also need to define course parameters for scheduling, such as build types, periods per meeting, and course maximums. Defining course information is the most complex set of preferences for any item in PowerScheduler. The preferences page is long and contains many fields, but you probably won't have to complete every field.

To define the parameters, do any of the following:

- Enter parameters for each course individually
- Use the "Auto Fill Course Information" function to enter parameters for selected courses at the same time
- Use the "Auto Generate Course Information" function to copy specific preferences for all your courses in the master schedule into your active PowerScheduler catalog

Keep in mind that you must copy a master schedule first.

Defining Course Preferences Manually

Although all schools can define course preferences manually, the number of manual changes will vary. Smaller schools may choose to enter preferences one at a time. Larger schools may use the Auto Fill and Auto Generate functions to complete the Preferences page, then make individual changes. Notice the static fields on the Preferences page that you cannot change. The static fields are copied from the Master Course List on the active side, and can be changed only on the active side.

1. On the Start Page, click **PowerScheduler**
2. Below Resources, click **Courses**
3. Click a course name

Preferences is the default tab on the Course Information page. Complete this page first.

The following steps focus on course preferences, but there are five other course tabs. The Assignments tab mirrors the Teacher Assignments tab and lists how many sections of the course the teacher will teach. The Constraints tab lists any constraints entered for the course. The Relationships tab is where you enter any relationships between the course and other courses. The Requests tab lists all requests submitted for the course. The Sections tab lists the available sections of the course, but at this point in the Build process, the Sections tab will be empty. You won't see sections until after the Build. Therefore, don't work from the Sections tab; use the Assignments tab instead.

General Information			
Course Number	MAT1100	Course Name	Algebra
Credit Hours	<input type="text" value="1"/>	Credit Type	MAT
Alternate Course Number		Grade Scale	
CIP Code		Vocational Class	No
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	<input type="text" value="Math"/>	<input type="button" value="Associate"/>	
Build Type	<input type="text" value="Standard"/>		
Full Catalog Description	<input type="text"/>		
Maximum Enrollment	<input type="text" value="25"/>		
Sections Defined			
Target Number of Sections to Offer	<input type="text" value="12"/>		
Number of Teacher Assignments	6		
Periods Per Cycle	2		
Periods Per Meeting	<input type="text" value="1"/>	Frequency	<input type="text" value="2"/>
Terms per year	1 of 2		
Allow Student Repeats in the Same Term	<input type="checkbox"/>	Allow Student Repeats in Different Terms	<input type="checkbox"/>
Balance Terms	<input type="checkbox"/>		
Valid Start Periods	<input type="checkbox"/> Period 1 <input type="checkbox"/> Period 2 <input type="checkbox"/> Period 3 <input type="checkbox"/> Period 4		
Valid Terms	<input type="text" value="S1,S2"/>		<input type="button" value="Associate"/>
Valid Day Combinations	<input type="text"/> Example: (A,B)(B,D)		

Labs Defined			
Is This Course A Lab	<input type="checkbox"/>		
Lab Frequency	<input type="text" value="0"/>	Lab Periods Per Meeting	<input type="text" value="0"/>
Valid Lab Day Combinations	<input type="text"/>		Example: (A,B)(B,D)
Room Requirements			
Facilities	<input type="text"/>		<input type="button" value="Associate"/>
Load Options			
Load Priority	<input type="text" value="10"/>	Load Type	<input type="button" value="Academic"/>
Balance Priority	<input type="button" value="Section"/>		
Use Pre Established Teams	<input type="checkbox"/>	Close Section After Max	<input type="checkbox"/>
Use Section Types	<input type="checkbox"/>		
Substitute Information			
Don't Allow Student Substitutions	<input type="checkbox"/>		
Global Substitution 1	<input type="text"/>	<input type="button" value="Associate"/>	
Global Substitution 2	<input type="text"/>	<input type="button" value="Associate"/>	
Global Substitution 3	<input type="text"/>	<input type="button" value="Associate"/>	

- The Preferences page is divided into seven sections: General Information, Scheduling Preferences, Sections Defined, Labs Defined, Room Requirements, Load Options, and Substitute Information

You will enter a variety of preferences for each course, so there is no “one right way” when completing the page. Typically, however, you will fill out Scheduling Preferences and Sections Defined.

- Check **Schedule This Course** if the course will be offered next year

PowerScheduler ignores any courses that don't have Schedule This Course checked.

- Check **Use The Course For Lunch** if the course is a lunch course
- Check **Exclude On Report Cards/Transcripts** if you want to exclude the course on students' report cards and transcripts
- For Department, click **Associate**
- In the Choices Dialog window, select a department, and click **Submit**

Be sure to associate a department with the course. If the course is already

associated with a department on the PowerSchool side, it will copy over to PowerScheduler when you create the course catalog. Click **Department** to edit and create department codes.

10. From the Build Type menu, choose **Standard**

The majority of courses are Standard. However, you have two other Build Type options: Lab and LabFloat. If the course has a lab that meets one extra period following the class on a specific day in your cycle, choose Lab. If the course has a lab that meets one extra period but isn't attached to the course, choose LabFloat. If the lab is to have a separate grade or appear on a report card, define it as a separate course. Then, create an assignment to associate the same teacher with the Lab course.

11. If you wish to add a detailed description of the course, enter the description in the Full Catalog Description field

12. Enter the maximum number of students who can be enrolled in each section of the course in the Maximum Enrollment field

13. Enter the number of sections to offer for this course

Calculate the number of sections for each course based upon the student course requests and maximum class enrollment size. Then, use this information to create your teacher assignments (shown in the Visual Scheduler). Rather than entering this information manually, use the "Calculate Target Number of Sections to Offer" function.

14. The Periods Per Cycle field is static, and it populates based on the Periods Per Meeting and Frequency field values

15. In the Periods Per Meeting field, enter the number of periods the course meets

16. In the Frequency field, enter the number of times during the cycle the course meets

For example, if you have a 2-day cycle, and the course meets one of the two days, enter 1. If you have a 2-day cycle and the course meets every day, enter 2. If you have a 1-day cycle, then every course's frequency will be 1.

17. The Terms per year field is static, and it populates based on the valid terms selected

18. Check **Allow Student Repeats in the Same Term** if students can take the course multiple times in the same term

Students may repeat certain elective courses in the same term, such as Study Hall.

19. Check **Allow Student Repeats in Different Terms** if students can repeat the course in another term

Students may repeat certain semester courses in different terms, such as Choir.

20. Leave the Balance Terms check box clear

The Balance Terms check box balances the number of sections across the valid terms for courses with multiple sections. The application will place the sections in the appropriate terms.

21. Leave the Valid Start Periods check boxes clear for maximum flexibility

If you don't select any periods, the application can place the course in any period. The Valid Start Periods check boxes are very restrictive and specify when a course must be scheduled. For example, if Band needs to be scheduled for 1st period, select **Period 1**. The application will only schedule Band for 1st period.

22. For Valid Terms, click **Associate**

23. In the Choices Dialog window, select **2013-2014** and click **Submit**

When choosing valid terms, select matching term lengths, such as S1 and S2, not S1 and the full year.

24. In the Valid Day Combinations field, enter the days the course is available for scheduling if your school has multiple days in its cycle

For example, if your school has an A and B day, you could enter **A** to keep the course from being scheduled on the B day.

25. Check **Is This Course A Lab** if the course has a lab

If you chose the Lab or LabFloat Build Type for the course, you must check "Is This Course A Lab." If the course includes a lab in the course, then you don't need to define the Labs Defined section.

26. In the Lab Frequency field, enter how many labs are in the cycle

27. In the "Lab Periods Per Meeting" field, enter how many periods each lab will meet

28. In the cycle in the "Valid Lab Day Combinations" field, enter the days the lab will meet if your school has multiple days

29. For Facilities, click **Associate**

30. In the Choices Dialog window, select a facility, and click **Submit**

For example, associating the Chemistry Lab facility ensures that Chemistry will be taught in that room, as long there is a room with that same facility. If a room doesn't have that same facility, you will get an error in the validation. If the course does not have a facility associated with it, leave the Facilities field blank.

31. In the Load Priority field, enter a load priority for every course

Use the Load Priority to load students into higher priority courses first. For example, AP Chemistry is an advanced class with one section. AP Chemistry needs a higher priority. You can enter the following load priority values: 1, 3, 7, 15, 31, and 63. The lower the number, the higher the priority. Electives traditionally have a higher number so that the engine schedules the required courses first and electives last.

32. From the Load Type menu, choose **Academic**

You have two additional Load Type options: Elective and Alternate. The system uses the load type to keep the types of courses balanced across terms. This way, students won't have all their academic courses first semester and elective courses second semester.

33. For Balance Priority, choose one of the following options:

- a. Choose **Section** to keep the number of students balanced across sections

- b. Choose **Gender** to keep the number of males and females balanced in each section
- c. Choose **Grade** to keep the grade levels balanced in each section
- d. Choose **EthnicCode** to keep the ethnicities balanced in each section
- e. Choose **House** to keep the members of each house balanced in each section

Balance priority is the secondary priority field to keep sections balanced. Section is the default value.

34. Check **Use Pre Established Teams** if the course uses teams

35. Check **Close Section After Max**

If the check box isn't selected, the section's "Close section at max" check box won't be selected either. Then a section could be overfilled.

36. Check **Use Section Types** if the course uses section types

37. Check **Don't Allow Student Substitutions** if the course cannot be substituted with another course

Leave the "Don't Allow Student Substitutions" check box clear if you want to allow substitutions. If you check "Don't Allow Student Substitutions," don't complete the remaining field.

38. If this course has a global substitution, click **Associate** next to the Global Substitutions 1 field

39. In the Choices Dialog window, select the substitute course, and click **Submit**

40. Use the Global Substitution 2 and 3 fields to define subsequent substitutes

41. Click **Submit**

Auto-Filling Course Information

The "Auto Fill Course Information" function enters course information simultaneously for all courses or selected courses. Be careful when using the Auto Fill Course function. After completing the Auto Fill function, use the Course List report to view the information you auto-filled, as well as information that may be missing. If you want to auto-fill all courses, skip steps 2-5 in the following instructions.

1. On the Start Page, click **PowerScheduler**
2. Below Tools, click **Functions > Update Selections**
3. From the Current Table menu, choose **ScheduleCourseCatalogs**
4. Click **Select all [x] records in this school**
5. Do one of the following:
 - a. Click **Select Records by Hand**, select the courses you want to auto-fill with the course information, and click **Submit**
 - b. Use the Search ScheduleCourseCatalogs fields to search for and select courses that meet specific criteria, such as all courses in the English department

6. Below Tools, click **Functions > Auto Fill Course Information**
7. Apply the changes to all courses or those you just selected
8. Complete all the fields that need to be auto-filled for the courses you selected

The information you enter will vary depending on the courses.

9. Click **Submit**

Auto-Generating Course Information

To use the "Auto Generate Course Information" function, you must first copy your master schedule from last year. Auto Generate will overwrite any course changes you have already defined for the new scenario.

1. Below Tools, click **Functions > Auto Generate Course Information**
2. Check **Select check box to verify the command** to verify that you want to copy scheduling parameters from the courses in the current year's master schedule to the courses for next year's master schedule
3. Click **Submit**

Defining Course Relationships

After you enter course information, you can define relationships between courses. For example, if a teacher instructs several different foreign language courses at the same time and in the same room, define a course relationship to cause the courses to be scheduled together. Course relationships introduce an additional set of rules into the scheduling system so that the courses they apply to are not scheduled automatically into the first available spot in the master schedule or student schedule. Use relationships to ensure student schedules are loaded correctly and to ensure the master schedule is built correctly. If you define a relationship for a course with another course, you do not need to define the relationship for both courses.

You can create several types of course relationships in PowerScheduler. Relationships apply to either the build or the load. One type, Block for Building With, requires that the relationship be defined further with a Relationship Code. Use any of the following course relationships:

- Is Blocked for Building With – courses related to one another in the schedule, for example pottery and ceramics
- May Be Built Concurrent With – courses that meet at the same time, in the same place, and are taught by the same teacher
- Has a Load Coreq of – courses scheduled during the same term
- Has a Load Postreq of – courses scheduled after the related course
- Has a Load Prereq of – courses scheduled before the related course
- Must Not Load Coreq With – courses not scheduled during the same term
- Must Load Distinct (no term overlap) With – courses not loaded into overlapping terms

- Must Load the Term After – courses loaded after in sequential terms
- Must Load the Term Before – courses loaded before in sequential terms

The Coreq, Postreq, and Prereq relationships only relate to the current scheduling year. PowerScheduler does not check historical data for previous courses. The following steps outline how to create a relationship but do not cover each relationship individually.

1. On the Start Page, click **PowerScheduler**
2. Below Resources, click **Courses**
3. From the menu at the top of the course list, choose **Relationships**
4. Click the name of the course for which you want to define a relationship, and click **New**

Option	Value
Course Number	<input type="text"/> <input type="button" value="Associate"/>
Relationship Type	Algebra <input checked="" type="checkbox"/> Is Blocked for Building With <input type="checkbox"/> May Be Built Concurrent With <input type="checkbox"/> Has a Load Coreq of <input type="checkbox"/> Has a Load Postreq of <input type="checkbox"/> Has a Load Prereq of <input type="checkbox"/> Must Not Load Coreq With <input type="checkbox"/> Must Load Distinct (no term overlap) With <input type="checkbox"/> Must Load the Term After <input type="checkbox"/> Must Load the Term Before
Relationship Code	<input type="text"/> <input type="button" value="Submit"/>

5. Click **Associate** to select the course you are relating to the course
6. Choose a relationship type

The available types can be seen in the image above. Keep in mind, the Prereq relationship type is separate from the prerequisites rules and notes entered earlier.

7. If you choose **Is Blocked for Building With**, choose a code from the Relationship Code menu

Block relationships build sections of courses and links between sections. For example, the section link ensures that the same students scheduled into the History section will be scheduled into the Science section. Use the Block relationship for the build, and use the section link for the load. You have access to the following codes:

- Simultaneous – Schedule the blocked course at the same time as the current course, but the number of sections and teachers can differ
- Before or After – Schedule the blocked course either before or after the current course in reference to the periods in your day (creates a section link)
- Before – Schedule the current course before the blocked course in reference to the periods in your day (creates a section link)

- After – Schedule the current course after the blocked course in reference to the periods in your day (creates a section link)
- Different Terms – Schedule the blocked course on the same day and period as the current course, but in a different term (creates a section link)
- Combine Into – Schedule the blocked course at the same time as the current course and all parameters must match
- Opposite Days – Schedule the blocked course on an opposite day from the current course (creates a section link)
- Section – Schedule the blocked course with the same students in each section as the current course (creates a section link)

8. Click **Submit**

Step H: Defining Teacher Information

Define teacher scheduling information for every teacher who instructs at least one course at your school. You can also assign teachers to the courses they will teach. Remember, in order to schedule a teacher, you must make the teacher active in the system. You can either enter teacher information and assignments manually, or auto-fill information and auto-generate assignments.

Before you enter teacher assignments, put your teachers into PowerScheduler. Begin on the PowerSchool side.

1. On the Start Page, click **Staff Search**
2. Search for and select the staff member
3. Click **Schedule Setup**

Required Settings	
Department	English <input type="button" value="Associate"/>
Preferred Room	<input type="text"/> <input type="button" value="Associate"/>
Maximum Consecutive Periods	1 <input type="button" value="↑"/> <input type="button" value="↓"/>
Maximum Periods Free	1 <input type="button" value="↑"/> <input type="button" value="↓"/>
Schedule This Teacher	<input checked="" type="checkbox"/>
Is Always Free?	<input type="checkbox"/>
Optional Settings	
Building Code	<input type="text"/> <input type="button" value="Associate"/>
House Code	<input type="text"/> <input type="button" value="Associate"/>
Team Code	<input type="text"/> <input type="button" value="↓"/>
Maximum Student Load	0 <input type="text"/>

4. Check **Schedule This Teacher**

If a teacher won't be returning next year, clear the Schedule This Teacher check box.

5. Click **Submit**

You don't have to complete this field manually for every teacher. Use the "Set Staff Field Value" group function to set this field for all teachers. The next section covers the remaining fields on the Schedule Setup page.

Entering Teacher Information Manually

Teacher scheduling preferences are unique to each teacher. It makes sense to enter scheduling preferences one at a time.

1. On the Start Page, click **PowerScheduler**
2. Below Resources, click **Teachers**
3. Choose **Preferences** from the menu at the top of the teacher list and click a teacher's name

Assignments	Constraints	Matrix	Preferences	Schedule
Required Settings				
Department	Fine Arts	Associate		
Preferred Room	120	Associate		
Maximum Consecutive Periods	2			
Schedule This Teacher	<input checked="" type="checkbox"/>			
Is Always Free?	<input type="checkbox"/>			
Schedule For Lunch	<input type="checkbox"/>			
Optional Settings				
Building Code		Associate		
House Code		Associate		
Team Code				
Maximum Student Load	0			

4. For Department, click **Associate** to associate the teacher with a specific department
5. For Room, click **Associate** to associate the teacher with a specific room, but remember this is a preference only
6. Choose a value from the Maximum Consecutive Periods menu, as mandated by the administration

The Maximum Consecutive Periods menu defaults to 1.

7. Verify that the Schedule This Teacher check box is selected

If a teacher won't be returning next year, clear the Schedule This Teacher check box.

8. Complete the remaining fields (the information you enter will vary depending on the teacher)
9. Click **Submit**

Auto-Filling Teacher Information

Use the “Auto Fill Teacher Information” function to fill in teacher information simultaneously for all teachers or selected teachers. If you want to auto-fill all teachers, skip steps 2-4 in the following instructions.

1. On the Start Page, click **PowerScheduler**
2. Below Tools, click **Functions > Update Selections**
3. From the Current Table menu, choose **Teachers**
4. Do one of the following:
 - a. Click **Select Records by Hand**, select the teachers you want to auto-fill with teacher information, and click **Submit**
 - b. Use the Search Teachers fields to search for and select teachers who meet specific criteria, such as all teachers in the English department
5. Below Tools, click **Functions > Auto Fill Teacher Information**

Apply To:	<input checked="" type="radio"/> All teachers set for scheduling <input type="radio"/> The selected 54 teachers	
Field Name	Value	
Department	<input type="text" value="English"/> <input type="checkbox"/> Clear Value	Associate
Preferred Room	<input type="text"/> <input type="checkbox"/> Clear Room	Associate
Maximum Consecutive Periods	No Change ▾	
Schedule for Lunch	No Change ▾	
Schedule This Teacher	No Change ▾	
Is Always Free?	No Change ▾	

6. Select to apply the changes to all teachers or those you just selected
7. Complete the fields you want to auto-fill for the selected teachers

For example, click **Associate** next to the Department field to assign the eight teachers to the English department.

8. Click **Submit**

Entering Teacher Assignments Manually

Entering teacher assignments is a very important part of the scheduling process. Teacher assignments define which courses and how many sections of each course a teacher will instruct. You can also add teacher assignments at the Course level in PowerScheduler using

the link for Assignments. If you enter or edit an assignment for a teacher or a course, PowerScheduler updates the information automatically in both places. Run the Course Request Tally report often to help you decide on the number of assignments for each teacher.

1. Below Resources, click **Teachers**
2. Choose **Assignments** from the menu at the top of the teacher list
3. Click a teacher's name, and click **New**

Option	Value
Course Number	ENG2000 <input type="button" value="Associate"/>
Section Type	<input type="text" value="↓"/>
Number of Sections	<input type="text" value="2"/>
Schedule Term Code	<input type="text" value="↓"/>

4. For Course Number, click **Associate** to select the course you want to assign to the teacher
5. Choose a section type

Choosing a section type is optional.

6. Enter the number of sections for the teacher

Entering the number of sections is required.

7. Choose the Term Code from the menu

Choosing a schedule term code is optional. If you don't choose a term, the assignment defaults to the valid terms selected for the course. For example, if the course has Valid Terms of S1 and S2, and you leave Term blank, the system will choose either S1 or S2. If you want to specify a term, choose one from the menu.

8. Click **Submit**

Auto-Generating Teacher Assignments

To use the "Auto Generate Teacher Assignments" function, first, copy over a master schedule from last year. Auto Generate will overwrite any changes to the teachers' assignments you have defined. Then, in order to populate the "Number of Teacher Assignments" field, make sure to reset the teacher assignments.

1. On the Start Page, click **PowerScheduler**
2. Below Tools, click **Functions > Auto Generate Teacher Assignments**
3. Check **Select check box to verify the command**
4. Click **Submit**

Now, reset the teacher assignments.

5. Click **Functions > Reset Teacher Assignments**

Step I: Defining Build Constraints

Control the way the system builds the master schedule. Use build constraints to tell the system exactly how you want to build your schedule. You can define 11 types of build constraints. Below is a list of the available Build constraints.

- Course Optimize – overrides the global sampling parameters
- Course Restrict – restricts sections to a specific period or day
- Course Room – assigns courses to a specific room
- Course Team – blocks teachers and courses together
- Pre-Schedule – schedules sections ahead of time
- Room Free – keeps a room from being scheduled
- Schedule Break – adds flexibility to a teacher’s maximum classes in a row count
- Teacher Dovetail – schedules partial courses together to take up less room
- Teacher Free – keeps a teacher from being scheduled for a specific period(s)
- Teacher Part-time – defines available periods for part-time teachers
- Teacher Team – permits teachers to teach sections outside their team

The more constraints you define, the less flexibility you have to build your schedule and the less optimal the resulting schedule will be. Use the fewest number of constraints required to accomplish your scheduling goals.

1. On the Start Page, click **PowerScheduler**
2. Below Scheduling Setup, click **Constraints**
3. Click the build constraint you want to define, such as **Pre-Schedule**
4. Click **New**

Option	Value															
Course Number	<input type="text"/> Associate															
	<input type="text"/>															
Schedule	<table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B</th> </tr> </thead> <tbody> <tr> <td>1</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>2</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>3</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>4</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </tbody> </table>		A	B	1	<input type="checkbox"/>	<input type="checkbox"/>	2	<input type="checkbox"/>	<input type="checkbox"/>	3	<input type="checkbox"/>	<input type="checkbox"/>	4	<input type="checkbox"/>	<input type="checkbox"/>
		A	B													
	1	<input type="checkbox"/>	<input type="checkbox"/>													
	2	<input type="checkbox"/>	<input type="checkbox"/>													
	3	<input type="checkbox"/>	<input type="checkbox"/>													
4	<input type="checkbox"/>	<input type="checkbox"/>														
Room (optional)	<input type="text"/> Associate															
Teacher (optional)	<input type="text"/> Associate															
Section Type (optional)	<input type="text"/>															
Team Code (optional)	<input type="text"/>															

5. Enter information as required by the fields on the constraint page
6. Click **Submit**

Listed below the Build constraints are Load constraints. However, these apply to the load process, and you should not define them until after you build your master schedule. If you created any Block relationships that created section links, those section links will be listed automatically with the load constraints.

Step J: Building Course Rank

The course rank defines the order in which the system schedules courses into the master schedule. The rank is a value that the system assigns to a course according to how difficult it is to schedule. As the system fills the master schedule with courses during the build, it becomes more difficult to schedule each successive course. Therefore, the order in which the system schedules courses is important and is based on the following:

- Number of sections per term
- Demand for the course
- Constraints

First, the system builds the course rank based on course definitions and constraints. The system assigns each course a sequential number in increments of ten (such as 10, 20, 30). Then, you can change the rank of some courses manually, based on your experience or on special circumstances not otherwise reflected in course definitions or constraints.

Building the Initial Course Rank

When you build the course rank, courses display in order based on the course definitions and constraints.

1. On the Start Page, click **PowerScheduler**
2. Below Processing, click **Course Rank**

The screenshot shows a web interface with two buttons at the top: "Build Rank" and "Update Rank". Below them is a table with the following columns: Delete, Sys Rank, Rank, Crs Num, Crs Name, Sections, PPC, Demand, Crs Conflicts, Stu Conflicts, Constraints, and Comments. A "Submit" button is located at the bottom right of the table area.

3. Click **Build Rank**

Even though no current course rank appears on the page, the confirm message will appear when you click Build Rank.

The screenshot shows a confirmation message dialog box with the text: "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." A "Submit" button is located at the bottom right of the dialog box.

4. Click **Submit**

Changing the Course Rank

After the system builds the course rank, you can make manual adjustments. Manual adjustments should be rare. Keep in mind that you cannot change the rank of a course to be higher than a prescheduled course. The system schedules the prescheduled courses first.

1. Below Processing, click **Course Rank**

The following image is a portion of the Course Rank page.

Build Rank Update Rank											
Delete	Sys Rank	Rank	Crs Num	Crs Name	Sections	PPC	Demand	Crs Conflicts	Stu Conflicts	Constraints	Comments
<input type="checkbox"/>	10	10	18001	Band	1	1	77	66	1030	Yes	
<input type="checkbox"/>	20	20	14007	Programming C++	1	1	160	52	2252		
<input type="checkbox"/>	30	30	22019	Advanced sculpting I	1	1	69	41	1109		
<input type="checkbox"/>	40	40	22020	Advanced Sculpting II	1	1	69	41	1109		
<input type="checkbox"/>	50	50	22010	Ceramincs II	1	1	61	42	943		
<input type="checkbox"/>	60	60	21001	Introduction to Foods I	1	1	49	28	948		

2. Locate the course for which you want to change the system-assigned rank, and change the value in the Rank column

If Advanced Sculpting II needs to be ranked above Art II, then change the ranking for the two courses. The Sys Rank column continues to display the rank value the system assigned originally to the course.

Build Rank Update Rank											
Delete	Sys Rank	Rank	Crs Num	Crs Name	Sections	PPC	Demand	Crs Conflicts	Stu Conflicts	Constraints	Comments
<input type="checkbox"/>	10	10	18001	Band	1	1	77	66	1030	Yes	
<input type="checkbox"/>	20	20	14007	Programming C++	1	1	160	52	2252		
<input type="checkbox"/>	30	30	22019	Advanced sculpting I	1	1	69	41	1109		
<input type="checkbox"/>	40	50	22020	Advanced Sculpting II	1	1	69	41	1109		
<input type="checkbox"/>	50	40	22010	Ceramincs II	1	1	61	42	943		

3. Click **Submit**

Updating the Course Rank

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

1. Below Processing, click **Course Rank > Update Rank**
2. Click **Submit**

Rebuilding the Course Rank

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

1. Below Processing, click **Course Rank > Build Rank**
2. Click **Submit**

Step K: Validating and Preparing to Build

After you complete the Prepare to Build steps and download the PowerSchool Scheduling Engine, validate the data you entered during these steps. The system checks all the following information during a validation:

- All courses selected as scheduled must be in the rank
- All courses assigned to teachers must be in the rank
- Each class has a room that will handle its capacity
- Student course requests have been dropped if a course is not scheduled

When you validate the data, PowerScheduler also lists any problems with the data you entered during the preparation process. For example, the system alerts you if you assigned too many course sections to a teacher, or if a student who is to be scheduled does not have any course requests.

Downloading the Engine

Download and install the PowerScheduler Engine on the local machine you will use to create the schedule, prior to validation. Below Tools, click **Engine Download** and select the link to download and install the engine to your computer. Once the engine downloads, you are ready to validate.

1. On the Start Page, click **PowerScheduler**
2. Below Processing, click **Build**

Validate	
Validate only (Performs only a validation of the scheduling data)	<input checked="" type="checkbox"/>
Build	
Build master schedule (Creates schedule from scratch overwriting any existing schedule from the scenario)	<input checked="" type="radio"/>
Use locked master records	<input type="checkbox"/>
Optimize	
Optimize master schedule (Creates a previously built schedule by attempting to reschedule individual courses to reduce conflicts to improve balance)	<input type="radio"/>
Time allowed for optimizations	<input type="text"/> hour(s) <input type="text"/> minute(s)
Skip courses with ranks above	<input type="text"/>

3. Check **Validate only**
4. Click **Execute**

The Results

The Build Results Log will contain not only any messages or errors concerning the build, but also basic scheduling engine information. The scheduling engine information is always listed first and will look similar to the following:

Info Engine version: 3.0.2.0.0201

Info Engine platform: OS X / Intel

Info Started schedule: Tue, Sep 25 at 11:59:47.

Info: You have 87 validation errors.

Info Total run time: 0.22 seconds.

Info Finished schedule: Tue, Sep 25 at 11:59:47.

Correcting the Errors

Errors represent conflicts, missing data, or wrong information that you must correct before the schedule can be finalized.

There are three types of messages:

- Info – informal messages about what version of the engine and platform you are operating when you run the validation. For example, how many errors were noted and how long it took to run the validation.
- Warning – “red flag” messages from the engine stating that these could be potential issues for you to fix or clean up later. A message warns you that your information is not 100% accurate.
- Error – validation errors from the engine notifying you that the build will not continue until you fix or remove all errors. If you can’t fix an error, then remove the error by not scheduling the course.

To correct the errors, click **(Q)** next to Build, below Processing. You will find errors in the Results log. Many errors are related to one another, and if you correct one error or make the value valid, it corrects the other errors as well. Run the validation often while fixing errors. Validation will remove the error messages for the errors you corrected and present a current list of errors. Continue to run the validation until the results are error-free.

Common Errors

Although you may see many different validation errors, the following errors are very common.

Error: The teacher Assignment file contains an invalid teacher for Course 13003A.

Error: Invalid Department Code Found in the Teacher file. The teacher name is Fielding, Margaret B, the invalid code is Social Studies.

- Some errors are related to one another. Therefore, if you correct one error or make a value valid, the other errors are removed. For example, there are three errors listed above, but focus on the teacher file error. Social Studies is an invalid code because department codes have a maximum of ten characters. Change the Social Studies code to SOC, then change the department code associated with the teacher

and the course. Once the department codes are valid, so are the assignments associated with the teacher.

Error: The teacher is oversubscribed: The teacher has been assigned too many courses/sections. The teacher's name is Martin, Gabriel U.

- A teacher with more assignments than periods in the day is oversubscribed. Verify what assignments you gave the teacher. Sometimes during a build, assignments are switched, but not everything is deleted.
- If the assignments look accurate, then most likely, the teacher is teaching courses that are related. Verify that the courses and their relationships are set up correctly with the accurate relationship type and code.
- Finally, make sure the course is defined correctly in the Course Preferences.

Error: The previous error message, 90, has occurred 25 times. This error message will not be printed again.

- When you look at the validation error results and see that the same type of error is listed 25 times, check all the courses for the same potential error. If you fix only the 25 errors listed, the next time you run the validation report, the next 25 will appear. So, if you see this error on the first validation report, be aware that there could be more than the 25 listed.

Error: There's no room to host the course due to the course max, facilities, or department. The course is 15005 [French I].

- This is a specific error, but it is often the most difficult to fix. The error actually tells you which three fields of information to check. "Max" is the max enrollment of the course. "Facilities" are the facilities associated with the course. Verify that you have associated the correct department code with the course. If all three fields are correct, there is only one other place to look for the error: the room. You scheduled sections of French I into rooms and used departments and facilities to filter the sections into specific rooms. Compare the course information to the room information.

Error: The Student requests multiple times of the same course, but the course does not allow repeating requests. The student name is Danger, Rudy, and the course is 14009.

- You can remove this error three ways. First, if the student(s) are to have only one request for that course number, navigate to PowerScheduler and click **Courses**. Click the course name, and then click **Requests**. All the students who have requested the course are listed. For any student listed twice, check **Delete** for one of the requests. Finally, click **Drop Requests**.
- If the students are allowed to have only one request, run the Course Request Tally report. Click the total number of requests, and use the Mass Delete Requests function to delete the first occurrence of the requests.
- If the students are allowed to request the course more than once, then navigate to the Course Preferences page. Check **Allow Student Repeats in the Same Term**, or check **Allow Student Repeats in Different Terms**.

Error: The Teacher Assignment file contains a term that is not possible for this course. The teacher is New PE, First Aid, the course is 16002, and the invalid term is S2.

- The teacher assignment is not valid according to the Course Preferences page. During a build, decisions are made to make the build easier, and this requires changes. Although the teacher assignments were changed, the course assignments were not.

Warning: The teacher's preferred room is not suitable for the course the teacher is teaching. The teacher name is Norberg, Shel K, the preferred room is 502, and the course is 15005.

- Often, a teacher instructs multiple subjects. However, you associated a specific department code with this teacher, and this teacher is teaching course(s) that are not associated with that department. You could also have a problem with the course maximum versus the room maximum. This warning does not mean the courses won't get scheduled.

Warning: Student has too many requests. The student is Ackerman, Bob. Out of 80 time slots available to schedule, requests fill 84.

- Students can be associated with as many or as few requests as a school allows. In this case, if a majority of the students have this warning, then the load percent will be very low. However, the percent is false because the majority of the students will be fully scheduled. The slots are terms, times days, times periods. So if you have a master schedule with semesters (2 terms), 1 day, and 8 periods, the result is 16 time slots.

What Comes Next?

After you fix the errors from the validation, you are ready for the next step. It's important to sign up for and attend a Build Workshop. Give yourself enough time between the Prepare to Build course and the Build Workshop course to complete all the steps up to the validation. Running a validation and looking at the validation errors before the workshop will help you successfully complete a good master schedule by the end of the workshop.

For more information on validating data, see The PowerScheduler User Guide and Scheduling Build and Load Process documents, available on PowerSource. Also, investigate the other PowerScheduler training and knowledgebase articles available on PowerSource.

