



W S I P C

*Inspired by education.
Empowered by technology.™*

WSIPC Guide to Future Scheduling: Part Four – Scheduling Students

Contents

Contents	i
About This Guide	1
What You Should Know Before You Start	1
Be Sure You're Signed In	1
How to Use This Guide	1
Navigation Paths	1
Getting Around	1
Screen Shots	1
What's in a WSIPC Guide	2
Do Not Post This Guide to the Public Internet	2
What's New in This Edition	2
The Basics of Future Scheduling	3
Using the Traditional Method	3
Dealing with Conflicts	3
Working in the Correct Entity	3
Selecting the School Year	4
Concepts You Should Know	5
Course Master vs. Schedule Master	5
Section vs. Class	5
Request vs. Scheduled	5
Step 1: Manually Place Students in Sections	6
Step 2: Schedule Student Requests	7
Run the Auto Scheduler in Actual Mode	7
Perform Online Arena Scheduling	13
Considerations for Deploying Online Arena Scheduling	14
Configuring Online Arena Scheduling in Family Access	14
Configuring Online Arena Scheduling in Skyward's School Management System	17
Step 3: Use Reports to Analyze Student Schedules	26
View Schedule Run Details and Reports	26
Running and Interpreting the Results of the Student Conflict Detail Report	29
Running and Interpreting the Results of the Course Conflict Report	33
Running and Interpreting the Results of the Conflict Totals Report	37
View Student Schedule Generation Reports	39
Student Conflict Report	39
Free Period Report	40
Student Credit Count Report	40
Student Course Recommendation Report	41

Student Schedule Credit Report	41
Schedule Changes Report	41
Scheduled Request Percentage Report	41
Course Requirement Verification Report	41
Students with Partial Schedules Report	42
Students Missing Specific Course/Subjects Report	42
Make Adjustments to Student Schedules	42
<u>Step 4: Schedule Student Alternate Requests</u>	<u>43</u>
<u>Continuing the Future Scheduling Process</u>	<u>50</u>
<u>Appendix A – Future Scheduling Checklist</u>	<u>51</u>
<u>Appendix B – Scheduling Process Diagram</u>	<u>56</u>
<u>Appendix C – Glossary of Scheduling Terms</u>	<u>57</u>
<u>Appendix D – Summary of Auto Scheduler Logic</u>	<u>58</u>
<u>Appendix E – Using Future Scheduling Tools to Schedule the Current School Year</u>	<u>67</u>
<u>Appendix F – Troubleshooting Online Arena Scheduling Setup</u>	<u>72</u>
<u>Appendix G – Interpreting the Results of the Student Conflict Detail Report</u>	<u>75</u>

About This Guide

This Guide explains the functions necessary for collecting, recording, processing and managing the information needed to generate class and individual student schedules for the next academic year or the current academic year.

The future year scheduling process is divided into five parts that represent the five distinct areas in the scheduling process and one miscellaneous part that includes various reports and utilities. Within each of the six parts, the Guide outlines specific steps to complete that part.

Part One	Preparing to Schedule
Part Two	Managing Student Requests
Part Three	Building the Schedule Master
Part Four	Scheduling Students
Part Five	Concluding the Scheduling Process
Part Six	Miscellaneous Scheduling and Maintenance

This Guide explains the details of Part Four - Scheduling Students. It describes how to create student schedules and resolve any remaining conflicts.

This Guide helps anyone who coordinates and builds a Schedule Master to schedule students for next year's classes. This typically includes registrars and administrators, but might also include teachers, counselors, and anyone else involved in the future year scheduling process.

Appendixes common to all parts of Future Scheduling are located at the end of each Guide.

What You Should Know Before You Start

You'll find that the Guide is much more helpful if you understand your Entity's scheduling practices, such as how requests are gathered, whether the Schedule Master will be changed from last year, and what method will be used to create student schedules. Additionally, many scheduling terms and many features in the Future Schedule module will make more sense if you have read the *WSIPC Guide to Current Scheduling*.

Be Sure You're Signed In

This Guide is intended to be read while you are working in Future Scheduling, so be sure you are signed in. Many of the procedures and concepts discussed in the Guide are best understood if you practice as you read.


How to Use This Guide

This section shows you how to follow navigation paths in a Guide, and how to navigate around the Guide using various features. This section also describes how and when screen shots are used in the Guide.

Navigation Paths

The procedures in this Guide begin with navigation menu paths. Select the **Display Navigation Menu Paths** check box in User Preferences to ensure that you can follow these paths. The option is not available in User Preferences if it is already enabled for the entire district. To learn more about setting User Preferences, see the *WSIPC Guide to Skyward's School Management System*.

Getting Around

If you're using this Guide electronically, you can click any text in blue font to move to the section of the Guide that the text refers to. Because the Guides are published in PDF format, you can also use the PDF navigation pane to quickly move from one section to another. If the pane is hidden, click the **Bookmark** button  in the menu bar on the left side of the screen.

Screen Shots

You'll find screen shots throughout the guide to help you learn how to use the software. The data entered in the screen shots in this Guide is an example of the data you might enter. These screen shots are updated with each edition to make sure what you see on your screen matches what you see in the Guide. To prevent the Guide from becoming a lengthy picture book, WSIPC Guides use screen shots only to help illustrate a key idea or when options on a screen are described. This allows WSIPC Guides to be effective *and* concise.

What's in a WSIPC Guide

WSIPC Guides are designed to provide readers with everything they need to know to safely and effectively use Skyward's software. WSIPC strives to make Guides that address the diverse needs of these audiences. Therefore, this Guide doesn't contain information customized for specific audiences, districts, or schools.

If you need to create educational materials that address the specific needs of your Service Center or district, consider using this Guide as a starting point for developing your own customized materials.

Do Not Post This Guide to the Public Internet

The information contained in this Guide is copyright protected. You may store a digital copy of this Guide on your internal server for access by authorized users. Allowing access to this Guide by anonymous users, including search engine crawlers, is not permitted. If you are unsure whether your website is open or your server is protected from crawlers, contact your systems administrator.

What's New in This Edition

This section highlights the significant changes to the Guide since the last edition such as content about new features, important notes and cautions, and sections of the Guide that have been expanded or moved.

Description of Change	Page # in this Guide	Location in Other Future Scheduling Guides
This Guide has been updated to reflect WSIPC's March 2016 software release 05.16.02.00.02.	N/A	N/A
All dates have been updated to reflect the 2016-2017 school year.	N/A	N/A

The Basics of Future Scheduling

The Future Scheduling module helps you collect, record, process, and manage the information you need to generate schedules for the next academic year, future school years, or future terms within the current school year. Scheduling is a complex process that must accommodate many variables, including the availability of Course Sections, teacher availability, students' Course Requests, Course prerequisites, and the school's academic requirements.

Using the Traditional Method

This Guide approaches the scheduling process with a "traditional" method of scheduling students, in which the software schedules students into Sections. Using this method, you create a Course Master of available Courses, gather students' Course Requests, create Sections for the Courses (including assigning a teacher, room and period), and use the software to schedule students. This method usually requires several trial runs before the final scheduling run.

Because this process involves many steps, "[Appendix A – Future Scheduling Checklist](#)" (page 51) contains a checklist to help you track your progress. In "[Appendix B – Scheduling Process Diagram](#)" (page 56), a scheduling process diagram shows a typical scheduling process that uses the traditional scheduling method to produce student schedules. The diagram incorporates the six parts of scheduling that are covered in the individual Future Scheduling Guides.

Dealing with Conflicts

While the Future Scheduling module helps you develop a Schedule Master and generates student schedules, the number of variables makes conflicts inevitable (Sections fill up and Course demand often does not match expectations). The Future Scheduling process includes several checkpoints to help you spot and correct problems early.

Working in the Correct Entity

Do all Future Scheduling work in the Entity you're scheduling for unless otherwise noted in the Guide. Be sure you are not scheduling in Entity 000. If you try to schedule in Entity 000, some features are not available.

Selecting the School Year

If you select the Allow Current Year Scheduling or Schedule Multiple Times Per Year check box in Scheduling Options (Student Management\Office\CS Setup\CF\SE), you *must* select the current school year, term or semester, or future year in the Future Scheduling area.



There are many ways to select the school year. The way you use it depends on your scheduling method. On the Future Scheduling Time Period Selection screen (Student Management\Office\FS), do one of the following:

- If you are scheduling for the entire current school year, select the entire current school year.
- If you are scheduling several times per year, select a Term or Semester of the correct school year.
- If you are scheduling for a future school year, select the correct future school year.

Once you make your selection and are working within the Future Scheduling area, the scheduling selection appears as the Term/Semester or Year you are scheduling.



Caution

This selection is specific to each user, so when the Allow Current Year Scheduling check box or the Schedule Multiple Times Per Year check box is selected, you must proceed with caution to ensure that you make the correct selection in this area *before proceeding with any scheduling task*.

Concepts You Should Know

Before you learn how to use the Future Scheduling module, familiarize yourself with the following pairs of terms used throughout this Guide. "[Appendix C – Glossary of Scheduling Terms](#)" (page 57) contains a glossary of terms to help you understand Future Scheduling.

Course Master vs. Schedule Master

A *Course Master* contains information about an Entity's Courses, Sections and Meets. (A Meet defines such things as the day of the week the Section is taught.) The *Schedule Master* (also called the Master Schedule) defines the Entity's plan for Courses it will offer.

Section vs. Class

The words *Section* and *Class* appear throughout the Future Scheduling module. Though they technically mean the same thing, there are subtle differences in the way the terms are used. Most areas of Future Scheduling use the word *Class* when a process or area involves a student, and the word *Section* when a process or area involves a Course or the Course Master. For example, a student enrolls in a class, but a Course contains Sections. For the sake of simplicity, this Guide uses the word *Section* in both cases.

Request vs. Scheduled

Be aware of the difference between *request* and *scheduled*. These words are not synonyms. For example, a student *requests* a Course but is *scheduled* into a Section. The difference is that a request reflects a desire to enroll in a Section of a Course—a potential enrollment—but a scheduled student is actually enrolled in the Section.

Step 1: Manually Place Students in Sections

Before you process student requests and create student schedules, consider whether any students must be placed into certain Sections of Courses before being scheduled automatically. This might include special education Courses because Courses designated as Special Education are not scheduled by the Auto Scheduler. It might also include Sections that students must be scheduled into because of specific placement reasons. For example, it may be important to place a student with a specific teacher.

Make these manual placements before running the Auto Scheduler or allowing guardians or students to perform Online Arena Scheduling.

Use the Entry by Student (Student Management\Office\FS\SS\BS) process to manually schedule students in specific Sections. To learn more about scheduling students in specific Sections, see the *WSIPC Guide to Future Scheduling: Part Five - Concluding the Scheduling Process*.

Step 2: Schedule Student Requests

You can use the following two methods to create student schedules from requests:

- [Run the Auto Scheduler in Actual Mode](#)
- [Perform Online Arena Scheduling](#)

This section discusses each of these methods.

Run the Auto Scheduler in Actual Mode

This process duplicates the Pseudo Scheduling Run with the exception that all student schedules are created as actual Schedule Records for Sections of the requested Courses. Once you run the Auto Scheduler in Actual mode, the student schedule is as complete as the software can make it. Conflicts may still occur and there may be free periods in a student's schedule, but from this point on, you should modify a student's schedule rather than make changes to the Master Schedule.

You can run the **Actual Scheduling Run** option more than once, which layers several scheduling runs and locks previous scheduling runs into place. This is typically done for a different grade level each time, but can also be done by making different Courses available for each subsequent run of the Auto Scheduler. For example, you can select the **Locked to Scheduler** option on desired Courses in the Course Master so that the Auto Scheduler doesn't schedule these Courses. After you run the Auto Scheduler, you can unlock those same Courses and lock the Courses that were already scheduled so that they are not unscheduled and scheduled again by the Auto Scheduler during the next scheduling run. You can set the **Locked to Scheduler** field for more than one Course at a time by using the **Mass Change Course Master Fields Utility** (Student Management\Office\FS\BC Setup\UT\MC).

You can, but are not required to, complete the Actual Scheduling Run before processing Student Year End. When Year End is processed, the next school year becomes the current school year. Future Scheduling tools are no longer available to create schedules for the year you were working with unless the scheduling tools are enabled for the current school year. Do this with caution because you are working with current year schedules when enabling this functionality.

See "[Appendix D – Summary of Auto Scheduler Logic](#)" (page 64) for the logic that the Auto Scheduler uses to determine the order in which students are processed, the logic used to process the Courses for each student, and how co-requisites, scheduling teams, and scheduling categories are processed. Some frequently asked questions about the logic are also included in the appendix.

If alternate requests have been entered for students, they can also be scheduled for students. However, they must be scheduled separately from regular requests. To learn more about scheduling alternate requests for students, see "[Step 4: Schedule Student Alternate Requests](#)" (page 43).

Best Practice	Before running the Auto Scheduler, lock the Auto Scheduler to prevent anyone from using the scheduler while you generate schedules. To learn more about locking the Auto Scheduler, see "Step 5: Verify Scheduling Configuration, Choose Scheduling Lock Options" in the <i>WSIPC Guide to Future Scheduling: Part One - Preparing to Schedule</i> .
----------------------	--

To run the Auto Scheduler in Actual Mode:

1. Go to Student Management\Office\FS\SS\AS\GS.
2. Click Add.
3. In the Scheduling Run To Perform box, select Actual Scheduling Run.
4. Configure the rest of the Generate Student Schedules Maintenance screen (Figure 1). Table 1 describes the options on this screen.
5. Click Save and Run.

A message appears stating that the Actual run has finished processing. A report is available showing each Grade Level that was processed, the number of students, the conflicts, the percent of conflicts, the imbalances (if the Build Free Period Matrix check box is selected in the Scheduling Options area of the Generate Student Schedules Maintenance screen), the imbalances percent (if applicable), and a Process Log (included in the .NET version only, which Skyward uses for troubleshooting). This same data is available in Student Scheduling Run Analysis (Student Management\Office\FS\SS\AS\RA\Totals) and is discussed in further detail in "[View Schedule Run Details and Reports](#)" (page 26).

Note If a message appears stating that the Auto Scheduler is still running, refer to “Mass Delete Auto-Scheduler Files” in the *WSIPC Guide to Future Scheduling: Part Six - Miscellaneous Scheduling and Maintenance*.

The screenshot shows the 'Generate Student Schedules Maintenance' application window. At the top, it states: 'This Process will Allow the Mass Scheduling of Students into their Requested Courses based on the Ranges Entered by the User.' The interface is divided into several sections:

- Template Settings:** Includes a text field for '* Template Description:' and a checkbox for 'Share with other users in entity 401'.
- Schedule Generation Options:** Shows 'Year To Generate Schedules For: 2016-17' and 'Terms: Entire Year' with a sub-selection of 'Terms: 01 - 04'.
- Student Ranges:** Contains two sub-sections:
 - Grade/Grad Yr:** 'Start' (Grade: 12, Grad Yr: 2017) and 'End' (Grade: 09, Grad Yr: 2020).
 - Student Type:** 'Low' and 'High' (both set to ZZZ).
- Scheduling Run To Perform:** Three radio buttons: 'Actual Scheduling Run' (selected), 'Imperative Conflict Run', and 'Pseudo Scheduling to Simulate Process'. A '* Number of Runs:' dropdown is set to 1.
- Auto Scheduler Type:** Two radio buttons: '.Net Scheduler' (selected) and 'Progress Scheduler'.
- Scheduling Options:** A list of checkboxes including 'Process Special Ed Courses', 'Close Sections When Filled', 'Build Free Period Matrix' (checked), 'Force Co-Requisites to Schedule All or Nothing', and 'Schedule Required Courses first, then Elective Courses'. A '* Semester Imbalance Max:' field is set to 10.
- Balance By Student Attributes:** A table with columns 'Select', 'Order', and 'Field'. It lists 'Gender', 'Race', and 'Special Education', each with an order of 0.
- Creation Options:** Checkboxes for 'Create Student Conflict Detail' (checked) and 'Include Imbalances As Conflicts'.

Buttons on the right side include 'Save', 'Save and Run', and 'Back'. A footer note states: 'Asterisk (*) denotes a required field'.

Figure 1 - Generate Student Schedules Maintenance screen. In this example, the Actual Scheduling Run mode is selected.

Option	Description
Grade/Grad Yr	Ranges of students to be scheduled by Grade Level/Graduation Year. The Start range is the Grade/Grad Yr that you want scheduled first and the End range is the grade level that you want scheduled last . Typically, the hardest Grade Level Graduation Year to schedule is scheduled first.
Student Type	Ranges of students to be scheduled by Student Type, if desired.

Option	Description
NY Sched Team	Ranges of students to be scheduled by Next Year Scheduling Team Code.
Process Special Ed Courses	Includes and schedules those Courses with a Schedule Type (in the Course Master) of Special Education.
Close Sections When Filled	Determines whether Sections of a Course will be closed when they are full. The auto-scheduler stops scheduling students into a Section once the maximum number of student's value for that Section is reached.
Build Free Period Matrix	Creates the Free Period Matrix Report that shows how many students are free during each period of the day.
Semester Imbalance Max	<p>Maximum number of free periods per week that may differ between semesters before a semester imbalance occurs. If a semester imbalance occurs, the scheduling program tries to re-schedule the student to remove the imbalance.</p> <p>Example: Assume that the Semester Maximum Imbalance is set to 10 (the default). If a student has 2 free periods (that meet 5 days a week) in the first semester and no free periods the second semester, the student will be fine (2 free periods x 5 days a week = 10 free periods the 1st semester). However, if the Semester Maximum Imbalance was set to 9, the student would then be imbalanced since the student has more than a 9 free period difference between semesters.</p>
Use Maximum Special Ed Enrollment %	<p>If selected, the Scheduler uses the value entered in this field on the Section to determine how many of the students enrolled are allowed to be Special Ed.</p> <p>Appears if the Allow Limited Special Ed Enrollment in Sections check box in Scheduling Options is selected (Student Management\Office\FS Setup\CF\SE).</p>

Option	Description
Force Co-Requisites to Schedule All or Nothing	Forces the scheduler to schedule all of the Courses that comprise a co-requisite for a student. Otherwise, none of the co-requisites for the Course are scheduled. If you select this option, then it applies to all co-requisites in the student's schedule. If this rule should only apply to specific co-requisites, then use the Only for flagged Co-Requisites option.
Only for flagged Co-Requisites	Enforces the restraint (Force Co-Requisites to Schedule All or Nothing) only on those Courses where the Co-Requisite has the Schedule All Co-Requisite Courses or None option selected.
Schedule Required Courses first, then Elective Course	Schedules students into classes where the Course is marked Required , before scheduling students into Courses marked as Elective . The scheduler first processes required singletons and multiple-Section Courses and then processes elective singletons and multiple-Section Courses.
Create Student Conflict Detail	Creates the Student Conflict Detail Report that tells you which students have a Course conflict. Always select this option so that Schedule Generation Reports are available.
Include Imbalances As Conflicts	Helps to balance the number of free periods for a student between semesters, and includes any imbalances as a conflict on the Student Conflict Detail Report. Works in conjunction with the Semester Imbalance Max field. Note: This option is available only if you select Create Student Conflict Detail.

Option	Description
Number of Runs	<p>An Actual Scheduling Run can be processed up to five times in one run, through a cycling of scheduling and unscheduling. The scheduling portion of the cycle is equal to the Number of Runs. For example, if the Number of Runs is set to 3, the Auto Scheduler will schedule, unschedule, schedule, unschedule and schedule. All classes are unscheduled except for those the student was manually scheduled into.</p> <p>This option allows the Auto Scheduler to try scheduling different Course combinations and to minimize the number of Course conflicts.</p> <p>Best Practice: Don't set the Number of Runs option to a number greater than one if you are layering the scheduling runs. This is because the purpose of the multiple scheduling runs is to lock previous runs. If you process later scheduling runs and allow the scheduler to schedule and unschedule classes (because you select more than one Number of Runs), the software will potentially unschedule classes that were scheduled in previous scheduling runs.</p>
Auto Scheduler Type	<p>Programming language used to run the Auto Scheduler. Do not select the COBOL Scheduler or the Auto Scheduler will not process. This is because WSIPC districts are upgraded to run on Progress 10.2b (64 bit servers) and COBOL will only run on a 32 bit server. To remove the COBOL Scheduler option from the screen, go to Student Management\Office\FS Setup\CF\SC and select Suppress Cobol Scheduler.</p> <p>The .Net version of the Auto Scheduler is intended to run faster than the Progress version. The Progress version will be removed in a future release.</p>


Option	Description
Balance By Student Attributes	<p>The software automatically balances Section sizes. This option forces the software to try and balance Section size by Gender, Race, or Special Education based on the attribute(s) chosen.</p> <p> Caution: When balancing by Gender, if you have Courses that have requests which are predominately female or male, those Courses may not schedule students once the balance is reached.</p>

Table 1 - Options on the Auto Scheduler Generate Student Schedules Maintenance screen

Perform Online Arena Scheduling

This process uses Family Access for Online Arena Scheduling, which creates student schedules. A guardian or student selects the student’s Courses, working out conflicts as they create the schedule. When a class is added to a student’s schedule using this method, it occurs instantly and the seat is removed from the class count immediately. Guardians and students can use Online Arena Scheduling to build an entire schedule, or use it in conjunction with the Auto Scheduler to complete a schedule. For example, the school can use the Auto Scheduler to schedule required Courses, and the guardian or student can use Family Access/Online Arena Scheduler to complete the schedule by selecting Electives.

The district controls access to Online Arena Scheduling and the Courses that are available through Online Arena Scheduling. Guardians and students can create schedules during a specified date and time. This access is assigned by grade level. In addition, a counselor or advisor can review schedules. Further changes can be controlled by locking, approving or re-opening the schedule. The guardian, student, and staff can use messages to communicate. For example, they can ask questions about changes that should be made to the schedule.

Before using Online Arena Scheduling, you must configure it in Skyward’s School Management System and Family Access. This Guide covers the configuration in Skyward’s School Management System. To learn about configuring Online Arena Scheduling in Family Access, see “Configuring Arena Scheduling” the *WSIPC Guide to Family and Student Access Administration and Management*. To learn about the processes a guardian and student must follow in Family Access to add classes to a student’s schedule, see “Arena Scheduling” in the *WSIPC Guide to Family and Student Access for Students and Guardians*.

[“Appendix F – Troubleshooting Online Arena Scheduling Setup”](#) (page 78) contains a troubleshooting section to help staff members responsible for managing the Online Arena Scheduling Process.

Considerations for Deploying Online Arena Scheduling

Before deploying Online Arena Scheduling, answer the following questions:

- What process will you use to deploy Family Access, and how will the product be maintained? For example, how will support be provided to guardians? Who will support lab time for students if you use a lab environment for them to access computers? What will the process be for maintaining and distributing passwords?
- Which Courses will be available to Online Arena Scheduling?
- What time frame will each grade level be given to create their schedules? Will there be time allowed between groups of students for schedule approval so that seat counts are more accurate?
- Which seat count value (Minimum Students, Optimum Students and Maximum Students) will be used as the maximum number of seats that grade level can fill for each Section? Will the value used for each group of students be the same or different?
- What will the process be for staff to review student schedules as they are being created? Will an advisor or counselor review each student’s schedule and change their Scheduling Status once a student submits a schedule? Will staff, students, and guardians be allowed to communicate via messages, regarding a student’s schedule?

Configuring Online Arena Scheduling in Family Access

The following Online Arena Scheduling options (Table 2) are available in Family Access Entity Configuration (Student Management\Families\FM Setup\CF\EC\Arena Scheduling\Available Classes or Submit Classes). It’s helpful to be familiar with these options as you configure Skyward’s School Management System.

Option	Description
Allow Teacher Name as a Search and Display option	Allows the Teacher Name to appear with the Course information and to be used as a method of searching for a Course. Clearing this check box suppresses the appearance of the Teacher Name for each Course while guardians/students create a schedule.
Only list Class Sections for Courses Student Requested	Limits the Courses that the guardian/student can schedule to only those the student has as a request. Best Practice: Select this option because it maintains the integrity of the Master Schedule, which you built based on student requests. If you allow students or guardians to create their schedule in Family Access based on Courses they did not request, there may be adverse consequences. For example, a student or guardian may not schedule Courses that meet the student’s requirements, or the schedule may have many conflicts.
Only list Class Sections for Courses based on Student’s Career Plan	Limits the Courses that the guardian/student can schedule to only those in a student’s Career Plan. To learn more about student Career Plans, see the <i>WSIPC Guide to Career Planning</i> .
Allow Add/Remove of Courses	Allows the guardian or student to add or remove Courses from the student’s list of Courses. If this option is not selected, Courses can only be viewed. Students cannot remove Courses previously scheduled by the Auto Scheduler, Walk-In Scheduler, or manually scheduled.
Allow Add of Alternate Requests	Allows the guardian/student to add alternate requests to their schedule. If the alternate request is later removed from the schedule by the guardian/student, it is added back as a regular request for the student, not as an alternate request. If alternate requests have been entered for students, they can also be scheduled separately from regular requests. To learn more about adding alternate requests, see “ Step 4: Schedule Student Alternate Requests ” (page 43).

Option	Description
Force Students to Schedule Co-Requisites	Pertains to co-requisites. If a student has requests for Courses that are co-requisites of each other, when one Course is scheduled, the student will be prompted to select a Section of the co-requisite Course and both Courses are scheduled. If a Section of the co-requisite Course isn't selected, neither Course is scheduled.
Do Not Show Room Number in Class List	Hides the room number when the Course and class information is viewed on the Available, Selected or Submit Classes tabs in Family Access (using the Class hyperlink).
Allow Guardian/Student to Schedule Courses Previously Passed	<p>Allows a class to be added to the student's schedule that the student has already passed.</p> <p>If this option is not selected, a student will not be able to select a Course they have previously passed unless Repeatable for Credit has been enabled on the Course in the Course Master for the year the student passed the class.</p>

Table 2 - Online Arena Scheduling options

Configuring Online Arena Scheduling in Skyward's School Management System

The configuration options for Online Arena Scheduling in Skyward's School Management System include the following:

- [Enabling Entity Year Options](#)
- [Selecting Course Master Options](#)
- [Setting Student Scheduling Status](#)
- [Defining Scheduling Time Periods](#)

This section discusses each of these options.

Enabling Entity Year Options

The following Scheduling Entity Year Setup options (Student Management\Office\FS Setup\CF\SE\Entity Year Options) are specific to Online Arena Scheduling:

- **Use Online Arena Scheduling:** Must be selected in order to see information from the Course Master that is specific to the Online Arena Scheduling process.
- **Use Advisor Schedule Verification:** Allows staff to view and change a student's schedule, change a student or group of student's Scheduling Status, report which students have submitted their schedules for approval, post a message for a guardian/student to read and access any messages or responses. The schedule approval functionality is discussed in detail later in this section. To learn more about using the schedule approval functionality, see "[Setting Student Scheduling Status](#)" (page 19). To learn more about messaging functionality, see "Message Center" in the *WSIPC Guide to Family and Student Access Administration and Management* and "Arena Scheduling, Messages" in the *WSIPC Guide to Family and Student Access for Students and Guardians*.

Selecting Course Master Options

The following options in the Course Master (Student Management\Office\FS\BC\CM) affect how a Course appears to a student in Family Access for Online Arena Scheduling:

- **Available To Online Scheduling:** Determines whether a Course is available for Online Arena Scheduling. If a Course is not available, it will not appear in Family Access to the guardian and student as a Course that can be selected. The check box appears only if the **Use Online Arena Scheduling** check box is selected in Scheduling Entity Year Setup (Student Management\Office\FS Setup\CF\SE\Entity Year Options).
- **Prohibit Student from Dropping:** Determines whether a student can drop the class when using Online Arena Scheduling in Family Access. This check box appears only if the **Use Online Arena Scheduling** check box is selected in Scheduling Entity Year Setup (Student Management\Office\FS Setup\CF\SE\Entity Year Options) and is available only if the **Available To Online Scheduling** check box is selected for the Course. If this Course has already been scheduled by the student and he or she attempts to delete it from the schedule, a message advises the student that he or she cannot remove it from the schedule. The student is allowed to change Sections if there are multiple Sections. Classes scheduled by the office will appear for the student under Selected Classes to be viewed, but not under Available Classes to be added or removed.

Use the Mass Change Course Master Fields Utility (Student Management\Office\FS\BC Setup\UT\MC) to change these values on the Course Master from Yes to No, or from No to Yes, for a range of Courses.

Setting Student Scheduling Status

Student Scheduling Status is a flag used for each student to determine if their schedule can be updated using the Online Arena Scheduling process. The initial default value for Student Scheduling Status is **Locked**. Before a guardian or student can make changes to a student’s schedule, the status must be changed to **Open**. This can be done for an individual student or for a group of students by using the Mass Assign Student Scheduling Status Utility. This utility is discussed in further detail in this section.

The Student Scheduling Status flag is typically used in conjunction with the **Advisor Schedule Verification** option, so that when a student submits their schedule and their status is changed to **Waiting**, a counselor or advisor can review the student’s schedule. The counselor or advisor can place the schedule back into **Open** status for the student to make additional changes, or place the schedule into **Approved** status if no further changes are required.

Once student schedules are being created, if counselors, advisors or other staff members want to review the schedules and maintain the Student Scheduling Status, they must do this through **Entry by Student** (Student Management\Office\FS\SS\BS). You can select the **Scheduling Status View** to view the Next Year Scheduling Status of each student. You can further define the filter to show students you are responsible for (such as 9th grade students A-M). You can view the student’s schedule, and in the **Scheduling Status** area you can view messages from the student and office staff and edit the student’s Scheduling Status. You can also view and change the student’s Scheduling Status on their **Future Scheduling** sub-tab in Student Profile, but you cannot view messages from there.

Table 3 provides a list of possible Student Scheduling Status values and their meanings.

Value	Status	Description
O	Open	Schedule is Open and may be updated by a guardian/student through Online Arena Scheduling in Family Access.
W	Waiting	Schedule is Waiting for approval by staff and cannot be updated by a guardian/student. Typically a staff member reviews the schedule and sets the status to Approved or, if more changes are needed by the student, sets the status back to Open .

Value	Status	Description
A	Approved	Schedule has been Approved and cannot be updated by a guardian/student. This status helps you see which schedules have been approved by staff versus those in Locked status because they were never set to Open status (because, for example, the student is Inactive or not being scheduled.)
L	Locked	Schedule has been Locked and cannot be updated by a guardian/student.

Table 3 - Possible Student Scheduling Status Values and their meanings

To mass-assign Student Scheduling Status:

1. Go to Student Management\Office\FS\SS Setup\UT\MS.
2. Configure the Mass Assign Student Scheduling Status screen (Figure 2). Table 4 describes the options on this screen.
3. Click Run. A screen appears that lists all students that will be processed.
4. Click Process to complete the processing and change the status of the students. Click Back to stop the utility (the statuses of the students in the list will not be changed).
5. If you clicked Process in Step 4, a message asks if you would like to continue. Click OK.

Note You can view or change the student’s Scheduling Status in Entry by Student (Student Management\Office\FS\SS\BS). Click the arrow next to the student’s last name and then click the arrow next to Scheduling Status for the appropriate school year.

Mass Assign Student Scheduling Status

This utility will mass assign student scheduling status for Online Arena Scheduling.

School Year:

Student Ranges

Low	High
Name Key: <input type="text"/>	<input type="text" value="ZZZZZZZZZZ"/>
Grade/Grad Yr: <input type="text" value="09"/> <input type="text" value="2020"/>	<input type="text" value="12"/> <input type="text" value="2017"/>
Advisor Key: <input type="text"/>	<input type="text" value="ZZZZZZZZZZ"/>
NY Scheduling Team: <input type="text"/>	<input type="text" value="ZZZ"/>

CY Status <input checked="" type="radio"/> Both <input type="radio"/> Active <input type="radio"/> Inactive	NY Status <input type="radio"/> Both <input checked="" type="radio"/> Active <input type="radio"/> Inactive	CY Member <input checked="" type="radio"/> Both <input type="radio"/> Yes <input type="radio"/> No	Special Ed Students <input checked="" type="radio"/> Include <input type="radio"/> Exclude <input type="radio"/> Only
---	---	--	---

CY Scheduling Status <input checked="" type="checkbox"/> Include All Status Values <input checked="" type="checkbox"/> Include 'Locked' <input checked="" type="checkbox"/> Include 'Open' <input checked="" type="checkbox"/> Include 'Waiting' <input checked="" type="checkbox"/> Include 'Approved'	NY Scheduling Status <input checked="" type="checkbox"/> Include All Status Values <input checked="" type="checkbox"/> Include 'Locked' <input checked="" type="checkbox"/> Include 'Open' <input checked="" type="checkbox"/> Include 'Waiting' <input checked="" type="checkbox"/> Include 'Approved'
---	---

Change Options

CY Scheduling Status <input checked="" type="checkbox"/> No Change New Value <input checked="" type="radio"/> Locked <input type="radio"/> Open <input type="radio"/> Waiting <input type="radio"/> Approved	NY Scheduling Status <input type="checkbox"/> No Change New Value <input type="radio"/> Locked <input checked="" type="radio"/> Open <input type="radio"/> Waiting <input type="radio"/> Approved
--	---

Figure 2 - Mass Assign Student Scheduling Status screen with status selections to change all NY active students' NY Scheduling Status to Open

AREA	PURPOSE OF AREA
Student Ranges	Determines the students that will be processed by the utility.
Options In This Area	Description of Options
Name Key	Students that will be selected for processing in the utility by Name Key.
Grade/Grad Yr	Students to be processed by Grade Level/Graduation Year.
Advisor Key	Students to be processed by the Advisor assigned to them (Student Management/Students/ST/PR/Entity/Entity Info).
NY Scheduling Team	Students to be processed based on the NY Scheduling Team assigned to them (Student Management/Students/ST/PR/Entity/ Entity Info).
CY Status	Determines whether students will be processed according to their Current Year Status (Student Management/Students/ST/PR/ Entity/Entity Info).
NY Status	Determines whether students will be processed according to their Next Year Status (Student Management/Students/ST/PR/Entity/ Entity Info).
CY Member	Determines whether students will be processed according to their Current Year Member status (Student Management/Students/ST/ PR/ Entity/Entity Info).
Special Ed Students	Determines whether Special Education Students will be included in the students to be processed, according to their Special Education Student flag (Student Services\SE\PR\Evaluation Info tab).
CY Scheduling Status	Determines which students will be included for processing according to their Current Year Scheduling Status flag. You must clear the Include All Status Values check box in order to select or clear other status boxes.

Options In This Area	Description of Options
NY Scheduling Status	<p>Determines which students will be included for processing according to their Next Year Scheduling Status flag. You must clear the Include All Status Values check box in order to select or clear other status boxes.</p> <p>Typically when you are using this utility to change all students' statuses to Open for the first time, you can leave the Include All Status Values box selected.</p>
AREA	PURPOSE OF AREA
Change Options	<p>This area of the screen determines what changes will be made to the student's Scheduling Status, for those students who were selected in the Student Ranges area.</p>
Options In This Area	Description of Options
CY Scheduling Status	<p>Determines the value of the Current Year Scheduling Status field for the students selected in the Student Ranges area. If there shouldn't be a change to this value, select No Change.</p>
NY Scheduling Status	<p>Determines the value of the Next Year Scheduling Status field for the students selected in the Student Ranges area.</p> <p>If you are changing all students to Open status so they can create their schedule in Family Access using Online Arena Scheduling, clear the No Change check box and select Open as the New Value.</p>

Table 4 - Options on the Mass Assign Student Scheduling Status screen

Defining Scheduling Time Periods

Scheduling Time Periods must be created so that guardians and/or students can access Online Arena Scheduling. They define specific time periods when groups of students are allowed access to update their schedules. The groups of students are defined by Grade Level and there can be multiple groups per grade level, defined by Student Key. Each group has an assigned Date range and Time range which defines their access for Online Arena Scheduling and determines whether a schedule can be created. Each group also requires definition of when the students will no longer be able to schedule classes, which is defined by seat counts.

To define Scheduling Time Periods:

1. Go to Student Management\Office\FS\RP Setup\CF\OS.
2. Click Add.
3. Configure the Online Arena Scheduling Time Period Setup screen (Figure 3). Table 5 describes the options on this screen.
4. Click Save.

In Figure 3, next year's 12th Grade Students can schedule during a five-day range beginning 5/6/2016 at 7:00 a.m. and ending 5/15/2016 at 4:00 p.m. Scheduling into classes for 12th grade students is limited to the Optimum Seat Count on each Section.

Online Arena Scheduling Time Period Setup

Entity: 401 WSIPC High School

School Year: 2016-17 Grad Yr/Grade: 2017 12

Year: Entire School Year Terms: 01 - 04

Year starts on: 08/30/2016

Start Stop

Student Key: ZZZZZZZZZZ

Date: 05/06/2016 Friday 05/11/2016 Wednesday

Time: 07:00 AM 04:00 PM

* Class Request Maximum: Optimum

Asterisk (*) denotes a required field

Figure 3 - Online Arena Scheduling Time Period Setup screen

Option	Description
Grade/Grad Yr	Specifies the Grade Level/Grad Year for the students being granted access to Online Arena Scheduling. Another group with the same Grade Level/Grad Year can only be created if the Student Key range is different.
Student Key	Students who will be granted access according to their Student Key.
Date	<p>Identifies both the Start and Stop date as the range of dates during which guardians and/or students will have access to Online Arena Scheduling to create student's schedules.</p> <p>When no other group exists, the default values are today's date. When other groups exist, the dates default to the dates used in the group with the highest grade level. In either case, change the default dates to the correct dates.</p>
Time	Identifies both the Start Time and Stop Time as the range of times (in accordance with the Date ranges) during which the guardians and students can access Online Arena Scheduling to create schedules. The start and stop times are not specific to each date. The Start Time is specific to the Start Date only, and the Stop Time is specific to the Stop Day only. The default times are 12:00 AM and remain at that time unless changed.
Class Request Maximum	Defines the Section seat count limit after which students will no longer be able to schedule classes. For example, if the group Grade Level is 10 and the Class Request Maximum is Optimum, if a 10 th grade student attempts to schedule a Section of Art that has an Optimum Count of 20 and that count has been reached, the student can't schedule that class. However, if a 12 th grade student attempts to schedule the same Section and the 12 th Grade Level group's Class Request Maximum is Maximum, and the Section's Maximum count is 25 and only 23 students are scheduled, the 12 th grader can schedule the class.

Table 5 - Online Arena Scheduling Time Period Setup screen options

Step 3: Use Reports to Analyze Student Schedules

Now that students are scheduled, you'll run reports to analyze the results of the schedules that were created. Some reports are more appropriate if the schedules were created using the Auto Scheduler, and not as useful if guardians/students created their own schedules through Online Arena Scheduling. There are other reports that are useful regardless of which method you used to create the schedules.

Reports that are useful once student schedules have been created are divided into the following two areas:

- **Scheduling Run Details and Reports:** These reports are run after a scheduling run using the Auto Scheduler is complete.
- **Student Schedule Generation Reports:** These reports focus on information about individual student schedules and help you analyze any student schedule whether it was created using the Auto Scheduler or Online Arena Scheduling.

This section discusses all reports in the two areas above.

View Schedule Run Details and Reports

When the Auto Scheduler generates a scheduling run, details and reports based on the outcome of the scheduling run are generated. You use these details and reports to find out which students and Courses have conflicts.

The following reports are available from a schedule generation run in the Auto Scheduler:

- Student Conflict Detail Report (page 29)
- Course Conflict Report (page 33)
- Conflict Totals Report (page 37)

In addition to these reports, the following general details about the scheduling run are available:

- Details on the options selected when the scheduling run was generated
- Totals information displayed in report format after the scheduling run was generated
- A Free Period Matrix (if the option was selected when the run was generated)

To view schedule run details and reports:

1. Go to Student Management\Office\FS\SS\AS\RA.
2. Click the arrow next to the Actual Run Type that you generated.
3. Click the arrow next to Run Details. The details of the scheduling run appear, including most of the selections you made when generating the scheduling run.

Note The one exception is Highest Period. This was *not* a selection you made when generating the scheduling run. Instead, this field shows the highest period number that the software finds in the classes that were scheduled by that scheduling run. For example, if the Highest Period value is six the software scheduled students into 1st through 6th periods. If you have a six-period school and a scheduling run indicates a Highest Period of four, it means students were not scheduled into 5th and 6th periods. You need to adjust the master schedule for classes placed in those two periods.

4. Links for each of the three available scheduling reports appear if applicable options were selected when generating the scheduling run. Next to the Run Details heading, click Student Conflict Detail Report, Course Conflict Report or Conflict Totals Report to view a report.

Note The Student Conflict Detail Report link will not appear if Create Student Conflict Detail was not selected when you generated the scheduling run.

- Click the arrow next to Totals. The data that appears is the same data that was available in report format to view after the scheduling run was generated. It is also the same data that is available when the Conflict Totals Report is generated and the Detail Sequence Totals Only option is selected. To learn more about the information in this report, see ["Running and Interpreting the Results of the Conflict Totals Report"](#) (page 37).
- Click the arrow next to Free Period Matrix.

Note If the message, "The Free Period Matrix was not built during this Scheduling Run" appears instead of the matrix, the Build Free Period Matrix option was not selected when the scheduling run was generated. The data that appears is the same data available when the Conflict Totals Report is generated and the Detail Sequence option Free Periods By Grade Only or Free Periods By Grade & Totals is selected. To learn more about the information in this report, see ["Running and Interpreting the Results of the Conflict Totals Report"](#) (page 37).

Figure 4 shows the Student Scheduling Run Analysis screen with all of the options expanded. The Run Details area provides information about the options you selected when generating the Actual Run. The hyperlinks in this area provide access to the Student Conflict Detail Report, Course Conflict Report and Conflict Totals Report.

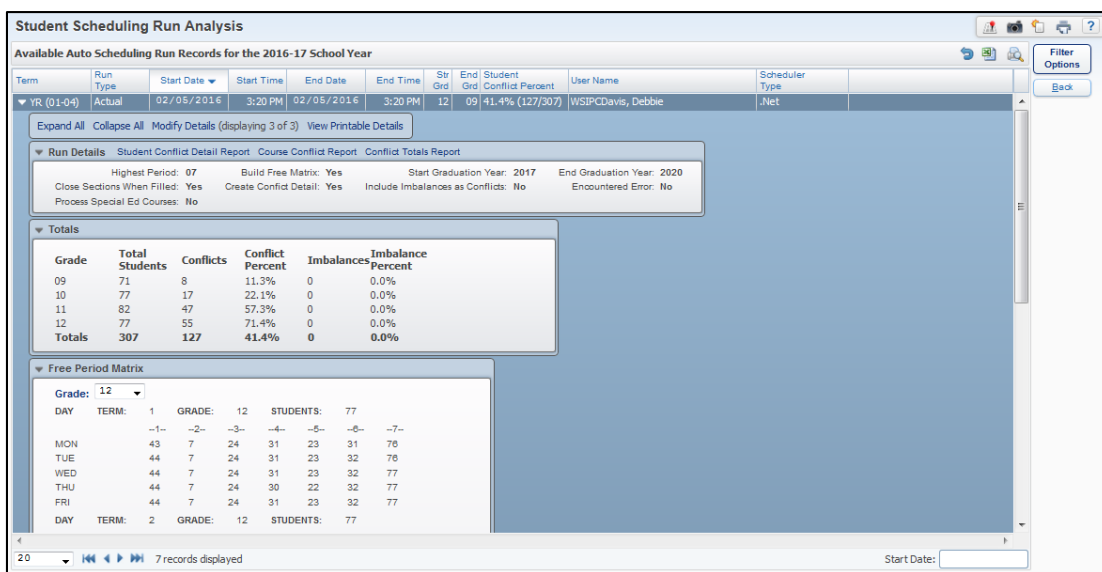


Figure 4 - Student Scheduling Run Analysis screen for Actual Scheduling Run with all options expanded

Running and Interpreting the Results of the Student Conflict Detail Report

This report lists each student who has a scheduling conflict. It offers information explaining why a student was or was not scheduled. This information is in the form of codes to designate each Course's status. The codes are described in Table 6, Table 7, and Table 8.

To run the Student Conflict Detail Report:

1. Go to Student Management\Office\FS\SS\AS\RA.
2. Click the arrow next to the Actual Run Type that you generated.
3. Click the Student Conflict Detail Report link next to Run Details.

Note	The Student Conflict Detail Report link does not appear if Create Student Conflict Detail was not selected when you generated the scheduling run.
-------------	---

4. Select a Student Key range.
5. Select a Grade/Grad Yr range.
6. Select a Report Format.
7. Select Printer Orientation of Portrait or Landscape. Details below the option state how many periods will print across the page based on the Report Format and Printer Orientation selected.
8. Select any of the following remaining options:
 - **Print One Conflict per Page:** Inserts a page break between students.
 - **Double-Space the Report:** Inserts a carriage return between Courses.
 - **Sort Course by Subject:** Lists Courses for a student by subject.
 - **Print Imbalances:** Lists any imbalances if the option **Include Imbalances As Conflicts** was selected when the scheduling run was generated.

Step 3: Use Reports to Analyze Student Schedules

- Print Supplemental Auto Scheduling Arbitrary Scheduling Techniques: Lists supplemental codes (P, p, O, o, Q and q) to detail how the student was scheduled into a Course. If this option is not selected, the technique is printed as A (Arbitrary).

9. Click Run. The report appears (Figure 5). Refer to Table 6, Table 7, and Table 8 for information about the detail provided on the report and how to interpret the results.

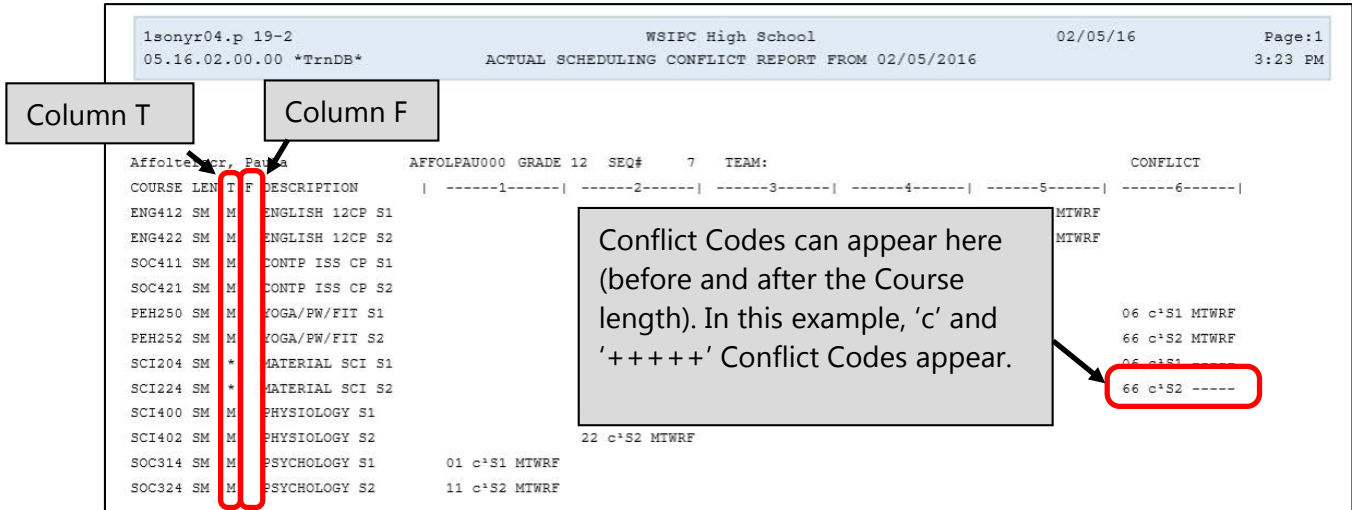


Figure 5 - Student Conflict Detail Report based on the Actual Scheduling Run with the Section/Terms Days Report format selected

To interpret the results of the Student Conflict Detail Report:

1. Locate Column T (see Figure 5 above). The codes that appear in Column T specify the Technique used to schedule the Course. See Table 6 for the specific values that appear in this column.
2. Locate Column F (see Figure 5 above). The codes that appear in Column F denote special Scheduling Types for the Course. See Table 7 for the specific values that appear in this column.
3. Locate any Conflict Codes (see Figure 5 above). Conflict Codes print for any Course which the software is not able to schedule. For Courses with no conflicts, the days of the week or day rotation numbers that the class is scheduled on appear beneath the Period Assigned column. See Table 8 for the specific values that appear in this column.

Symbol in Column T	Description
(*)	Course could not be scheduled. If other possible Sections are shown, those Sections conflict with other scheduled Sections. If other possible Sections are not shown, this Course could not be scheduled for any reason other than a conflict with another assigned Course. Other codes will be printed for that information.
M	Course was manually placed into the student's schedule by the user. The Course was not scheduled by the software.
I	Course was scheduled as an Imperative because it is a single-Section Course or a derived singleton.
i	Course was scheduled as an Imperative after another Course was arbitrarily scheduled, forcing this Course to have only one possible Section.
A, O, P, Q, o, p, q	The scheduling program made an arbitrary decision in its attempt to build a schedule. It first attempts to balance the number of students between Sections at the point the student is being scheduled.

Table 6 - Codes used in Column T of the Student Detail Report

Symbol in Column F	Description
M	Course has a Schedule Type of Manually Scheduled.
D	Course has a Schedule Type of Dropped Course.
G	Course is part of a Lock Group. While a Course may appear to be able to be scheduled, if other Courses in the Lock group cannot be scheduled into a different term, the Course is "conflicted out." You may then look into the other Courses in the Lock Group to determine how they were scheduled or why they had conflicts.

Table 7 - Codes used in Column F in the Student Detail Report

Conflict Codes	Description
-----	Another Period for which the Course has a Section offered. These dashes print for all of the Courses, whether they have conflicts or not. If the Section does not meet every day, dashes appear only for days when the Course meets. Blank spaces appear for days when the Course does not meet.
+++++	Student has been blocked from being scheduled into a Section for a variety of reasons, including Section filled, prerequisite, co-requisite or group block. A single letter appears to the left of the Course Length value to indicate the specific reason the student has been blocked.
f	Section is full. If the day pattern also prints, the student is scheduled into the Section. If plus symbols appear (+), the student was not scheduled into the Section because it was full.
c	Course has a co-requisite (c) and the class is not available to be scheduled based on the co-requisite rules. If a student is blocked (+++++) from being scheduled, it is because its co-requisite could not be scheduled.
c1	Course has a co-requisite (c) and the class is available to be scheduled (1) based on the rules of the co-requisite.
p	Course has a prerequisite (p) requirement and the class is not available to be scheduled based on the prerequisite rules. This could mean that the classes can't be taken concurrently, or it is possible that the prerequisite class has been scheduled in the last term of the year so there is no term available to schedule the subsequent/dependent class.
p1	Course has a prerequisite (p) and the class is available to be scheduled (1) based on the rules of the prerequisite.
b	Course has both (b) a co-requisite and a prerequisite requirement and is not available to be scheduled based on the rules of the co-requisite and prerequisite requirement.
b1	Course has both (b) a co-requisite and a prerequisite requirement and the class is available to be scheduled (1) based on the rules of the co-requisite and prerequisite requirement.

Conflict Codes	Description
g	Course is part of a Lock Group that should be scheduled in opposite terms.

Table 8 - Conflict Codes used in the Student Conflict Detail Report

When evaluating this report for conflicts, review student schedules on the report for conflicts that exist for individual students.

Look for Conflict Codes in Column T of the report and then determine the specific reason (based on the Conflict Codes) a student did not get scheduled into that Course.

Running and Interpreting the Results of the Course Conflict Report

This report summarizes the information about how students were scheduled into Sections of Courses. It offers totals based on each Course and Section (if desired), and indicates for each Course how many students requested the Course, how many received the Course, and how many students did not receive the Course due to schedule conflicts.

To run the Course Conflict Report:

1. Go to Student Management\Office\FS\SS\AS\RA.
2. Click the arrow next to the Actual Run Type that you generated.
3. Click the Course Conflict Report link next to Run Details.
4. Select the Detail Sequence of Course Only or Course & Class.

Note Selecting **Course Only** displays information regarding the Course. This information includes the total number of requests, how many students were scheduled, and the number of conflicts that occurred.

Selecting **Course & Class** displays additional information regarding the Sections. The information includes Meeting Pattern detail and Optimum, Maximum and Assigned seat counts.

Step 3: Use Reports to Analyze Student Schedules

- If you want Courses that are still placed in Period Zero (as entered in the Display Period box) included on the report, select the Print Courses/Classes Scheduled Period Zero check box.
- Click Run. The report appears (Figure 6).

1sonyr03.p 19-2		WSIPC High School		02/05/16		Page:1													
05.16.02.00.00 *TrnDB*		Actual Course Conflict Run (Course & Class) Report From 02/05/2016				3:32 PM													
COURSE DESCRIPTION		SCD TOT		COR		CONFLICT'S OPEN PERIODS													
SEC	TEACHER	TRM	PD	DAYS	OPT	MAX	ASG	TYE	REQ	SCD	CONF	LGT	--1-	--2-	--3-	--4-	--5-	--6-	--7-
ART110	ART I SEM 1							N	41	40	1	SM					1	1	1
01	EKnerrscr	S1	01	MTWRF	34	40	10												
02	EKnerrscr	S1	02	MTWRF	34	40	15												
06	EKnerrscr	S1	06	MTWRF	34	40	15												
ART120	ART I SEM 2							N	41	40	1	SM					1	1	1
11	EKnerrscr	S2	01	MTWRF	34	40	10												
22	EKnerrscr	S2	02	MTWRF	34	40	15												
66	EKnerrscr	S2	06	MTWRF	34	40	15												
ART230	ADVANCED ART S1							N	19	18	1	SM					1	1	1
01	EKnerrscr	S1	01	MTWRF	34	40	10												
02	EKnerrscr	S1	02	MTWRF	34	40	2												
06	EKnerrscr	S1	06	MTWRF	34	40	6												
ART240	ADVANCED ART S2							N	18	17	1	SM					1	1	1
11	EKnerrscr	S2	01	MTWRF	34	40	9												
22	EKnerrscr	S2	02	MTWRF	34	40	2												
66	EKnerrscr	S2	06	MTWRF	34	40	6												

Figure 6 - Course Conflict Report with Course & Class Detail Sequence option selected

To interpret the results of the Course Conflict Report:

- Locate the upper row of column headings on the Course Conflict Report that you generated. The column descriptions in Table 9 describe the Course information and help you interpret the results of the report.
- Locate the lower row of column headings on the Course Conflict Report that you generated (if you selected the Detail Sequence of Course & Class). The column descriptions in Table 10 describe the Section information for each Course and help you interpret the results of the report.

Course Column Headings	Description
COURSE	The Course Key of the Course from the Course Master.
DESCRIPTION	Short Description of the Course from the Course Master.
SCD TYP	Schedule Type attached to the Course. Schedule Types include N (normal), M (manually scheduled), S (special education) and D (dropped Course).
TOT REQ	The total number of requests for the Course. This count is the total from all grade levels, even if the schedule generation was run for only one or a few Grad Years or Grade Levels. It also includes inactive students with requests and manually scheduled students.
SCD	Total number of students who were scheduled during the schedule generation run. This count includes only students with the Grad Years or Grade Levels selected during the schedule generation run.
CONF	Number of students who could not be scheduled during the schedule generation run. The count includes students within the Grade Levels or Grad Years selected during the schedule generation run.
COR LGT	Course Length of the Course from the Course Master.
CONFLICTS OPEN PERIODS	<p>Columns identify, by period, the number of students who would have been able to take the Course had it been offered in a different period (the period under which the value appears).</p> <p>In the case of Semester length Courses, the count includes students who are free that period for either semester.</p>

Table 9 - Course column headings for the Course Conflict Report

Section Column Headings	Description
SEC	Course Section number.
TEACHER	Teacher assigned to the Section.
TRM	Term in which the Section will be taught.
PD	Period in which the Section will be taught.
DAYS	Days of the week in which the Section will be taught.
OPT	Optimum number of students to be assigned to the Section.
MAX	Maximum number of students to be assigned to the Section.
ASG	Number of students assigned to the Section during schedule generation.
OPTIMUM EXCEEDED	This message prints for the Section when the optimum number of students for the Section is exceeded. Students are still scheduled even if the optimum is exceeded.
MAXIMUM EXCEEDED	This message prints for the Section when the maximum number of students for the Section is exceeded. If the Close Sections when Filled option is set to No, this message is informational and students are scheduled into the Section. If the Close sections when Filled option is set to Yes, the student will not be scheduled into the Section since there are no longer seats available in that Section.

Table 10 - Section column headings for the Course Conflict Report

Use this report to see how Sections are balanced by reviewing the ASG (assigned) values for each Section of a Course. In addition, use this report to see how many students could not be assigned to a Section by comparing the SCD (scheduled) and CONF (conflict) values for each Course. Use this report in conjunction with the Student Conflict Detail Report to determine which students are in conflict.

Running and Interpreting the Results of the Conflict Totals Report

This report prints summary information regarding the schedule generation run. The report shows you how many students were scheduled into each period, the total percent of conflicts based on grade level and the total number of students scheduled per period based on grade level.

To run the Conflict Totals Report:

1. Go to Student Management\Office\FS\SS\AS\RA.
2. Click the arrow next to the Actual Run Type that you generated.
3. Click the Conflict Totals Report link next to Run Details.
4. Select the Detail Sequence of Free Periods By Grade & Totals, Totals Only or Free Periods By Grade Only.

Note When the options Free Period By Grade & Totals and Free Periods By Grade Only are not available, this indicates that when the Scheduling Run was processed the option Build Free Period Matrix was not selected.

5. Click Run. The report appears.

Figure 7 shows a Conflict Totals Report with Free Periods By Grade & Totals selected as the Detail Sequence option. In this example, the Free Periods By Grade portion of the report is shown, for Grade 12 only, for Term 1 only. Each additional Term is represented in the report, followed by each other Grade Level/Term.

Step 3: Use Reports to Analyze Student Schedules

1sonyr02.p 05-2		WSIPC High School		02/05/16		Page:1		
05.16.02.00.00 *TrnDBAuto Scheduling Run - Free Periods By Grade & Totals Report From 02/05/2016						3:34 PM		
DAY	TERM: 1	GRADE: 12		STUDENTS: 77				
		--1--	--2--	--3--	--4--	--5--	--6--	--7--
MON		43	7	24	31	23	31	76
TUE		44	7	24	31	23	32	76
WED		44	7	24	31	23	32	77
THU		44	7	24	30	22	32	77
FRI		44	7	24	31	23	32	77

Figure 7 - Conflict Totals Report with Free Periods By Grade & Totals selected as the Detail Sequence option

Figure 8 shows a Conflict Totals Report with Detail Sequence of Free Periods By Grade & Totals selected with totals shown. In this example, the Totals portion of the report is shown, which is at the end of the report.

1sonyr02.p 05-2		WSIPC High School		02/05/16		Page:5	
05.16.02.00.00 *TrnDBAuto Scheduling Run - Free Periods By Grade & Totals Report From 02/05/2016						3:34 PM	
AUTO SCHEDULING RUN TOTALS BY GRADE							
	GRADE		STUDENTS		CONFLICT		PERCENT
	09		71		8		11.3%
	10		77		17		22.1%
	11		82		47		57.3%
	12		77		55		71.4%
	Total		307		127		41.4%
***** End of report *****							

Figure 8 - Conflict Totals Report with Free Periods By Grade & Totals with the Totals portion shown

Note Conflicts represents the number of students with at least one conflict in their schedule, not total conflicts for all students.

The following information will help you interpret the Conflict Totals Report.

- The information in this report provides you with an impression concerning the general success of the scheduling run.
- The Free Periods by Grade Detail Sequence option shows in a matrix by period, day of the week and term, the number of students who were not scheduled or would not be scheduled, for each period, in the period column listed. A matrix is available for each grade level that was processed during the schedule generation.
- The Totals Detail Sequence option shows each Grade Level that was processed, the number of students, the conflicts, percent of conflicts, imbalances (if selected when generating the scheduling run) and the imbalances percent (if applicable).
- The higher the percent of conflicts, the more work you must do to individual student schedules. In some cases, a conflict rate of 10% is acceptable, even excellent. In others, a 5% conflict rate may be the goal. For example, if the percent of conflicts is 15% but the Course Conflict Report shows most Courses have one or two conflicts, you must resolve the conflicts individually.

View Student Schedule Generation Reports

The Student Schedule Generation Reports area (Student Management\Office\FI\SS\RE) contains reports that focus on individual student schedules and identify conflicts in a student's schedule. Each report is described below.

Student Conflict Report

The Student Conflict Report lists all students within the selected ranges who currently have a scheduling conflict. To assist with the re-scheduling of the conflicts, you can choose to print paired Alternate Courses that have been entered as requests.

You can sort the report by student or by Course. If you sort by student, the report generates a list by student and all Courses in conflict, along with any student or Course-Paired Alternate Course requests if that option is also selected. If you sort by Course, the report generates a list by Course and then all students with conflicts in the Course.

Note To get a list of students with conflicts that have Unpaired Alternate Requests, create a Processing List from the Student Conflict Report, including all students, and use it to print a list from the Student Alternate Request Report (Student Management\Office\FS\RP\RE\AR) with the Print Unpaired Alternate Requests option selected. To learn more about using Processing Lists, see the *WSIPC Guide to Processing Lists*.

You can display one of two types of conflicts on this report using one of the two following options:

- **Auto Scheduled Conflicts:** This option includes Courses that cannot be scheduled for a student because it causes conflicts with other Courses that were scheduled by the Auto Scheduler (but not Courses that were manually scheduled or scheduled through Online Arena Scheduling). This report shows the conflicts (requests that could not be scheduled) that are also shown on the Student Conflict Detail Report.
- **Actual Conflicts:** This option includes Courses that have already been scheduled (regardless of the scheduling method) and are conflicting. This includes students being double-scheduled (placed into two different Courses during the same period). This can happen when a student is manually scheduled into a Course after an Auto Scheduling run is performed.

Free Period Report

The Free Period Report generates a list of students who are not scheduled into a Section for a specific period of a term. You can use this report as a guide for assigning students to study halls or other Course/Sections to give them a complete schedule.

Student Credit Count Report

The Student Credit Count Report generates a list of all the students who meet the Credit Range Options criterion. You can use this report to find those students with too few or too many scheduled or requested Course credits.

Student Course Recommendation Report

The Student Course Recommendation Report generates a list of students who have been given a Course recommendation. You can use this report to identify students who need to have their Course recommendations approved. This report is not available unless you select the Use Course Recommendations option (Student Management\Office\FS Setup\CF\Scheduling Entity Year Setup\Entity Year Options).

Student Schedule Credit Report

The Student Schedule Credit Report generates a list of students who fall within a certain range of Course credits. You can use this report to check students' schedules to ensure they have the proper number of credits (GPA or Earned) for the year. The report displays information by total credits per semester.

Schedule Changes Report

The Schedule Changes Report generates a list of students who have a drop, add, or scheduling transaction adjustment on or during the date range you indicate on the report template. It contains a signature line for each transaction, so students might use this report to obtain a teacher's signature in a class they are dropping or adding to their schedule. This would be turned in to the registrar to verify that teachers have been notified of a change to their class roster.

Scheduled Request Percentage Report

The Scheduled Request Percentage Report allows you to report on the percent of students who were fully scheduled, the percent of students with one unscheduled request, the percent of students with two or more unscheduled requests, and the percent of students with no requests. This report produces results only after the Auto Scheduler has been run for an Actual Schedule Run. You can re-run the report after schedule changes have been made to obtain updated percentages.

Course Requirement Verification Report

The Course Requirement Verification Report verifies that students scheduled into Courses with Requirements meet the Requirement Rules of the Course. Course Requirement Rules are entered at Student Managements\Office\BC Setup\CO\CR. Students who appear on this report do not meet the Course Requirement Rules. To learn about configuring Course Requirement Rules, see "Step 7: Maintain the Course Master" in the *WSIPC Guide to Future Scheduling: Part One - Preparing to Schedule*.

Students with Partial Schedules Report

The Students with Partial Schedules Report provides a list of students who are missing classes in the specified Scheduling Periods. With this report, you can list student names only, list the students with details of the missing periods and terms, or list the students with their full schedules.

Students Missing Specific Course/Subjects Report

The Students Missing Specific Course/Subject Report shows all students who are not scheduled into specified Courses or Subjects. You can use this report to find students who have not requested or been scheduled into a specific subject or Course. For example, this report is helpful in finding any 9th grade student who has not requested or scheduled into a Math Course for the upcoming school year. If multiple Courses or subjects are selected, the software determines whether the student has requested or is scheduled into at least one of the selected Courses or subjects. If students meet the criteria, they are not listed on the report. For example, Algebra I, Algebra II, Honors Algebra and Geometry are selected as Courses. Student Alex Smith has requested Algebra II for the upcoming school year. He will not be listed on the report because he has requested at least one of the selected Courses. Other students who do not have a request, or have not been scheduled into one of the selected Courses, are listed on the report.

Make Adjustments to Student Schedules

Once you run, review, and interpret reports, you should make changes to student schedules to resolve any conflicts. If the Auto Scheduler was run, you can use the information you have gathered to determine whether the scheduling run was successful. At this point in the process, remaining conflicts are typically resolved manually by making changes to individual student schedules, not by re-running the Auto Scheduler. However, if you have layered your scheduling runs (processing certain Courses while “ignoring” others), you may want to unschedule students and begin again with a different approach until the conflicts are more acceptable. If Alternate Requests were entered for students, consider resolving conflicts by scheduling the Alternate Requests. You can do this manually or use the Auto Scheduler. To learn more about scheduling alternate requests, see [“Step 4: Schedule Student Alternate Requests”](#) (page 43).

Step 4: Schedule Student Alternate Requests

If Alternate Requests were entered, you can use them to resolve conflicts and fill empty periods in a student's schedule. Use the following methods to process Alternate Requests:

- Review Student Alternate Request Report and schedule Alternate Requests manually
- Schedule Alternate Requests using the Auto Scheduler

The first method uses the Student Alternate Request Report to provide a list of the Alternate Requests that were entered for students who have conflicts in their schedules. You can give this list to staff who will work with students to resolve the conflicts and fill the empty periods of their schedule. To learn more about using this process, see "Step 2: Enter Requests, Process Alternate Requests" in the *WSIPC Guide to Future Scheduling: Part Two - Managing Student Requests*.

The second method listed, Schedule Alternate Requests, is discussed below. This process utilizes the Auto Scheduler but schedules the requests separately from regular requests. An Actual Scheduling Run must be completed prior to running this process.

In general, when processing the Auto Scheduler for Alternate Requests, the logic only locks manually scheduled classes and prevents them from being changed in a student's schedule. This potentially allows any other Courses to be changed to a different Section, or to be left unscheduled. However, there are processing options within the Auto Scheduler for alternate requests that can prevent this from occurring.

When you use the Auto Scheduler to schedule an alternate request, both the regular and alternate requests are set back to their original Request Types (regular or alternate) if there is a conflict after the Auto Scheduler attempts the scheduling process.

The Auto Scheduler allows alternate requests to be processed in one of three ways:

- **Student Paired alternates:** This method processes alternate requests that have been paired at the student level. It swaps existing classes for a paired alternate Course *regardless of whether the existing class was scheduled or was a conflict*, trying to get a conflict-free schedule. This method is typically considered time-consuming and is not usually used to schedule alternates.
- **Course Paired alternates:** This method processes all student alternates. It swaps requests that couldn't be scheduled for an alternate Course if the conflicting Course has the student's alternate in its Course alternate list, trying to get a conflict-free schedule.
- **Unpaired alternates:** This method processes all student alternates. It swaps a scheduled elective Course for an alternate Course to get a conflict-free schedule. There is an option in this process that does not allow scheduled elective Courses to be changed in the student's schedule.

Before running the Auto Scheduler for alternate requests, the requests must be entered for a student or Course. The requests must be paired if you are going to run the scheduler for Student Paired alternates. The alternate requests should be prioritized according to the student's preference. To learn more about entering, pairing, and prioritizing alternate Course requests, see "Step 2: Enter Requests, Process Alternate Requests" in the *WSIPC Guide to Future Scheduling: Part Two - Managing Student Requests*. To learn more about creating Course alternate requests, see "Step 7: Maintain the Course Master, Pair Alternate Courses" in the *WSIPC Guide to Future Scheduling: Part One - Preparing to Schedule*.

Before running the Auto Scheduler for alternate requests, consider how options are configured for Courses if alternates are scheduled as Unpaired. Only elective Courses can be replaced with alternate Course requests. Therefore, Courses must have the correct Elective/Required selection in the Course Master. The Auto Scheduler determines which elective Courses to process. If you are not only processing those electives that have conflicts, the logic processes Courses first by Scheduling Priority and then by Course Key. Therefore, it is important to understand the Scheduling Priority assigned to each Elective Course in the Course Master.

To schedule Student Alternate Requests:

1. Go to Student Management\Office\FS\SS\AS\SA.
2. Click Add.
3. Configure the Schedule Alternate Requests Maintenance screen (Figure 9).
Table 11 describes the options on this screen.
4. Click Save and Run.

A report is generated that shows the number of students processed and the number of students who had alternate requests scheduled for each graduation year that was processed.

Schedule Alternate Requests Maintenance

Template Settings

* Template Description:

Share with other users in entity 401

Alternate Schedule Generation Options

Scheduler Type

.Net Scheduler Progress Scheduler COBOL Scheduler

Year To Schedule Alternates For: 2016-17

Terms: Entire Year Terms: 01 - 04

* Grade/Grad Yr: 12 2017 09 2020

Close Sections When Filled

Unschedule Manually Scheduled Sections

Alternate Options

Try Alternates 1 at a Time Try Alternates 2 at a Time

Alternates to be Processed

Student Paired Course Paired Unpaired ?

Unpaired Alternate Options

Only Swap Out Electives that have Conflicts

Asterisk (*) denotes a required field

Figure 9 - Schedule Alternate Requests Maintenance screen, which is used to schedule paired or unpaired Alternate Requests for students

Option	Description
Scheduler Type	<p>Programming language used to run the Auto Scheduler. Do not select the COBOL Scheduler option or the Auto Scheduler will not process. This is because WSIPC districts are upgraded to run on Progress 10.2b (64 bit servers) and COBOL will only run on a 32 bit server. To remove the COBOL Scheduler option from the screen, go to Student Management\Office\FS Setup\CF\SC and select Suppress Cobol Scheduler.</p> <p>The .Net version of the Auto Scheduler is intended to run faster than the Progress version. The Progress version will be removed in a future release.</p>
Grade/Grad Yr	<p>Ranges of students to be scheduled by Grade Level/Graduation Year.</p>
Close Sections When Filled	<p>Determines whether Sections of a Course will be closed when they are full. The auto-scheduler stops scheduling students into a Section once the maximum number of student's value for that Section is reached.</p>
Unschedule Manually Scheduled Sections	<p>Allows Sections that were manually scheduled to be unscheduled during the scheduling run and possibly changed to a different Section, and to be replaced with an alternate request. This option is not available when Course Paired is selected.</p>
Use Maximum Special Ed Enrollment Percentage	<p>If selected, the Scheduler will use the value entered in this box on the Section to determine how many of the students enrolled are allowed to be Special Ed.</p> <p>Appears if the Allow Limited Special Ed Enrollment in Sections check box in Scheduling Options is selected (Student Management\Office\FS Setup\CF\SE).</p>

Option	Description
Try Alternates 1 at a Time	<p>Based on the Scheduling Priority of the Course, the software uses the selected method (Student Paired, Course Paired, Unpaired) and swaps Courses for the student's alternate requests one at a time.</p> <p>The process tries to schedule the first alternate request. If there is still a conflict it reverts the schedule and tries the second alternate request. This process continues, processing all alternate requests if needed, until there is a conflict-free schedule. If an alternate request is scheduled that will give the student a perfect schedule, the process is stopped. If it cannot find an alternate that eliminates all conflicts in the schedule, it backs out of the schedule and will not save any changes. The schedule appears as it did before the alternate scheduler was run.</p> <p>Using one alternate at a time is beneficial because the student gets his or her original requested schedule with the exception of one alternate. However, swapping one Course out may not be able to resolve the conflicts in a student's schedule. At that point, trying two alternates at a time may be more useful.</p>

Option	Description
<p>Try Alternates 2 at a Time</p>	<p>Based on Scheduling Priority of the Course, the software uses the selected method (Student Paired, Course Paired, Unpaired) and swaps Courses for the student's alternate requests two at a time.</p> <p>The process attempts every combination of two alternate requests until there is a conflict free schedule. For example, if a student has four alternate requests listed, the software tries two requests at a time, based on the alternates priority:</p> <ul style="list-style-type: none"> ▪ 1st and 2nd alternates ▪ 1st and 3rd alternates ▪ 1st and 4th alternates ▪ 2nd and 3rd alternates ▪ 2nd and 4th alternates ▪ 3rd and 4th alternates <p>If, by scheduling two alternates, the schedule process results in no conflicts, the process saves the new schedule and moves on to the next student. If there is a conflict, the process undoes the changes and moves on to the next two alternates based on priority.</p>
<p>Student Paired</p>	<p>Processes alternate requests that have been paired at the student level. It swaps existing classes for a paired alternate Course regardless of whether the existing class was scheduled or was a conflict, trying to get a conflict free schedule.</p>
<p>Course Paired</p>	<p>Processes all student alternates. It swaps Courses with conflicts for an alternate Course if the conflicting Course has the student's alternate in its Course alternate list, trying to get a conflict-free schedule.</p>

Option	Description
Unpaired	<p>Processes alternate requests for students who have a conflict in their schedule, swapping elective Courses for alternate Course requests, attempting to get a conflict-free schedule. Alternate requests should be prioritized in the order the student would like them selected.</p> <p>The following logic is used to process students:</p> <ul style="list-style-type: none"> ▪ Each student with a conflict, in the range identified, is processed. ▪ Unpaired alternate requests (by order of the alternate) are processed, either 1 or 2 at a time (option on Ranges screen). ▪ Alternate requests are swapped for an Elective Course, scheduled or not, unless the Only Swap Out Electives that have Conflicts option is selected. Then, only an Elective Course with a conflict is swapped and scheduled. Elective Courses remain scheduled. ▪ Once the student schedule has no remaining conflicts, no additional alternate requests are processed.
Only Swap Out Electives that have Conflicts	<p>Determines which Elective Courses are replaced with an alternate request. If selected, only an Elective Course that is a conflict is swapped or replaced with an alternate Course request. If this option is not selected, any Elective Course can be replaced by an alternate Course request to attempt to resolve a conflict. This option is only available if Unpaired is selected as the Alternates to be Processed method.</p>

Table 11 - Schedule Alternate Requests Maintenance screen options

Continuing the Future Scheduling Process

This concludes Future Scheduling: Part Four - Scheduling Students. To continue the Future Scheduling process, see the *WSIPC Guide to Future Scheduling: Part Five - Concluding the Scheduling Process*.

Appendix A – Future Scheduling Checklist

This checklist helps you to track your progress throughout the scheduling process. Each step in the checklist is followed by one of the terms in the table below.

Term	Description
Required	Step <i>must</i> be performed to create a Schedule Master and to schedule students using an automated method.
Recommended	Step <i>should</i> be performed to achieve best results in the scheduling process.
Perform as Needed	Data in this area may or may not need to be adjusted from last year's settings or configuration. Change data that needs updating.
Optional	Processes are not required to create a Schedule Master or to schedule students using an automated method.

PART ONE: Preparing to Schedule

- Step 1:** Update Graduation Years and Grade Levels **(Required)**
- Step 2:** Maintain Scheduling Setup and Codes **(Required)**
 - Check the Status of Clone Utilities
 - Clone the Entity Year and Term Definitions
 - Clone the Calendar Information
 - Clone the Scheduling Master Files
 - Confirm the Accuracy of Course Length Sets and Class Control Sets
 - Validate the Entity's Grading Setup
 - Add Day Patterns to be used
 - Setup Scheduling Period Times
- Step 3:** Add Students to an Entity **(Required)**
 - Run the Mass Add Students to an Entity Utility
 - Review the Report of Students Added to Other Entities
 - Check the Error Report
 - Delete Student Enrollment Records from the Receiving Entity

- Step 4: Maintain Staff (*Perform as Needed*)**
 - Create Staff Records
 - Update and Maintain Staff Entity Record
 - Add Department to Staff Records
 - Create Do Not Schedule Time Entry Record(s)
- Step 5: Verify Scheduling Configuration (*Perform as Needed*)**
 - Review Scheduling Entity Year Setup
 - Maximum Semester, Term and Period Values
 - Entity Year Options
 - Scheduling Options
 - Term Definitions
 - Course Defaults
 - Select Scheduling Configuration Options
 - Choose Scheduling Lock Options
 - Lock Auto Scheduler
 - Lock Unschedule Utility
 - Lock Course Master Editing
- Step 6: Run Course Master Utilities (*Recommended*)**
 - Create a Course Master Backup
 - Run the Mass Change Course Master Fields Utility
 - Calculate Student Section Counts
 - Update Control Sets Possible
 - Restore to a Selected Course Master Backup
- Step 7: Maintain the Course Master (*Perform as Needed*)**
 - Clone Course Master Files from One Entity to Another
 - Add, Edit and Delete a Course, Section and Meet
 - Clone a Course in the Course Master
 - Build a Course Time Table
 - Pair Alternate Courses
 - Assign a Co-Requisite to a Course
 - Assign a Co-Requisite to a Section
 - Create Prerequisite Requirements for a Course
 - Generate the Validation Report
- Step 8: Create Scheduling Teams (*Optional*)**
 - Add Scheduling Team Codes
 - Update Course and Sections with Scheduling Team Assignments
 - Assign Students to a Team
 - Modify Individual Student Team Scheduling Assignments
 - Produce a Scheduling Team Roster

- Step 9: Create Scheduling Categories (*Optional*)**
 - Add Scheduling Category Codes
 - Update Course Sections with Scheduling Categories
 - Mass Add and/or Delete Student Scheduling Categories
 - Modify Individual Student Scheduling Categories

PART TWO: Managing Student Requests

- Step 1: Create an Availability List (*Optional*)**
 - Add a Course Wish Group
 - Create a Course Availability List
 - View/Print a Course Availability List
- Step 2: Enter Requests (*Required*)**
 - Add Student Course Requests
 - Process Alternate Requests
- Step 3: Enter Student Scheduling Constraints (*Optional*)**
- Step 4: Use Reports to Analyze Student Requests (*Recommended*)**
 - Student Request Report
 - Course Requests in Course Sequence Report
 - Students with Specific Combinations of Courses
 - Pre-Requisite Verification Report
 - Repeated Courses Report
 - Registration Confirmation Report
 - Student Alternate Request Report
 - Course Alternate Request Report
 - Course Catalog Report
 - Non-Occurrence Report

PART THREE: Building the Scheduling Master

- Step 1: Calculate the Number of Sections Needed (*Recommended*)**
 - Estimate the Number of Sections Needed
 - Compare the Estimated Number of Sections and Actual Number of Section Values
- Step 2: Create Sections (*Required*)**
 - Run the Auto-Generate Section and Class Meet Records Utility
- Step 3: Estimate the Number of Students in Each Section (*Recommended*)**
 - Run the Update Estimated Class Counts by Grade Utility
- Step 4: Prepare Meeting Patterns for Placement in the Schedule Master (*Recommended*)**
 - Run the Initialize Class Meet Details Utility

- Step 5:** Calculate Potential Conflicts in the Schedule Master **(Required)**
 - Create the Conflict Matrix
- Step 6:** Learn to Use the Interactive Scheduling Board and the Master Schedule Builder **(Recommended)**
 - Scheduling Using the Interactive Scheduling Board
 - How to Place Sections Using the Interactive Scheduling Board
 - Scheduling Using the Master Scheduling Builder
 - Scheduling Using both Methods Interchangeably
- Step 7:** Schedule Sections into the Schedule Master **(Required)**
 - Place Single-Section Courses in the Schedule Master
 - Run the Auto Scheduler in Imperative Mode or Pseudo Mode
 - Run Schedule Run Details and Reports
 - Make Adjustments to the Course Master
 - Place Multiple-Section Courses in the Schedule Master

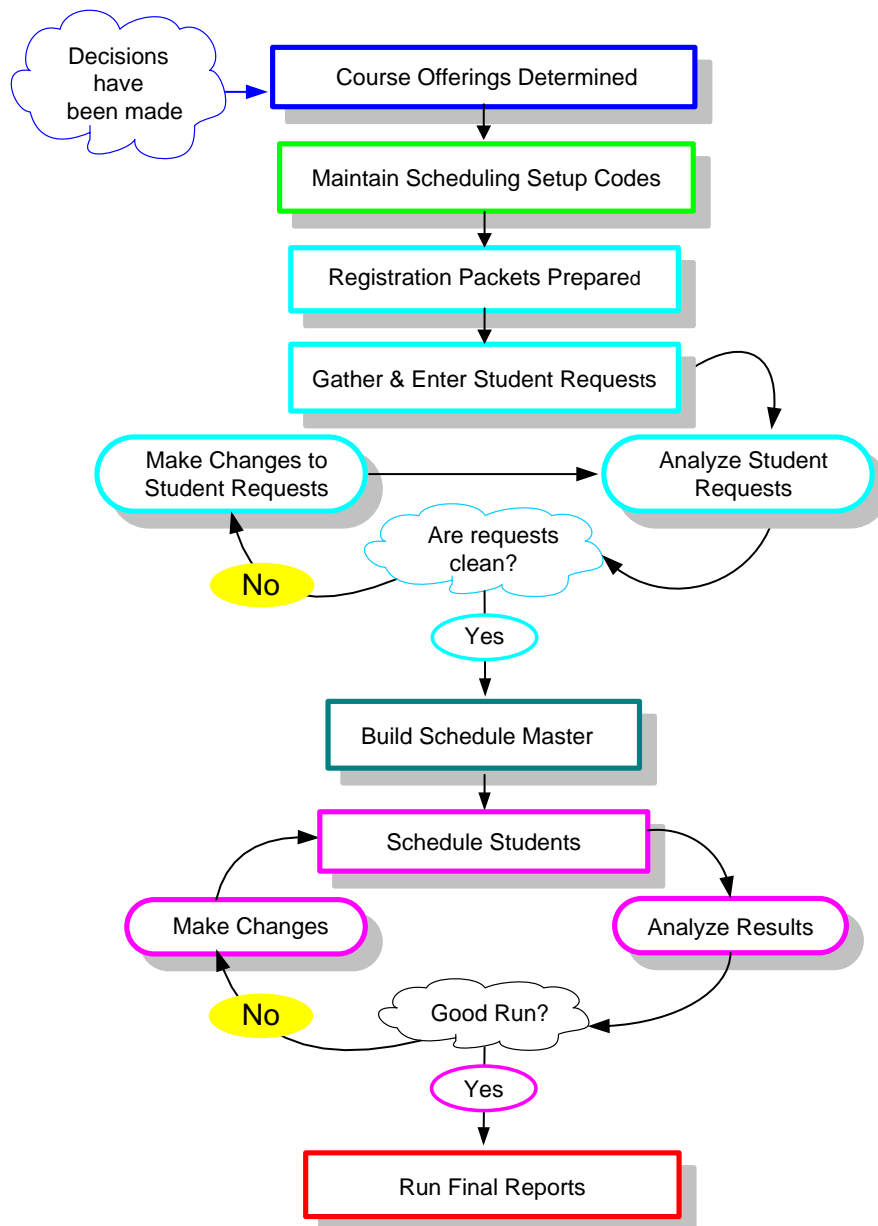
PART FOUR: Scheduling Students

- [Step 1: Manually Place Students in Sections](#) **(Optional)**
- [Step 2: Schedule Student Requests](#) **(Required)**
 - Run the Auto Scheduler in Actual Mode, or
 - Perform Online Arena Scheduling
 - Configure Family Access / Assign Passwords and Skyward's School Management System
 - Enable Entity Year Options
 - Select Course Master Options
 - Set Student Scheduling Status
 - Define Scheduling Time Periods
- [Step 3: Use Reports to Analyze Student Schedules](#) **(Recommended)**
 - View Schedule Run Details and Reports
 - Run and interpret the results of the Student Conflict Detail Report
 - Run and interpret the results of the Course Conflict Report
 - Run and interpret the results of the Conflict Totals Report
 - View Student Schedule Generation Reports
 - Make Adjustments to Student Schedules
- [Step 4: Schedule Student Alternate Requests](#) **(Optional)**

PART FIVE: Concluding the Scheduling Process

- Schedule an Individual Student **(Optional)**
 - By Course
 - By Period
 - By Subject
 - By Teacher
 - By Open Classes
 - By Class
- Use Scheduling Groups to Schedule a Student **(Optional)**
 - Create a Scheduling Group
 - Clone Scheduling Groups
 - Assign a Scheduling Group to a Student
- Delete Unscheduled Requests **(Optional)**
- Fill Gaps in a Student's Schedule **(Recommended)**
- Running Reports **(Recommended)**
 - Class Mailing Labels Report
 - Class Roster Report
 - Course/Class Count Report
 - Student Schedules
 - Schedule Cards Report
 - Teacher Schedules Report

Appendix B – Scheduling Process Diagram



Appendix C – Glossary of Scheduling Terms

Balance

Refers to the equality of the size of classes within a Course. That is, are all of the classes similar in size, or are there large discrepancies in the class sizes.

Conflict

A situation where several of the Courses that a student has requested are scheduled into the same period or periods. As a result some Courses are not scheduled and remain in the student's schedule as a request.

Constraint

Any condition which limits or restricts the scheduler in placing Course Sections in the Master Schedule.

Doubleton

A Course that has two Sections.

Imperative

A Course request with only 1 Section of a Course available.

Initializing

The process of resetting one or more fields in Meeting Pattern Records back to Schedule Master.

Lock-in

A Course Section that must be scheduled into a specific Period of the Master Schedule.

Multiple-Section Course

A Course that has more than two Sections.

Singleton

A Course that has only one Section.

Appendix D – Summary of Auto Scheduler Logic

Determination of Sequence of Students to Schedule

The highest level of student ordering is the student's Next Year graduation year or grade level. You can control the ordering of grade levels using the Grad Yr/Grade range on the Student Schedule Generation screen. Each grade is processed through both the Imperative and Non-Imperative passes (Loops) before the next grade level is started.

The order within each grade level is determined by whether or not the option to Balance by Student Attributes is selected and by the relative difficulty of the student's schedule. This is based upon the total number of Sections (Estimated Sections) for all of the student's requests and the number of requests. Student requests with fewer Sections and more requests are assumed to be more difficult to schedule. If the Balance by Student Attributes option is selected, then the students are ordered or sorted first by the attribute(s) and then by their difficulty.

Example:

The following example illustrates the Auto Scheduler logic for determining sequence of students to schedule:

- If the selected attributes are Race first and Gender second, the ordering within a grade level is as follows:
 - Minority females first, minority males second, non-minority females third and non-minority males last.

Note

The term "minority" above refers to the Minority selection on Race Codes (Student Management \Advanced Features\NA Setup\CO\RC). These Race Codes are referred to as the Local Race in Washington State and are not typically maintained in Washington State districts.

Auto Schedule Logic when Scheduling Individual Student

The Auto Scheduler process works in two separate loops after the student grouping is determined. In the first loop it schedules the student's Singletons based on imperatives and derived Imperatives (defined as follows) and then it schedules all remaining Arbitrary (multiple-Section Courses):

- True Imperatives: only 1 Section of a Course, or all Sections of a Course meet in the same Term/Period/Day
- Derived Imperative: only 1 Section of a Course is now available as any other Section cannot be scheduled due to another Course being scheduled in that Section's time period

The order in which the Auto Scheduler processes an individual student's *Singleton* requests (Loop 1) is as follows:

- Scheduling Priority: 9 (first) to 1 (last)
- Type (required Singletons first, then elective Singletons)
- Length (Year first, then Semester, then Term)
- Number of Available Sections; Least Available are processed first
- Internal Course ID

Note	To find the Internal Course ID, expand the Course Details of a Course in the Course Master (Student Management\Office \FS\BC\CM). Course ID appears in the upper right.
-------------	---

The order in which the Auto Scheduler processes the remaining individual student's arbitrary requests (Loop 2) is as follows:

- Scheduling Priority: 9 (first) to 1 (last)
- Type (required multiples first, then elective multiples)
- Length (Year first, then Semester, then Term)
- Number of Available Sections; Least Available are processed first
- Internal Course ID
- Percent of Fullness: the least full Section when multiple Sections fit

Using Scheduling Priority: Priority settings are designed to be tie-breakers between similar Courses that have the *same* length and number of Sections – for example, Required Algebra II and Required Physical Science, or Elective Ceramic Arts and Elective Photography. Scheduling Priority should be used sparingly.

- Required Courses with the default priority of zero are treated as Priority 5 by the Auto Scheduler. You will not see the value of 5 in the Scheduling Priority field on the Course, but the program logic analyzes the Required Courses with a Scheduling Priority of 0 as if it had a Scheduling Priority of 5 when it makes its determination of which Course to schedule next for the student.
- Elective Courses with the default priority of zero are treated as Priority 0.
- Setting a Required Course to a setting lower than Priority 5, but more than zero, makes it schedule after other required Courses in its Loop, but before Electives that haven't been changed from the default setting.
- Setting an Elective Course to a higher setting causes it to schedule before other Electives in its Loop. Setting it to a Priority 6 or higher makes this Elective schedule before Required Courses which are at the default priority *if* the Courses are of the same length and number of Sections.

Note	A Course with a lower Scheduling Priority (for example, 4) may still schedule before a Course with a higher Scheduling Priority (for example, 8) if the Course with the lower Priority setting has fewer Sections, causing it to become an Imperative for a student.
-------------	--

Percent of Fullness: the scheduler checks this value in the Sections to determine the order of the remaining Courses to schedule.

- For Courses with the same Scheduling Priority it determines the Course to schedule based upon which Course has the largest difference in percent of fullness amongst its own Sections. Fullness is the number of students scheduled against maximum for the Section. This is done to accomplish Section balancing.

Example Course A has 4 Sections, with all 4 Sections about 30% filled, Course B has 2 Sections where one Section is 10% filled, and the other is 70% filled. In this case, it places the student in the Section of Course B which is 10% filled. If Course A has 4 Sections, with percent filled ranging from 10% to 70%, and Course B has 2 Sections both 10% filled, it places the student in the Section of Course A which is 10% filled.

Note If the Schedule Required Courses first, then Elective Courses option is selected in the Auto Scheduler Scheduling Options, then all Required Courses are scheduled before Elective Courses. All required Singletons and multiple Courses are processed first, followed by elective Singletons and multiple class Courses.

You may potentially receive a greater number of conflicts with this setting because a Required Course was arbitrarily placed in the schedule which caused students to not get their Elective Singletons or multiple class Courses.

Auto Scheduling of Prerequisites

Prerequisites are Courses that have relationship to one another that are defined in the Course Master. A prerequisite for a Course requires that one or more Courses be taken prior to (or at the same time as) the specified Course. The Pre-Requisite Verification Report (Student Management\Office\FS\RP\RE\PR) should be run prior to running the Auto Scheduler to ensure that a student has fulfilled the prerequisites for the Courses they have requested and to remove the requests for which they have not met the prerequisites. The Auto Scheduler still schedules requests for students if the prerequisites taken in a prior year have not been met.

If a prerequisite requirement has been set up so that it is allowed to be taken concurrently (in the same year), the Auto Scheduler will honor the order in which the Courses should be taken. The auto scheduler only looks at prerequisites if you are requesting a Course and its prerequisite together.

- a. It looks at both the Course request and its prerequisite and determine if it can schedule the prerequisite in a term prior to the other Course.
- b. It first attempts to schedule the prerequisite and then attempt to schedule the other Course.
- c. If the prerequisite cannot be scheduled prior to the other Course because it is not offered first, the other Course will not be scheduled.

If the prerequisite cannot be scheduled first due to conflicts (the Course is available, but conflicts with another Course), the other Course is still scheduled and it would be your responsibility to clean this up and make sure the prerequisite gets scheduled first manually.

Auto Scheduling of Co-requisites

Co-requisites are Courses that have relationships to one another that are defined in the Course Master. They define Courses that should be taken with specific requirements, either in the same or different terms, by the same or different teachers and in the same or different periods. Co-requisite Courses must be of the same length.

- a. If the Course is a year in length, then the only option is to have the same teacher for the opposing Course.
- b. If the Course is not a year in length, then the user has the options of having the same period and same teacher and the option to put constraints on the terms the classes can meet. These term or semester constraints vary from none, same term, same semester-different terms, same semester-any term for term Courses to same semester, different semesters or any semester for semester Courses.
- c. For Courses that are co-requisites, there is the further option at the class level to actually link Sections together. This allows forcing a student scheduled in the Period 1 Section first semester to be scheduled into the Period 1 Section of the other Course second semester.

The Auto Scheduler then honors the constraints put on the Course Section.

Note	The Auto Scheduler honors the Force Co-Requisites to Schedule All or Nothing and Only for flagged Co-Requisites options, if they are selected in Scheduling Options. Therefore, not all co-requisites in a grouping may be scheduled for a student even if there is an available class that meets the co-requisite requirements and has open seats.
-------------	---

The Scheduling Run Student Conflict Detail Report indicates when Courses have co-requisites by placing a "c" in front of the Sections term and putting "+" signs in the days meet when a Section was not available due to co-requisite constraints. If the "c" is followed by a "1" the class is available for scheduling. If the class has a "c" by itself, the Section is not available for scheduling. This could be for various reasons.

Auto Scheduling – Scheduling Teams

Team scheduling as described below is when both students and classes are assigned Scheduling Teams. The purpose of this is to group students into certain Sections of Courses based on the student's assigned Scheduling Team. When using Scheduling Teams, it is most effective when all students and classes have a team assigned.

When team scheduling is used, the auto scheduler processes the Courses and Sections differently depending on the Course's Team Scheduling Priority and the student's assigned team.

Note	If the student is not assigned to a team, it processes that student as if team scheduling is turned off. Likewise, if a Section is not assigned to a team, it is available to any student regardless of the student's team.
-------------	---

- a. If the Team Scheduling Priority on the Course is set to 0 = No Priority, the Course and Sections are processed as if team scheduling is turned off.
- b. If the Team Scheduling Priority is set to 9 = Mandatory, only Sections whose team matches the students or have no team assigned are considered. This can actually create Singletons out of Courses that have multiple Sections.

- c. If the Team Scheduling Priority is set to 6 = If At All Possible, the scheduler inflates the non-matching Section counts (internally, during the processing) to one less than the class's Maximum Students unless the count is already at or above the maximum and then it leaves it alone. For matching Sections, it decreases the current counts by 50%. There is a chance that the student could get into any Section whether the teams match or not, but there is more chance that the student will get into a Section that either has the same team or no team.
- d. If the Team Scheduling Priority is set to 3 = If Feasible, the scheduler inflates the non-matching Section's counts to the Section's Optimum Students size unless the count is already at or above that value. For matching Sections, it decreases the current counts by 25%.

The scheduler first processes classes that are the least full. Adjustments are to make classes less or more full based on the Team Scheduling Priority of the Course and the teams assigned to the student and the classes. In both of the cases where the counts are changed, the scheduler reacts positively toward teams by attempting to balance Sections of a Course for percentage of fullness.

Auto Scheduling - Scheduling Categories Assigned to the Student

When the Type of Scheduling Category is Category is assigned to the Student in Entity Year Options (Student Management\Office\FS Setup\CF\SE), Scheduling Categories are a similar concept to Scheduling Teams, in that you can assign students and class Sections one or more Scheduling Categories. One or more of the Scheduling Categories must match before the student can be scheduled into the Section.

A student with one or more Scheduling Categories is placed either into a Section with a matching Scheduling Category or a Section with no Category. If all Sections have Categories and none match the student's Category, the student is not scheduled into any Section.

A student with no Scheduling Category is not placed into a Section with a Category unless the Allow Student with No Category to be Assigned option is enabled on the Section.

Auto Scheduling - Scheduling Categories Assigned to the Student's Course Request

When the Type of Scheduling Category is Category is assigned the Student's Course Request in Entity Year Options (Student Management\Office\FS Setup\CF\SE), Scheduling Categories work similarly to Scheduling Teams in that it gives priority to the student's Course Requests with a Scheduling Category that matches the Scheduling Category on a class Section. Additionally, when this Scheduling Type is selected, the Auto Scheduler allows you to select Scheduling Category as a Student Attribute to use to balance classes.

Frequently Asked Questions about the Auto Scheduler logic:

- Q: *Does the schedule process students alphabetically?*
A: No. The software creates a list of students that are processed based on the ranges selected. It then processes all students within the first graduation year selected. After processing the entire grade level it then begins scheduling students with the next graduation year. In a high school setting this typically means seniors are processed first followed by juniors and so on.
- Q: *How many times can I run the Auto Schedule?*
A: Imperative and Pseudo scheduling runs, which simulate the scheduling process, may be run as many times as needed. The Actual scheduling run should be run only once to lock in student schedules. If the scheduling run needs to be processed again, the requests must first be unscheduled.
- Q: *Can a scheduling run be undone?*
A: An Actual scheduling run can be unscheduled. The Unschedule Student Classes Utility (Student Management\Office\FS\SS Setup\UT\US) exists for this purpose.
- Q: *When I try to run the Auto Scheduler, I get a message, "The Scheduler is already running. Please wait for it to complete." It starts the run, but doesn't complete it. How do I get the message to go away?*
A: This can be caused when you try to abort a scheduling run after it has started. The person who started the last run must run the Mass Delete Auto-Scheduler Files process (Student Management\Office\FS\SS\AS\MS). That person can then remove the scheduling run that did not complete.
- Q: *Why is the scheduler not scheduling my zero hour classes?*
A: The scheduler will not place classes with a Scheduling Period of 00. You must either manually schedule students into these classes or change the Scheduling Period to a later Period in the day and leave the Display Period as 00.

- Q: *What would cause students to not get scheduled into a Section when they have the same Scheduling Team as a Section with open seats?*
- A: The scheduler will not place the class if it does not fit into the student's current schedule based on other requests or placed classes at the time the scheduler was run.

Appendix E – Using Future Scheduling Tools to Schedule the Current School Year

The Future Scheduling module contains functionality to create a Master Schedule, enter student requests and mass generate students' schedules using scheduling tools (such as Request Processing, Master Builder and Auto Scheduler) for the current or next school year. However, these tools are not available in the Current Scheduling module. Therefore, to schedule in the current school year using the scheduling tools, you must do so through the Future Scheduling module.

When scheduling for the current school year using these tools in the Future Scheduling module, you can schedule either by a specific term (Term 1, Semester 2, etc.) or for the entire school year.

Current Year Scheduling Scenarios

Scenario 1:

You want to run Year End processes at the end of the school year, but prior to performing an Actual scheduling run (when schedules are generated). After Year End is processed you want to schedule one or more terms (or the entire year) in what has now become the current school year.

Scenario 2:

You scheduled one or more terms prior to running Year End processes, but after Year End was processed you now need to re-schedule one or more terms in the current school year.

Scenario 3:

You would like to schedule only a single term (i.e. 1st Term or 1st Semester) of the next school year prior to Year End processing, knowing that there will be too many changes if additional terms are scheduled at this time. The additional terms will be scheduled after Year End has been processed, in the current school year (see scenario 2 above).

Scheduling in the Current Year

The steps below detail how to configure Scheduling Options to schedule in the Current Year, either for the entire year or a specific term.

To enable scheduling in the Current School Year for the entire year:

1. Go to Student Management\Office\FS Setup\CF\SE.
2. Click the arrow next to the current school year (indicated with an asterisk * next to it).
3. Click Edit Scheduling Options next to the Scheduling Options heading.
4. Select Allow Current Year Scheduling.
5. Click Save.

To enable scheduling in the Current School Year for a specific Term:

1. Go to Student Management\Office\FS Setup\CF\SE.
2. Click the arrow next to the current school year.
3. Click Edit Scheduling Options next to the Scheduling Options heading.
4. Select Schedule Multiple Times Per Year.
5. Select Semester or Term in Schedule By.
6. Select Allow Current Term/Semester Scheduling.

Note

If the current school year has already begun and you are scheduling a future Term or Semester for the current year, clear the Allow Current Term/Semester Scheduling check box. Selecting this check box can prevent students from using Online Arena Scheduling for a future term or semester of the current school year.

7. Click Save.

Future Scheduling Functionality for a Specific Term in the Current Year

The following Future Scheduling functionality has options to accommodate scheduling in the Current Year for a specific term:

- The Initialize Class Meet Details Utility (Student Management\Office\Fs\BM Setup\UT\IC) has a Terms To Process option.
- Course Availability Lists (Student Management\Office\Fs\RP\RE\PC) can be printed for a specific control set(s).
- Request entry can be performed for a specific control set(s).
- Most reports have a Terms To Print, Term To Use or Control Sets option.
- The Scheduling Lock Options (Student Management\Office\Fs Setup\CF\SL) are Term/Semester specific.
- The Auto Scheduler Generate Student Schedules (Student Management \Office\Fs\SS\AS\GS) is run for a specific Term or Semester, based on the Time Period To Use. This is selected by clicking on the hyperlink under the Future Scheduling – FS heading (ex: **2016-17, Terms: 03 to 04 **).
- Requests are only considered for scheduling if their terms fall within the Term/Semester being scheduled. Therefore, if requests exist for year-long Courses, they will not be scheduled by the software when scheduling a specific Term or Semester. Also, if requests exist for Semester long Courses, they will not be scheduled by the software when scheduling a specific Term that falls within that Semester.

Example Semester 2 (of a 4 Term/2 Sem school) is being scheduled. There are requests for S2 and year-long Courses for a student. Only the S2 Course Requests will be considered for scheduling. The year-long Course Requests will not be considered for scheduling. The student will not be scheduled into subsets of the year long Course, even if the subset exists.

- A student's classes can be unscheduled using the Unschedule Student Classes Utility. The **Terms To Process** option allows you to specify the Terms to process. Classes are only unscheduled if their terms fall within the term being unscheduled.

Example Term 4 (of a 4 Term/2 Sem school) is being unscheduled. A student is scheduled in a Course with a length of year, but is enrolled in just the T4 subset of the year long Course. When Term 4 is unscheduled, the Course will be unscheduled for the student. The student is also enrolled in another year long Course but in all 4 terms. When Term 4 is unscheduled, the software will not unschedule this year-long Course because the terms exceed the terms being unscheduled.

- A student's classes cannot be unscheduled for a specific Term or Semester if there are grades present for that class.

Future Scheduling Functionality for Family Access Request Entry in the Current Year

The following Future Scheduling school year information applies to request entry in Family Access to accommodate scheduling in the Current Year:

- The Course Availability List (Student Management\Office\FS\RP\RE\PC) is created just as it would be for the next school year, except the School Year field is equal to the current year. However, after creating the Course Availability List, it can then be printed for a specific control set(s).
- Entity setup for Students and/or Guardians is done through Skyward's School Management System (Student Management\Families\FM Setup\CF\EC\Course Requests) for the current school year. Options are listed by Year and specific Sem/Term.
- The information in Family Access for Students and Guardians for Course Requests is listed by school year (e.g. 2016-2017 Courses) and a specific Term or Semester (e.g. Semester 2).

Future Scheduling Functionality for Online Arena Scheduling in the Current Year

The following Future Scheduling school year information applies to Online Arena Scheduling to accommodate scheduling in the Current Year:

- Entity setup for Students and/or Guardians is done through Skyward's School Management System (Student Management\Families\FM Setup\CF\EC\Arena Scheduling) for the current school year. Options are listed by Year and specific Sem/Term.
- The information in Family Access for Students and Guardians for Arena Scheduling is listed by school year (e.g. 2016-2017 Courses) and a specific Term or Semester (e.g. Semester 2). When Schedule Multiple Times Per Year is selected in Scheduling Options (Student Management\Office\FS Setup\CF\SE), Allow Current Year Scheduling must not also be selected.

Appendix F – Troubleshooting Online Arena Scheduling Setup

The following problems and solutions can be used to ensure you have followed the configuration and setup required for both Skyward's School Management System and Family Access if issues are encountered once the functionality has been deployed.

Problem:

A student and/or guardian cannot gain access to Family Access.

Solution:

Confirm that the following conditions are true (Student Management\Students\ST\PR\General\Web Access):

- Student and/or guardian is assigned a Password.
- Student and/or guardian has the Allow Web Access option selected.
- The student's Graduated flag (Student Management\Students\ST\PR\General\Profile) is set to No. If it is set to Yes, and if the Display Non-Graduated Students Only option is selected in the Family Access District Display Settings (Student Management\Families\FM Setup\CF\DD), the student will not be able to sign in.

Problem:

A student and/or guardian can only view their schedule in Family Access Online Arena Scheduling (there are no Add or Remove buttons).

Solution:

Confirm that the following conditions are true:

- In Family Access, the Allow Add/Remove of Courses option is enabled.
- Student's Scheduling Status equals Open (not Waiting, Approved or Locked).
- Student's Grade Level equals the Grade Level for an Online Scheduling Time Period group.

- Student’s Alpha Key falls within the Low and High defined for the Online Scheduling Time Period group.
- The current date falls within the Start Date and End Date defined for the Online Scheduling Time Period group.

Problem:

A student and/or guardian is not able to submit a schedule on the Submit Classes tab in Online Arena Scheduling:

Solution:

Confirm that the following conditions are configured correctly:

- Student’s Scheduling Status equals Open (not Waiting, Approved or Locked).
- Online Arena Scheduling Time Periods (Student Management\Office\FS\RP Setup\CF\OS) are created for the student’s grade level and the Date and Time range is set correctly for the student’s grade level. Also, ensure that the Class Request Maximum is set appropriately.

Problem:

Courses, or certain Courses, do not appear on the Available Classes list in Online Arena Scheduling.

Solution:

Confirm that the following conditions are true:

- Applicable Courses in the Course Master have the Available To Online Arena Scheduling check box selected.
- The student’s grade level falls within the Grade Ranges on the Course Master.

Note

If the Only list class sections for courses student requested option is enabled in Family Access, Entity Configuration for Available Classes, any Course that was requested for the student is available.

- The Course was requested by the student (if the Only list class sections for courses student requested option is enabled in Family Access, Entity Configuration for Available Classes.)
- A Course Section has a Class Meeting Record.

Problem:

You are using Arena Scheduling for a future semester or term of the *current* school year and students get a message that Arena Scheduling is unavailable.

Solution:

Confirm that the following conditions are true:

- Schedule Multiple Times Per Year and either Semester or Term is selected for the current year in Scheduling Options (Student Management\Office\CS Setup\CF\SE).
- Allow Current Semester (or Term) Scheduling is not selected in Scheduling Options.
- The future Semester or Term is enabled in Family Access, Entity Configuration for Arena Scheduling (Student Management\Families\FM Setup\CF\EC).

Appendix G – Interpreting the Results of the Student Conflict Detail Report

When the Auto Scheduler generates a scheduling run, details and reports based on the outcome of the scheduling run are generated. You can use these details and reports to find out which students and Courses have conflicts. Figure 10 shows the Student Conflict Report.

The screenshot shows a report titled "IMPERATIVE SCHEDULING CONFLICT REPORT FROM 10/22/2015" for WSIPC High School. The report lists various courses and their conflict codes. Red callouts highlight specific parts of the report:

- Column T:** Points to the first column of the course list, which contains course identifiers like "ENG310 SM".
- Column F:** Points to the "DESCRIPTION" column, which lists course details such as "ENGLISH 11 S1".
- Conflict Codes:** A callout box points to the "CONFLICT" column, explaining that codes like "01 c^S1" and "++++" appear here. An example row shows "01 c^S1" and "02 c^S1" in the conflict column for the course "PEH240 SM".

COURSE LEN	DESCRIPTION	CONFLICT
ENG310 SM	ENGLISH 11 S1	02 c^S1 MWRF
ENG325 SM	ENGLISH 11 S2	22 c^S2 MWRF
SOC310 SM	U S HISTORY S1	0
SOC320 SM	U S HISTORY S2	3
PEH240 SM	M WEIGHT TRAIN S1	01 c^S1 ---- 02 c^S1 ---- 0
PEH242 SM	M WEIGHT TRAIN S2	11 c^S2 ---- 22 c^S2 ---- 3
WLA300 SM	SPANISH II S1	02 c^S1 ----
WLA302 SM	SPANISH II S2	22 c S2 +++++ 55 c^S2 MWRF
MTH310 SM	ALGEBRA II S1	02 c^S1 ----
MTH320 SM	ALGEBRA II S2	22 c^S2 ----
MIS470 SM	STUDENT AID S1	
MIS472 SM	STUDENT AID S2	

Figure 10 - Student Conflict Detail Report based on the Imperative scheduling run with the Section/Terms Days Report Format Selected

The codes that appear in Column T of the Student Conflict Report (Figure 10) specify how the Course was scheduled. Table 12 explains the specific values that appear in this column.

Symbol in Column T	Description
(*)	Course could not be scheduled. If other possible Sections are shown, those Sections conflict with other scheduled Sections. If other possible Sections are not shown, this Course could not be scheduled for any reason other than a conflict with another assigned Course, including Scheduling Team or Scheduling Category Codes. Other codes may be printed for that information.
M	Course was manually placed into the student’s schedule by the user. The Course was not scheduled by the software.
I	Course was scheduled as an imperative because it is a single-Section Course or a derived Singleton.
i	Course was scheduled as an imperative after another Course was arbitrarily scheduled, forcing this Course to have only one possible Section.
A, O, P, Q, o, p, q	The scheduling software made an arbitrary decision in its attempt to build a schedule. It first attempts to balance the number of students between Sections at the point the student is being scheduled.

Table 12 - Description of values in Column T of the Student Conflict Detail Report

The codes that appear in Column F denote special Scheduling Types for the Course. Table 13 explains the specific values that appear in this column.

Symbol in Column F	Description
M	Course has a Schedule Type of Manually Scheduled.
D	Course has a Schedule Type of Dropped Course.

Symbol in Column F	Description
G	Course is part of a Lock Group. While a Course may appear to be able to be scheduled, if other Courses in the Lock group cannot be scheduled into a different term, the Course is "conflicted out." You may then look into the other Courses in the Lock Group to determine how they were scheduled or why they had conflicts.

Table 13 - Description of values in Column F of the Student Conflict Detail Report

Conflict Codes print for any Course which the software is not able to schedule. For Courses with no conflicts, the days of the week or day rotation numbers that the class is scheduled on appear beneath the period assigned column. Table 14 explains the specific values that appear in this column.

Conflict Codes	Description
-----	Another period for which the Course has a Section offered. These dashes print for all of the Courses, whether they have conflicts or not. If the Section does not meet every day, dashes appear only for days when the Course meets. Blank spaces appear for days when the Course does not meet.
+++++	Student has been blocked from being scheduled into a Section for a variety of reasons, including Section filled, prerequisite, co-requisite or group block. A single letter appears to the left of the Class Control Set value to indicate the specific reason the student has been blocked.
f	Section is full. If the day pattern also prints, the student is scheduled into the Section. If plus symbols appear (+), the student was not scheduled into the Section because it was full.
c	Course has a co-requisite (c) and the class is not available to be scheduled based on the co-requisite rules. If a student is blocked (+++++) from being scheduled, it is because its co-requisite could not be scheduled.
c1	Course has a co-requisite (c) and the class is available to be scheduled (1) based on the rules of the co-requisite.

Conflict Codes	Description
p	Course has a prerequisite (p) requirement and the class is not available to be scheduled based on the prerequisite rules. This could mean that the classes can't be taken concurrently, or it is possible that the prerequisite class has been scheduled in the last term of the year so there is no term available to schedule the subsequent/dependent class.
p1	Course has a prerequisite (p) and the class is available to be scheduled (1) based on the rules of the prerequisite.
b	Course has both (b) a co-requisite and a prerequisite requirement and is not available to be scheduled based on the rules of the co-requisite and prerequisite requirement.
b1	Course has both (b) a co-requisite and a prerequisite requirement and the class is available to be scheduled (1) based on the rules of the co-requisite and prerequisite requirement.
g	Course is part of a Lock Group that should be scheduled in opposite terms.

Table 14 - Descriptions of the Conflict Codes used in the Student Conflict Detail Report

When evaluating this report for conflicts, review student schedules on the report for conflicts that exist for individual students.

TERMS OF USE

The information contained herein is licensed, trade-secret and proprietary and may not be used, disclosed or reproduced without permission of the licensing authorities, WSIPC and/or Skyward, Inc. As a condition of use, the User agrees to protect and keep the information from disclosure or falling into the public domain. The failure to comply with this agreement may result in the immediate termination of the User's right to access the information.

COPYRIGHT

© Copyright 2016 WSIPC. All rights reserved.

Reproduction of any part of this manual in any medium without the express and written permission of WSIPC is prohibited by law.

This edition is printed in the United States of America. The contents may be corrected or modified by revisions without prior notice. Pages may be added, deleted, or changed as required.

The WSIPC logo is a registered trademark of WSIPC.

Skyward® is the registered trademark for Skyward, Inc. located in Stevens Point, Wisconsin.

WSIPC

2121 West Casino Road
Everett, WA 98204
425.349.6600
www.wsipc.org