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# WSIPC Guide to Future Scheduling: Part Three - Building the Schedule Master

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# 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 Three: Building the Schedule Master. It describes how to build the Schedule Master using the Interactive Scheduling Board and the Master Schedule Builder.

The Advanced Master Schedule Builder (AMSB) builds the Schedule Master but is not discussed in this Guide because it is complex and requires a significant amount of setup. To learn more about AMSB, see the *WSIPC Guide to Advanced Master Scheduler Builder Process*.

## 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 |
|---|----------------------|--|
| Updated the Guide to reflect WSIPC's November 2015 software release version 05.15.10.00.03. | N/A                  | N/A  |
| Updated all dates 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 115) contains a checklist to help you track your progress. In "[Appendix B – Scheduling Process Diagram](#)" (page 120), 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. In 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 121) contains a glossary of terms that help in your understanding of 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.

# Overview of Building the Schedule Master

When you build a Schedule Master, you are constructing your Entity's Course Master. Using the student requests you've gathered and scheduling restrictions such as teacher and room availability, you add, edit and delete Sections and Meets to successfully schedule your students.

You can build a Schedule Master using three different methods:

- Interactive Scheduling Board
- Master Schedule Builder
- Advanced Master Schedule Builder

The Schedule Master is built based on student requests. The goal is to design a Schedule Master that results in the fewest scheduling conflicts. Before you build the Schedule Master, ensure that each student has the correct amount of requests (credits) to constitute a full schedule. This request count should NOT include Alternate Requests.

Building the Schedule Master requires seven steps. The first six steps help you prepare to build the Schedule Master:

- [Step 1: Calculate the Number of Sections Needed](#)
- [Step 2: Create Sections](#)
- [Step 3: Estimate the Number of Students in Each Section](#)
- [Step 4: Prepare Meeting Patterns for Placement in the Schedule Master](#)
- [Step 5: Calculate Potential Conflicts in the Schedule Master](#)
- [Step 6: Learn to Use the Interactive Scheduling Board and the Master Schedule Builder](#)

In the last step, you actually build the Schedule Master by scheduling single-Section Courses first, and then scheduling multiple-Section Courses:

- [Step 7: Schedule Sections into the Schedule Master](#)

This Guide explains each of these steps.

## Terms You Should Know

Before you perform the processes in this Guide, familiarize yourself with the following terms that classify Courses based on how they are identified in the scheduling process.

| Term          | Definition  |
|---------------|---|
| Singleton     | Single-Section Course. A student has only one opportunity to be scheduled into a Singleton. It is important that these Courses are placed in the Schedule Master first. This minimizes conflicts between two Singleton Courses for which students have requests, and minimizes conflicts between two Singleton Courses and multiple-Section Courses later in the scheduling process.  |
| Doubleton     | Course with two Sections. Because these Courses are offered only twice, they are the second most difficult to schedule. For example, an Art Course is offered twice a year and a PE Course is offered five times a year. A student has five chances to be scheduled into PE and only two chances to be scheduled into Art. Typically, this makes placement of the Art Course in the Schedule Master more important than the placement of the PE Course. |
| Tripletion    | Course with three Sections.   |
| Other Courses | Courses with more than three Sections are typically placed in the Schedule Master at the same time. When more than three Sections of a Course are available, it is not as difficult to find a Section that fits the student's schedule.   |

# Step 1: Calculate the Number of Sections Needed

You can calculate the number of Sections needed for each Course before you use the Master Schedule Builder or Interactive Scheduling Board to create the Schedule Master. This will help you gauge how many Sections of a Course are needed based on the number of seats each Section accommodates and the number of requests that exist for a Course. You can make decisions on how many Sections will actually be offered based on this calculation, staffing availability, and other factors. The value that the utility calculates is stored in the Estimated Nbr of Sections field on each Course in the Course Master.

To calculate and review the number of Sections needed, you can follow these steps:

- [Estimate the Number of Sections Needed](#)
- [Compare the Estimated Number of Sections and Actual Number of Sections Values](#)

This section explains each of these steps.

## Estimate the Number of Sections Needed

To estimate the number of Sections needed for each Course, you run the Update Estimated Number of Sections Utility. This utility calculates the ideal number of Sections for each Course based on the number of student requests for the Course and the optimum students and maximum students allowed for each Section. It then updates the Estimated Number of Sections box on each Course. The information provided by this utility is used to assist you in analyzing the Course Master to determine how many Sections of each Course to offer.

To estimate the number of Sections needed:

1. Go to Student Management\Office\FS\BC Setup\UT\UE.
2. Configure the Update Estimated Number of Sections screen (Figure 1).  
Table 1 describes the options on this screen.
3. Click OK.

**Figure 1 - Update Estimated Number of Sections screen**

| Option         | Description   |
|----------------|---|
| School Year    | School year of the Course Master that the utility will run on. The next school year defaults as the selected value.   |
| Course Key     | Range of Courses in the Course Master that the utility will process. Enter a range if you want the utility to run on certain Courses only. Leave the range open (blank to ZZZZZZZ) so the utility runs for all Courses, including Inactive Courses.   |
| Prompt Courses | <p>Opens the Update Estimated Number of Sections Course Information screen where you can view, edit, or accept the calculated values of the utility.</p> <p>If you select this option, see <a href="#">"Updating the Estimated Number of Sections Course Information Screen"</a> (page 12) to learn more.</p> |

| Option                            | Description   |
|-----------------------------------|---|
| Use Existing Average Section Size | <p>Averages the Optimum Students and Maximum Students values from the Sections, and then divides the total requests for the Course by the average to create an Estimated Number of Sections value.</p> <p>If the Optimum Students and Maximum Students values are not provided on a Section, the software will use the Optimal Number of Students and Maximum Number of Students values on this same screen as the default values for the Section when calculating the Estimated Number of Sections value for the Course.</p> |
| Use Section Defaults for Students | <p>Divides the total requests for each Course by the average of the Optimal Number of Students and Maximum Number of Students values on this screen. These values are used as default values for each Section, instead of using the Optimum Students and Maximum Students values from each Section. This option might typically be used if Sections are not present in the Course Master or the Sections do not have correct/updated values in the Course Master.</p>   |
| Optimal Number of Students        | <p>Number of students who should optimally be scheduled into a Section. This value is only used by the utility if a Section of a Course does not have a value entered in the Optimum Students box or if the Use Section Defaults for Students check box is selected.</p>  |
| Maximum Number of Students        | <p>Maximum number of students who should be scheduled into a Section. This value is only used by the utility if a Section of a Course does not have a value entered in the Maximum Students box or if the Use Section Defaults for Students check box is selected.</p>  |

**Table 1 - Options on the Update Estimated Number of Sections screen**

## Updating the Estimated Number of Sections Course Information Screen

If you selected the Prompt Courses check box when configuring the Update Estimated Number of Sections screen, the Update Estimated Number of Sections Course Information screen appears (Figure 2).

| Course Key | Course Description | Len | Sts | Subject          | E/R | Type    | Dept        | Grades | Req | Max Sts | Opt Nbr Sec | Stu Per Sec | Min Nbr Sec | Stu Per Sec |
|------------|--------------------|-----|-----|------------------|-----|---------|-------------|--------|-----|---------|-------------|-------------|-------------|-------------|
| ART110     | ART I SEM 1        | SM  |     | FINE ARTS (ART E | E   | REGULAR | HIGH SCHOOL | 9-12   | 41  | 84      | 2           | 20.5        | 2           | 20.5        |
| ART120     | ART I SEM 2        | SM  |     | FINE ARTS (ART E | E   | REGULAR | HIGH SCHOOL | 9-12   | 41  | 84      | 2           | 20.5        | 2           | 20.5        |
| ART230     | ADVANCED ART S1    | SM  |     | FINE ARTS (ART E | E   | REGULAR | HIGH SCHOOL | 10-12  | 19  | 120     | 1           | 19.0        | 1           | 19.0        |
| ART240     | ADVANCED ART S2    | SM  |     | FINE ARTS (ART E | E   | REGULAR | HIGH SCHOOL | 10-12  | 18  | 120     | 1           | 18.0        | 1           | 18.0        |
| ART314     | CRAFTS I S1        | SM  |     | FINE ARTS (ART E | E   | REGULAR | HIGH SCHOOL | 9-12   | 38  | 84      | 2           | 19.0        | 2           | 19.0        |
| ART324     | CRAFTS I S2        | SM  |     | FINE ARTS (ART E | E   | REGULAR | HIGH SCHOOL | 9-12   | 38  | 104     | 2           | 19.0        | 2           | 19.0        |
| ASB100     | LEADERSHIP S1      | SM  |     | OCCUPATION EI    | E   | REGULAR | HIGH SCHOOL | 9-12   | 8   | 34      | 1           | 8.0         | 1           | 8.0         |
| ASB200     | LEADERSHIP S2      | SM  |     | OCCUPATION EI    | E   | REGULAR | HIGH SCHOOL | 9-12   | 7   | 30      | 1           | 7.0         | 1           | 7.0         |

**Figure 2 - Update Estimated Number of Sections Course Information screen when Prompt Courses is selected so that the value in Optimum Number of Sections field can be reviewed and/or changed**

For the Estimated Number of Section value in the Course Master to be updated, the Optimum Number of Sections value *must* be reviewed and/or changed.

### Changing the Calculated Value

If you do not agree with the calculation, change the Opt Nbr Sec value for the desired Course(s), you can click Close after reviewing all other Sections. If you click Close without tabbing through a Section, the calculated value will not be saved.

## Reviewing the Calculation

If you want the Estimated Nbr of Sections value on the Course Master updated to the value in the Opt Nbr Sec column, you *must* follow the procedure below to use the Tab key on your keyboard to move through the appropriate fields and review the calculation.

To review the calculation:

1. Use your mouse pointer to place your cursor in the Opt Nbr Sec box for a Course.
2. Press the Tab key on your keyboard to move to the same box for the next Course or to move your cursor to another Opt Nbr Sec box for the next Course you want to review.

Once the Optimum Number of Sections field for a Course has been tabbed through, it is considered reviewed. *Fields that have been reviewed or updated turn green.*

3. Click Close.



---

### Caution

A message appears stating how many Courses you have successfully updated. Any remaining Courses are considered not reviewed and the Opt Nbr Sec value is *not* updated to the Estimated Number of Sections field on the Course(s) in the Course Master.

If you re-run the utility, any previous updates you made to Estimated Sections *do not* appear. Instead, the new calculated value appears.

The only values that will be updated to a Course are values that you review or update on the *current* screen. If there are more records than the number of records displayed on the current screen, those records will not be updated.

---



## Understanding Section Calculations

Understanding how the software determines the number of Sections needed based on requests may be valuable. The following example demonstrates how the Optimum Number of Sections, Minimum Number of Sections and Students Per Section values are calculated:

- To calculate the value in the Optimum Number of Sections box (which could be called the "Realistic Estimated # of Sections"), two separate calculations are used: Optimal Number of Sections calculation, and Minimum Number of Sections calculation. These calculations are then averaged. The Optimal Number of Sections is an internal calculation. This value is not displayed. The Minimum Number of Students value is displayed if you selected the Prompt Courses option when running the utility.
  - The Optimal Number of Sections calculation is found by dividing the number of Requests for the Course (335) by the Optimal Number of Students per Section (24). This equals 13.9 Sections.

---

|             |   |
|-------------|---|
| <b>Note</b> | The Optimal Number of Students per Section is calculated by averaging the Optimum Students values for all Sections of the Course. |
|-------------|---|

---

- The Minimum Number of Sections calculation is found by dividing the number of Requests for the Course (335) by the Maximum Number of Students per Section (30). This equals 11.1, which means a minimum of 12 Sections are needed to accommodate all requests. This value is displayed as the Minimum Number of Sections if you select the Prompt Per Course check box when you run the utility.

---

|             |   |
|-------------|---|
| <b>Note</b> | The Maximum Number of Students per Section is calculated by averaging the Maximum Students values for all Sections of the Course. |
|-------------|---|

---

- The figures from the two calculations above are added and divided by two to find an average ( $13.9 + 11.1 = 25 / 2 = 12.5$  Sections). The resulting number (12.5 Sections) is rounded to 13 Sections and is the Optimum # of Sections value for the Course. This value is displayed as the Optimum Number of Sections if you select the Prompt Per Course check box when you run the utility.

- The Students Per Section value (for the Optimum Number of Sections value) is found by dividing the number of Requests for the Course (335) by the Optimum Number of Sections value (13). This equals 25.8 students per Section.
- The Students Per Section value (for the Minimum Number of Sections value) is found by dividing the number of Requests for the Course (335) by the Minimum Number of Sections value (12). This equals 27.9 students per Section.

## Compare the Estimated Number of Sections and Actual Number of Sections Values

Before you use the Master Schedule Builder or the Interactive Scheduling Board, it is helpful to compare the value in the Estimated Nbr of Sections box and the value in the Actual Nbr of Sections box. When the values are different, decide whether to offer additional Sections or fewer Sections.

---

**Note** The value in the Estimated Nbr of Sections box in the Course Master is automatically calculated when the Update Estimated Number of Sections Utility is run. You can manually overwrite this with a different value in the Course Master.

The Actual Nbr of Sections box in the Course Master cannot be edited. It shows the number of active Sections. This value is updated only by adding additional active Sections to the Course or by inactivating or deleting Sections.

---

**Best Practice** Compare the number of Estimated Sections to the number of Actual Sections. Populate the Est Nbr of Sections value as it is used by the software in some calculations. For example, the Auto-Generate Sections and Class Meets Utility uses this field to determine if Sections are needed.

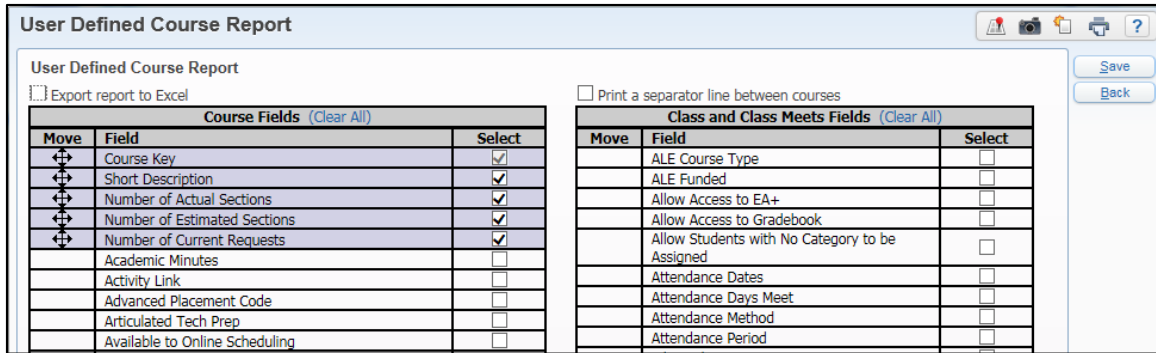
---

## Using the Course Report by Course to Compare Section Values

To review Estimated vs. Actual number of Sections values, you can use the Course Report by Course or you can review the fields on the Course Master screen. You can customize the Course Report by Course with user-defined values (UDF), so that you can add the Number of Actual Sections and Number of Estimated Sections values, as well as the Number of Current Requests to the report for each Course. Use this report to determine where you need to add, inactivate, or delete Sections.

To use the Course Report by Course to compare Section values:

1. Go to Student Management\Office\FS\BC\RE\CR.
2. Click Add.
3. Configure the Course Report by Course screen in the Course Selection Ranges, Printing Options and Sort Options areas. Ensure that the Year selected is the school year being scheduled.
4. Expand the Report Format area.
5. Select User-defined course report.
6. Click User Def.
7. In the Course Fields table, select the Select check box next to Number of Actual Sections and Number of Estimated Sections (Figure 3). Select any other desired Course, or Class and Class Meet Fields.
8. Click Save.
9. Click Save and Print.
10. Use the report output and other restrictions (such as staffing restrictions that prevent you from offering a certain number of Sections) to determine how many Sections the school will offer for each Course.



**Figure 3 - Course Report by Course Report showing the Actual Sections and Estimated Sections values selected as the fields to print on the report output**

## Using the Course/Class Count Report to Compare Section Values

The Course/Class Count Report is typically used in Current Year Scheduling to justify additional teacher FTE in an Entity. In Future Year Scheduling, you can use this report to compare the Estimated Number of Sections and Actual Number of Section values for each Course. You can also use this report to print only Sections that have reached maximum enrollment once the students are scheduled. Therefore, it is only necessary to select specific options when running the report. You can use this report to determine where you need to add, inactivate or delete Sections.

To use the Course/Class Count Report to compare Section values:

1. Go to Student Management\Office\FS\BC\RE\CC.
2. Click Add.
3. Configure the Add Course/Class Count Report screen (Figure 4). Table 2 describes the options on this screen.
4. Click Save and Print.
5. Use the report output and other restrictions (such as staffing restrictions that prevent you from offering a certain number of Sections) to determine how many Sections the school will offer for each Course.

**Note** The Estimated Number of Sections value is represented in the EST SEC report column.

The Actual Number of Sections value from the Course appears below the areas on the report if you select to Print Sections Total Line. Therefore, select Active in the Course Status and Class Status boxes to only get a count of Active Sections.

### Add Course/Class Count Report Template

**Template Settings**

\* Template Description:

Share with other users in entity 401

Print Greenbar

**Course/Class Printing Options**

School Year: 2016-17 Terms To Print: All=All Year Schedule Terms=01-04

| Low   | High                                    |
|---|---|
| Entity: <input type="text" value="401"/>                    | <input type="text" value="401"/>        |
| Department: <input type="text"/>                            | <input type="text" value="ZZZ"/>        |
| Subject: <input type="text"/>                               | <input type="text" value="ZZZ"/>        |
| Course: <input type="text"/>                                | <input type="text" value="ZZZZZZZ"/>    |
| Type: <input type="text"/>                                  | <input type="text" value="ZZZ"/>        |
| Section: <input type="text"/>                               | <input type="text" value="ZZZZ"/>       |
| Grade: <input type="text" value="-02"/>                     | <input type="text" value="12"/>         |
| <input type="checkbox"/> Include Partial Grade Overlappings |   |
| Teacher: <input type="text"/>                               | <input type="text" value="ZZZZZZZZZZ"/> |
| Display Period: <input type="text" value="00"/>             | <input type="text" value="07"/>         |

**Report Options**

Print Section Counts

Print Only Sections with Max Enrollment

Print Sections Total Line

Print School Counts

Print Grade Counts

Include CY Historical Records

Include Requests in Course Counts

Include Dropped Student Class Records

Include Only Students in Current Entity

**Student Status**

Both  Active  Inactive

**Course Status**

Both  Active  Inactive

**Class Status**

Both  Active  Inactive

**Totals Group(s)** [Add Race Group](#) [Add Special Ed. Group](#) [Add Economic Status Group](#)

| Column | Group Type | Group Heading | Group Codes |
|--------|------------|---------------|-------------|
|--------|------------|---------------|-------------|

Asterisk (\*) denotes a required field

**Figure 4 - Course/Class Count Report Template screen**

Step 1: Calculate the Number of Sections Needed

| Option   | Description   |
|--|---|
| School Year  | School Year of the Course Master that the report will use.  |
| Terms To Print   | Determines the Courses that are selected for inclusion in the report, by the terms the Courses are offered. Typically this selection is All=All Year.   |
| Entity   | Current selected Entity.  |
| Department<br>Subject<br>Course<br>Type<br>Section<br>Grade<br>Teacher<br>Display Period | Determines the Courses included on the report based on the ranges selected in the Low and High boxes for these Course field selections. Typically, these ranges are not narrowed (they are left at the default Low and High values).  |
| Include Partial<br>Grade<br>Overlappings   | Determines the Courses included on the report based on Grade Level values on the Course. If this check box is not selected and you run the report for a shorter range of Grade Levels that are in the Course Master, Courses outside this Grade Level range are not included. For example, if you define a range of 09-09, Courses that have a Grade Level of 09-12 are not included on the report. |
| Sort   | Specifies whether the report is sorted by department, subject or teacher.   |
| Report Options   | Determines the data included in the report. The report is being used to compare Estimated and Actual Number of Section values for the next school. Therefore, select the Print Section Counts, Print Sections Total Line, and Include Requests in Course Counts options.  |
| Student Status   | Determines which students are selected when calculating the Totals counts (Total, Female and Male), based on their Next Year Status. The Number of Requests total is based on all requests, whether the student's Next Year Status is Active or Inactive.   |

Step 1: Calculate the Number of Sections Needed

| Option        | Description   |
|---------------|---|
| Course Status | Determines which Courses are included on the report based on the status of the course. Select Active.                       |
| Class Status  | Determines which courses are included on the report based on the status of the Section (Active or Inactive). Select Active. |
| Totals Groups | Creates reporting groups by race, special education and/or economic status (economic status is determined by Lunch Codes).  |

**Table 2 - Options on the Course/Class Count Report screen**

## Interpreting the Results of the Course/Class Count Report

Although the Course/Class Count Report can serve many purposes, you are using it to review the Estimated Number of Sections and Actual Number of Sections values for each Course. Because the report contains many pieces of data, refer to Figure 5 and Table 3 to see the specific information that will help you decide to either add more Sections for a Course or change the value in the Estimated Number of Sections box.

| lsonyr01.p 38-2<br>05.14.10.00.00 |                   | WSIPC High School<br>Course/Class Count Report 401 |                                    |            |            |                |     |     |
|-----------------------------------|-------------------|--|------------------------------------|------------|------------|----------------|-----|-----|
| COURSE                            | DESCRIPTION       | LGTH   | EST<br>SEC                         | NBR<br>AVL | NBR<br>REQ | ----TOTALS---- |     |     |
|                                   |                   |  |                                    |            |            | TOT            | FEM | MAL |
| ART110                            | ART I SEM 1       | SM   | 3                                  | 84         | 41         | 41             | 24  | 17  |
| 01                                | Elida R. Knerrscr | Max:28   |                                    | S1         | 01         | 0              | 0   | 0   |
| 02                                | Elida R. Knerrscr | Max:28   |                                    | S1         | 02         | 0              | 0   | 0   |
| 06                                | Elida R. Knerrscr | Max:28   |                                    | S1         | 06         | 0              | 0   | 0   |
| Number of Sections: 3             |                   |  | Average Students Per Section: 0.00 |            |            |                |     |     |
| ART120                            | ART I SEM 2       | SM   | 3                                  | 84         | 41         | 41             | 24  | 17  |
| 11                                | <None>            | Max:28   |                                    | S2         |            | 0              | 0   | 0   |
| 22                                | <None>            | Max:28   |                                    | S2         | 02         | 0              | 0   | 0   |
| 66                                | Elida R. Knerrscr | Max:28   |                                    | S2         | 06         | 0              | 0   | 0   |
| Number of Sections: 3             |                   |  | Average Students Per Section: 0.00 |            |            |                |     |     |
| ART230                            | ADVANCED ART S1   | SM   | 3                                  | 90         | 19         | 19             | 15  | 4   |
| 01                                | Elida R. Knerrscr | Max:30   |                                    | S1         | 01         | 0              | 0   | 0   |
| 02                                | Elida R. Knerrscr | Max:30   |                                    | S1         | 02         | 0              | 0   | 0   |
| 06                                | Elida R. Knerrscr | Max:30   |                                    | S1         | 06         | 0              | 0   | 0   |
| Number of Sections: 3             |                   |  | Average Students Per Section: 0.00 |            |            |                |     |     |
| ART240                            | ADVANCED ART S2   | SM   | 3                                  | 90         | 18         | 18             | 14  | 4   |
| 11                                | Elida R. Knerrscr | Max:30   |                                    | S2         | 01         | 0              | 0   | 0   |
| 22                                | Elida R. Knerrscr | Max:30   |                                    | S2         | 02         | 0              | 0   | 0   |
| 66                                | Elida R. Knerrscr | Max:30   |                                    | S2         | 06         | 0              | 0   | 0   |
| Number of Sections: 3             |                   |  | Average Students Per Section: 0.00 |            |            |                |     |     |

Figure 5 - Course/Class Count Report sample used to determine the value for Estimated Number of Sections per Course and the number of actual Sections that exist per Course



Step 1: Calculate the Number of Sections Needed

| Letter | Description  |
|--------|--|
| A      | The primary teacher of the Section. A blank value in this field indicates that a Meeting Pattern doesn't exist for the Section. When <None> appears in this field, a teacher isn't assigned to the existing Meeting Pattern.   |
| B      | Estimated Number of Sections. The value in the column represents the value for the Course from the Course Master. The Est Sec value for ART230 (ADVANCED ART S1) is 3.   |
| C      | Prints the number of active Sections for the Course. Select only active Sections when running the report so the number of Sections that print equals the number in the Actual Number of Sections box on the Course Record. There are three actual Sections for ART230 (ADVANCED ART S1). |
| D      | Total number of scheduled and unscheduled requests. There are 41 requests for ART110 (ART I SEM 1).  |
| E      | Total Females and Males with requests for the Course. There are 41 requests for ART110 (ART I SEM 1) – 24 Females and 17 Males.  |
| F      | Total number of scheduled requests when the total is on the same line as a Section. There are 0 scheduled requests for ART110 (ART I SEM 1), Section 06 – 0 Females and 0 Males.   |
| G      | Maximum Seats Available value on the Course. There are 90 seats available for ART240 (ADVANCED ART S2). The number is the total number of Maximum Seats Available for each Section of the Course.  |
| H      | Control Set and Display Period from the Meeting Pattern. In Figure 5, the Control Set is S2 and the Display Period is 06 for ART240 (ADVANCED ART S2). There are no column labels for this information.  |

**Table 3 - Descriptions of the identifiers in Figure 5**

## Step 1: Calculate the Number of Sections Needed

Use the decisions you've made, based on either report output or other constraints, to update the Estimated Number of Sections box in the Course Master and the Actual Number of Sections as appropriate in the Course Master until both are the same.

The following tips will help you as you update the Course Master.

- If you decide that the value in the Actual Number of Sections box is the number of Sections that will be offered, you can manually change the value in the Estimated Number of Sections box so that it matches the existing value in the Actual Number of Sections box.
- If you decide that the calculated value in the Estimated Number of Sections box is the number of Sections that will be offered, add or delete/inactivate Sections of the Course to match the value in the Estimated Number of Sections box. See "[Step 2: Create Sections](#)" (page 24) to learn how to auto-generate Sections that need to be added.
- If you decide on a value other than the ones in either the Estimated Number of Sections box or Actual Number of Sections box, you can change the value in the Estimated Number of Sections box and add and/or inactivate/delete Sections in the Course. See "[Step 2: Create Sections](#)" (page 24) to learn how to auto-generate Sections that need to be added.

## Step 2: Create Sections

If you determine that additional Sections for Courses are needed, you can automatically generate them by running the Auto-Generate Section and Class Meets Utility.

To determine if additional Sections are needed (and how many), the Auto-Generate Section and Class Meets Utility does one of the following based on your parameter selections:

- Uses the value in the Estimated Number of Sections field
- Divides the number of Current Requests by the optimum number of students per Section

When you run this utility, the Control Sets Possible % Distribution is used to determine which Control Set to assign to the Section being created. In addition, the Section Default values from the Course are used when new Sections are created. To minimize the number of updates you'll have to make on Section information, make sure the % Distribution and Section Defaults values on each Course are defined and accurate.

---

**Note** You can create a report with these values by running the Course Report by Course (Student Management\Office\FS\BC\ RE\CR) in User-defined course report format. Select the Terms Possible – Distribution Course Field to print the Control Sets Possible and the Distribution percentage together.

---

This utility does not delete any extra Sections and Meeting Patterns. You must manually delete or inactivate unneeded Sections.

The values used as the new Section numbers will always be a two-character numerical value, using the next available number as a starting point. For example, if you have Sections 01, 02, and 06, the next Section it will create is 07.

---

**Best Practice** Before running the Auto-Generate Section and Class Meets Utility, run a report showing the number of active Sections. After running the utility, rerun the report and compare to see which Courses had Sections added, as the utility does not provide that information.

---

To create Sections:

1. Go to Student Management\Office\FS\BC Setup\UT\AG.
2. Configure the Auto Generate Section and Class Meet Records screen (Figure 6). Table 4 describes the options on this screen.
3. Click Run.

A report is generated that shows the number of Section Records created and the number of Class Meet Records created.

**Auto Generate Section and Class Meet Records**

**Auto Generate Section and Class Meet Records**

This utility will create missing Class Section and/or Class Meet records. The program determines if classes are needed by using the Estimated Number of Sections or by dividing the number of requests by the optimum number of students per section. If the program determines that new sections are required, section values will default to the values entered in the "Class Defaults" from the Course Maintenance screen. To reduce the amount of changes necessary after running this utility, make sure that as much detailed Class and Class Meet default information as possible has been filled in. Note: No records will be deleted by this utility. Any extra records will need to be deleted manually.

**Courses Ranges**

Entity: 401 WSIPC High School

School Year: 2016-17

Control Sets S1 - S2 - T1 - T2 - T3 - T4 - YR

Course Key: to: ZZZZZZZZZZ

**Utility Options**

Create Class Sections

Calculate 'Estimated Number of Sections'

Create Class Meeting Patterns

Figure 6 - Auto-Generate Sections and Class Meet Records screen

| Option                                   | Description  |
|--|--|
| Course Key                               | Specifies the range of Courses the utility includes in the process.  |
| Create Class Sections                    | Specifies whether Sections should be created by the utility.   |
| Calculate 'Estimated Number of Sections' | The utility performs a calculation using the current request count for the Course and optimum number of students per Section and determines whether Sections need to be created. If this check box is not selected, the software will use the Estimated Number of Sections value on the Course to determine whether Sections need to be created. |
| Create Class Meeting Patterns            | Specifies whether Meets should be created for any existing Sections that lack them and for any new Sections created by the utility.  |

**Table 4 - Options on the Auto-Generate Section and Class Meets utility screen**

**Note** After Sections are created, rerun the Update Control Sets Possible Utility (Student Management\Office\FS\BC Setup\UT) to make sure all values are accurate and there are no Courses with no Control Sets Possible assigned.

It's important that the Control Sets Possible values and the Control Set values assigned to each Section are accurate, because the Master Schedule Builder uses the possible Control Set information when building and placing Course Master Sections in the Schedule Master. To learn more about this, see "Step 6: Run Course Master Utilities" in the *WSIPC Guide to Future Scheduling: Part One - Preparing to Schedule*.

# Step 3: Estimate the Number of Students in Each Section

Before creating the Schedule Master, the software must know how many students would be scheduled into each Section based on student requests. The software can calculate this if you run the Update Estimated Class Counts by Grade Utility. The information is viewable in the Interactive Master Builder and Interactive Scheduling Board.

The estimate assumes a perfect scheduling run, which means all students would get into every one of their requested Courses. The estimate is calculated by taking the number of requests for a Course and separating the students into all available Sections, leveling by gender, grade level, and by how full the Section might be.

---

**Example** A two-Section Course with equal class maximums is requested by 20 juniors and 30 seniors. This process estimates that a total of 25 students,  $\frac{1}{2}$  of the juniors (10) and  $\frac{1}{2}$  of the seniors (15), will be scheduled into each Section.

---

This process only needs to be re-run if Course requests or Sections are added or removed after the last time it was run.

To estimate the number of students in each Section:

1. Go to Student Management\Office\FS\BM Setup\UT\CB.
2. Verify the School Year. This defaults to the school year being scheduled.
3. Click Run. A message states that the utility has finished.
4. Click Back.

# Step 4: Prepare Meeting Patterns for Placement in the Schedule Master

You may need to delete or reset some data in Meeting Pattern Records before you can place a Section/Meeting Pattern in the Schedule Master. This is called *initializing*. Meeting Pattern data may get cloned from the current school year's Course Master. You will want to initialize some of the data in Meeting Pattern Records if you use the Master Schedule Builder or Interactive Scheduling Board to create the Schedule Master. If you don't initialize the Meeting Pattern data, the software can't suggest the best possible placement for each Course in the Schedule Master.

Data in the Meeting Pattern that can be initialized includes the following:

- Scheduling Period
- Lunch Code
- Teacher
- Building/Room Number

You can select one or more options for initializing. If an option is selected, the following initialized values are used:

- Scheduling Period = 0
- Lunch Code = None
- Teacher = None
- Building = Choice (as defined in the Section default, as defined in the Entity Year default, or None)
- Room = None

Initializing the Scheduling Period to 0 (zero) allows the Master Schedule Builder / Scheduling Board logic to suggest the best Period in which to place a Course. The Display Periods and Attendance Periods on the Meeting Pattern are not initialized with a zero Period. Instead, the current value (the Period the Course is being offered in the current year) is maintained until a Period assignment is made through one of the Master Schedule Builder processes (Non-Interactive, Interactive, or Advanced) or through the Interactive Scheduling Board process.

The data in the Meeting Pattern is initialized using the Initialize Class Meet Details Utility. This is a very important step in the scheduling process—especially initializing the Scheduling Period so that the software can suggest the best placement in the Master Schedule for each Section. Because each Master Schedule is constructed from student requests, if you don't allow the software to determine the best placement of Courses based on those requests, the likelihood of conflicts is higher.



---

**Caution**

Before running this utility, save a copy of the Course Master using the Create a Schedule Master Save Point Utility (Student Management\Office\FS\BC Setup\UT\SP). This allows you to use the Restore Schedule Master to Previous Save Point Utility (Student Management\Office\FS\BC Setup\UT\PS) to restore the Course Master to its original state.

---

For classes that *must* be offered during a specific Period, you must update those Period assignments on the Meeting Patterns manually, after the Scheduling Period has been initialized to zero. These classes are often referred to by scheduling personnel as “must haves.” The more Periods you assign manually, the more potential conflicts you will have.

---

**Note**

If you have classes that you do not want to be initialized, set the classes to a Category of Study Hall or Lunch before running the utility so they do not get initialized to Period 0. Set the Category back after the initialization.

---

To prepare Meeting Patterns for placement in the Master Schedule:

1. Go to Student Management\Office\FS\BM Setup\UT\IC.
2. Configure the Initialize Class Meet Details screen (Figure 7). Table 5 describes the options on the screen.
3. Click Run. After the utility runs, a message states that the utility has finished processing.
4. Click Back.



To update a Meeting Pattern with a "must have" Period:

1. Go to Student Management\Office\FS\BC\SM.

---

|             |   |
|-------------|---|
| <b>Note</b> | You can also go to Student Management\Office\FS\BM\SB to move "chips" and update Meeting Patterns using the Interactive Scheduling Board. |
|-------------|---|

---

2. Find a Course and Section that must be offered during a specific Period.
3. Click the arrow next to the Course Code for that selection.
4. Click the arrow next to Meet Details.
5. Click Edit next to the Meeting Pattern for which the Period needs to be specified.
6. Enter data in the Display Period, Scheduling Period and Attendance Period boxes.
7. Click Save.
8. Repeat steps 2 through 7 for all Course Sections with Meeting Patterns that must be offered during a specific Period.

---

|                      |   |
|----------------------|---|
| <b>Best Practice</b> | After running this utility and "must have's" are placed, save a copy of the Course Master using the Create a Schedule Master Save Point Utility (Student Management\Office\FS\BC Setup\UT\SP). This allows you to later use the Restore Schedule Master to Previous Save Point Utility (Student Management\ Office\FS\BC Setup\UT\PS) to restore the Course Master to where only the "must have's" are placed. This utility will only restore Meeting Pattern changes. To learn more about performing a restore, see "Step 6: Run Course Master Utilities" in the <i>WSIPC Guide to Future Scheduling: Part One – Preparing to Schedule</i> . |
|----------------------|---|

---

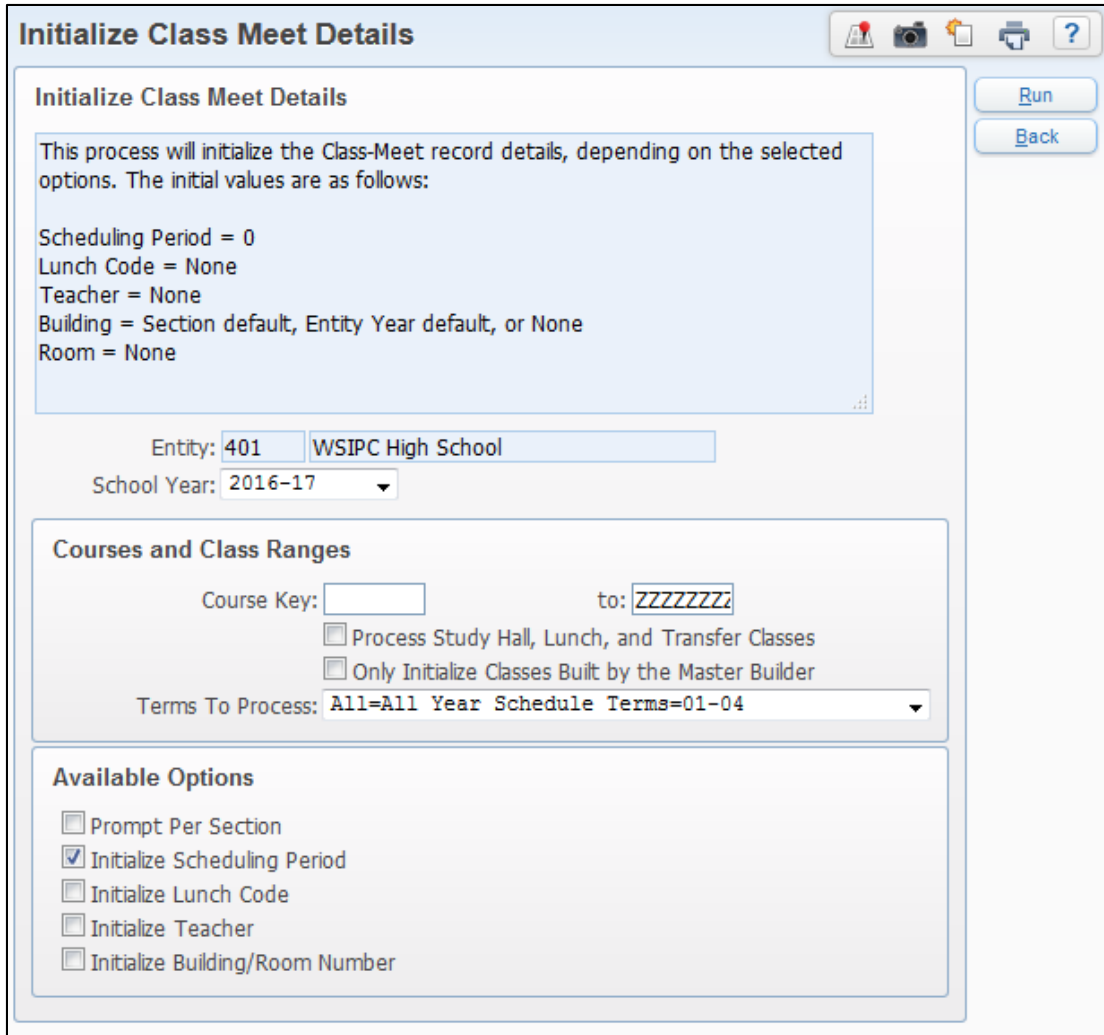


Figure 7 - Initialize Class Meet Details screen

| Option   | Description   |
|--|---|
| School Year                                    | School Year of the Course Master that the utility includes in the process.  |
| Course Key                                     | Range of Courses the utility includes in the process.   |
| Process Study Hall, Lunch and Transfer Classes | Determines whether Courses in the Course Master that are identified with a Category of Study Hall, Lunch, or Transfer are processed by the utility. |

| Option  | Description   |
|---|---|
| Only Initialize Classes Built by the Master Builder | Determines whether Courses that have been placed through the Master Schedule Builder or Interactive Scheduling Board are processed by the utility. This is used after the Master Schedule Builder or Interactive Scheduling Board suggested periods for some classes. It deletes the suggested periods so you can start over without resetting any periods you set up manually. |
| Terms To Process                                    | Determines which Courses are included on the utility by the terms the Courses are offered. Typically, this selection is All=All Year.   |
| Prompt Per Section                                  | Loads the first class to be processed. Based on options selected, you can choose to process or skip each class.   |
| Initialize Scheduling Period                        | Changes the existing Scheduling Period to 00 on the Meeting Pattern. This tells the software that the Meeting Pattern has not been placed in the Master Schedule and needs to be placed. The Attendance and Display Period values are not set to 00. Instead, they are left at last year's values.  |
| Initialize Lunch Code                               | Changes the Lunch Code box to None on the Meeting Pattern.  |
| Initialize Teacher                                  | Changes the Teacher box to None on the Meeting Pattern.   |
| Initialize Building/Room Number                     | Changes the Building box to the Section default (if one exists), Entity Year default (if one exists) or None, and changes the Room Number box on the Meeting Pattern to None.   |

**Table 5 - Options on the Initialize Class Meet Details screen**

The Display and Attendance Period fields on the Meet are not initialized during the utility and show the Period that the Course was offered in last year. If you initialize the Scheduling Period and then use the Master Builder tools (Interactive Scheduling Board or one of the Master Schedule Builder processes) to move classes around, the Display and Attendance Period fields are updated with the new Period placement. If the results are not satisfactory, consider the following two options:

- Restore Schedule Master to Previous Save Point from a Save Point taken right after you initialized the Scheduling Period. To learn how to run the utility, see "Restore to a Selected Course Master Backup" in the *WSIPC Guide to Future Scheduling: Part One - Preparing to Schedule*.
- Re-run the Initialize Utility to set all of the Scheduling Periods on the Meets back to Period 0. However, because you moved the class, the Display and Attendance Periods were updated to the same Period as the Scheduling Period (whichever Period you chose to place the class in). The Display and Attendance Periods no longer represent where the class was offered last year.

# Step 5: Calculate Potential Conflicts in the Schedule Master

Before you can create the Schedule Master, the software must know what conflicts will exist if Sections are placed in the same Period of the Schedule Master. The Conflict Matrix is the primary tool used to find these possible conflicts. This utility looks at each combination of two Courses and the number of students who have requested both Courses.

*Example:*

The following students have requested AP Calculus and Chemistry:

| <b>AP Calculus</b> | <b>Chemistry</b> |
|--------------------|------------------|
| Susan Anderson *   | Robert Aders     |
| Joseph Axelron     | Susan Anderson * |
| Mary Ballman       | Richard Azinger  |
| John Dodson *      | John Dodson *    |
| Shannon Hall *     | Shannon Hall *   |

The three students with asterisks (\*) after their names have requested both Courses. On a Conflict Matrix, AP Calculus and Chemistry have a “cross-reference” conflict of 3. This means that if each of these Courses has only one Section *and* these Sections are assigned to the same period, three conflicts will occur. If more Sections are available for each Course, the likelihood of true conflicts decreases.

There are two types of conflicts: *actual conflicts* and *estimated conflicts*. Actual conflicts occur if students request two Courses with one Section each, offered in the same Period. Estimated conflicts occur if there are additional Sections of each Course and the software estimates the conflicts.

When suggesting Periods for classes, the Master Schedule Builder and the Interactive Scheduling Board use the information that is generated by the Conflict Matrix. This is why you must run this utility.

The Conflict Matrix Utility creates a data file containing information about the cross-reference conflict (that is, for each pair of Courses in the Course file it looks at how many students have requested both Courses). All active and inactive Courses, as well as Courses without Sections, are included when the Conflict Matrix is created. However, if all Sections of a Course are inactive, the Course will not be included.

While you can view the Conflict Matrix, there is typically no reason to do so. You can view the details of the conflicts (student names) between Courses within the Interactive Master Schedule Builder and Interactive Scheduling Board. You can also view and print the details of the Conflict Matrix (Student Management\Office\FS\BM\RE\PC).

---

|             |   |
|-------------|---|
| <b>Note</b> | Re-run the Conflict Matrix after adding or removing a Section/Meeting Pattern in the Course Master or if you make changes to student requests. If this option is not re-run after changes are made, the Master Schedule Builder and Interactive Scheduling Board will use inaccurate information. |
|-------------|---|

---

To calculate potential conflicts in the Schedule Master:

1. Go to Student Management\Office\FS\BM Setup\UT\CC.
2. Verify that the correct School Year is selected. This defaults to the school year to be scheduled.
3. Click Run.

# Step 6: Learn to Use the Interactive Scheduling Board and the Master Schedule Builder

To create the Schedule Master, you decide in which period of the day a Course will be offered, who will teach the Course, and possibly in what room or building it will be offered. The goal is to design a Schedule Master that creates the fewest number of scheduling conflicts.

Three methods for creating the Schedule Master are discussed in this Guide:

- [Scheduling Using the Interactive Scheduling Board](#)
- [Scheduling Using the Master Schedule Builder](#)
- [Scheduling Using Both Methods Interchangeably](#)

This section explains each method.

---

**Note** The Advanced Master Schedule Builder (AMSB) can also be used to build the Schedule Master but is not discussed in this Guide because this process requires significant setup and understanding. To learn more about this process, see the *WSIPC Guide to Advanced Master Schedule Builder Process*.

---

## Scheduling Using the Interactive Scheduling Board

If you've scheduled by hand before, you've probably created a master schedule by placing a large grid on the wall, floor or magnetic board containing all Courses and periods. The Interactive Scheduling Board is an electronic version of this labor-intensive method that lets you analyze Courses and move "chips" with your mouse. Information about conflicts, teacher and room status and student counts are readily available. Each "chip" on the scheduling board represents a unique Meeting Pattern in the Course Master.

The Interactive Scheduling Board uses the same analysis techniques and offers the same information as the Master Schedule Builder, but it allows you to view the entire Schedule Master at a glance rather than one Section at a time.

## Configuring the Range Options Screen

This section explains how to configure the Interactive Scheduling Board Ranges screen. The Range Options screen determines which Courses are available for placement on the Scheduling Board. This screen must be configured the first time you use the Interactive Scheduling Board. You can save your Ranges screen parameters so that you don't have to configure them each time you access the board.

To configure the Range Options screen:

1. Go to Student Management\Office\FS\BM\SB.
2. Configure the Range Options screen (Figure 8). See Table 6 for a description of options on this screen.
3. Click OK.

After you click OK, the Interactive Scheduling Board screen appears and you can begin creating the Schedule Master. To learn how to do this, see "[Placing Sections Using the Interactive Scheduling Board](#)" (page 56).



Figure 8 – Range Options screen

| Option  | Description   |
|---|---|
| Use Paging when Displaying Scheduling Board Items | Determines whether all Sections appear on one page so that the page can load faster.<br><br><b>Note:</b> You cannot clear this check box when using Internet Explorer. To clear this check box, you must use another Web browser such as Firefox or Chrome. |
| Course Key/Section                                | Selects the specific Course Codes and Sections that will be available on the Interactive Scheduling Board.  |

| Option                             | Description   |
|------------------------------------|---|
| Grade/Grad Yr                      | Specifies the Courses and Sections available for display or selection based on the Grade Ranges value on the Course in the Course Master.   |
| Subject                            | Specifies the Courses and Sections for display or selection based on the Subject value on the Course in the Course Master.  |
| Type                               | Specifies the Courses and Sections available based on the Type (such as Regular, Skill Center, Vocational) value on the Course in the Course Master.  |
| Department                         | Specifies the Courses and Sections available for display or selection based on the Department value on the Course in the Course Master.   |
| Actual # of Sections               | Specifies the Courses and Sections available for display or selection based on the Actual Nbr of Sections value on the Course in the Course Master.   |
| Include All Scheduling Teams/Teams | <p>Selects Course Sections available for display or selection based on the Scheduling Team assigned on the Section in the Course Master.</p> <p>When Include All Scheduling Teams is selected, all Sections of the Course are selected even if a Scheduling Team is not assigned. When Include All Scheduling Teams is not selected and the Teams button is clicked, only those Sections with a matching Team Scheduling assignment appear.</p> |
| Course Status                      | Specifies the Courses available for display or selection based on the Course Status value on the Course in the Course Master.   |
| Elective/Required                  | Specifies the Courses and Sections available for display or selection based on the Elective/Required value on the Course in the Course Master.  |

| Option  | Description  |
|---|--|
| Scheduling Type   | Specifies the Courses and Sections available for display or selection based on the Scheduling Type value on the Course in the Course Master.   |
| Class Status  | Specifies the Sections available for display or selection based on the Class Status value on the Section in the Course Master.   |
| Honor the ‘Display This Class Meet On Student Schedules’ option for each Class Meet | Honors the Display this Class Meet on Student Schedules option for Class Meets. If you don’t select this option, all Meets are displayed.  |
| Name Key  | Selects the specific staff members who will be available for display or selection on the Interactive Scheduling Board to assign to a chip (Meeting Pattern).   |
| Include Staff Not Flagged as Teachers   | Determines whether staff members are displayed if they are not flagged as teachers on their Staff Record. If you haven’t assigned staff to the Meeting Patterns, consider selecting this option so that chips are displayed on the Scheduling Board.   |
| Show Staff Unavailability   | Determines whether a chip is displayed on the Scheduling Board in one or more Periods of the day for a staff member based on the Do Not Schedule Time Entry box on the Staff Record. See “Step 4 – Maintain Staff” in the <i>WSIPC Guide to Future Scheduling: Part One - Preparing to Schedule</i> to learn more about the Do Not Schedule Time Entry option. |
| Do Not Display Warnings when Selecting a Suggested Values                           | Suppresses warnings on the Scheduling Board Analysis screen regarding possible conflicts. If selected, you can view warnings by clicking applicable buttons (Conflict, Staff, or Room).  |

**Table 6 - Options on the Interactive Scheduling Board Range screen**

## Customizing the Interactive Scheduling Board

The Scheduling Board contains options that allow you to customize how the board looks and how the data appears. You can customize the color of the chips and determine what the color represents, you can sort data by Courses, teachers or rooms, and you can display windows of information that help you make decisions.

### Toolbar Options

The toolbar at the top of the Scheduling Board has five menus that allow you to change the appearance of the screen and analyze and schedule sections (Figure 9).



Figure 9 - Interactive Scheduling Board Toolbar menu

Each menu on the toolbar is discussed below.

### Options Menu

The first Toolbar menu is Options (Figure 10). The options in this menu allow you to customize chip colors, go back to the Ranges screen and change the values you set initially, and save customized parameters. Table 7 describes each option in the Options menu.



Figure 10 - Options menu

| Option       | Description   |
|--------------|---|
| Chip Options | Defines the color of the chips, either by the Courses Estimated Section value (estimated number of Sections), Control Set length (Semester 1, Semester 2, Year, etc.), or the Scheduling Team assigned to a Section. You can also define the color of Staff Unavailability chips. To learn more about the Do Not Schedule Time Entry Records option, see "Step 4 – Maintain Staff" in the <i>WSIPC Guide to Future Scheduling: Part One - Preparing to Schedule</i> . |

| Option          | Description  |
|-----------------|--|
| Ranges          | Displays the Ranges screen that you see upon first entering the Scheduling Board. See Table 6 (page 40) to learn more about Range information.   |
| Save Options To | Allows you to save changes to the set of Options currently being used (appears in the list in red font). This option does not appear until at least one set of Options has been saved.   |
| Save Options As | Allows you to save selections on the Ranges screen for use when opening the Scheduling Board in the future. You are asked to create a name for the ranges. One set of ranges is marked as the default parameters, which will load when you open the Scheduling Board. You can load different saved ranges using Load Options. After saving a set of ranges, a new item appears in the Options toolbar called Save Options to [name of saved ranges]. This allows you to quickly save any changes to your ranges. |
| Load Options    | Allows you to select a set of saved ranges other than the currently used set of saved ranges, to load to the Scheduling Board and to work with. This could be helpful to load colors for different purposes (one set of colors for Control Sets and another set for Estimated Number of Sections), but both are based on the same chip placement.  |
| Reset Options   | Resets all screen options to the default values.   |

**Table 7 - Interactive Scheduling Board Toolbar options**

Figure 11 shows what the Interactive Scheduling Board can look like when the chips are customized to specific colors. In this example, the chip colors are based on Control Sets, where Green = Semester 1 and Yellow = Semester 2.

| Options          | View                 | Tools   | Window | Help   | Prd. 00 | Prd. 01 | Prd. 02 | Prd. 03 | Prd. 04 | Prd. 05 | Prd. 06 | Prd. 07 |
|------------------|----------------------|---------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|
| Sort Top Refresh | First Prev Next Last | Search: |        |        |         |         |         |         |         |         |         |         |
| ART110           | Sec 01               | *       |        |        |         |         |         |         |         |         |         | ART110  |
| ART120           | Sec 11               | *       |        |        |         |         |         |         |         |         |         | ART120  |
| ART230           | Sec 01               | *       |        |        |         |         |         |         |         |         |         | ART230  |
| ART240           | Sec 11               | *       |        |        |         |         |         |         |         |         |         | ART240  |
| ART314           | Sec 06               | *       | Sec 01 | Sec 02 |         |         |         |         |         |         |         | ART314  |
| ART324           | Sec 66               | *       | Sec 11 | Sec 22 |         |         |         |         |         |         |         | ART324  |
| ASB100           | Sec 01               | *       |        |        |         |         |         |         |         |         |         | ASB100  |
| ASB200           | Sec 02               | *       |        |        |         |         |         |         |         |         |         | ASB200  |
| ENG110           | Sec 04               | *       |        |        |         |         |         |         |         |         |         | ENG110  |
| ENG125           | Sec 44               | *       |        |        |         |         |         |         |         |         |         | ENG125  |
| ENG210           | Sec 02               | *       | Sec 01 |        |         |         |         |         |         |         |         | ENG210  |
| ENG225           | Sec 22               | *       | Sec 11 |        |         |         |         |         |         |         |         | ENG225  |
| ENG310           |                      |         |        | Sec 02 |         |         |         |         |         |         |         | ENG310  |
| ENG311           | Sec 06               | *       |        |        |         |         |         | Sec 04  |         |         |         | ENG311  |
| ENG321           | Sec 66               | *       |        |        |         |         |         | Sec 44  |         |         |         | ENG321  |
| ENG325           |                      |         |        |        | Sec 22  |         |         |         |         |         |         | ENG325  |
| ENG410           | Sec 03               | *       |        |        |         |         |         |         |         |         |         | ENG410  |
| ENG412           |                      |         |        |        |         |         |         |         | Sec 05  |         |         | ENG412  |
| ENG420           | Sec 33               | *       |        |        |         |         |         |         |         |         |         | ENG420  |
| ENG422           |                      |         |        |        |         |         |         |         |         | Sec 55  |         | ENG422  |
| ENG460           |                      |         |        |        |         |         |         |         |         |         | Sec 06  | ENG460  |
| ENG462           |                      |         |        |        |         |         |         |         |         |         | Sec 66  | ENG462  |
| IND100           | Sec 02               | *       |        |        |         |         |         |         |         |         |         | IND100  |
| IND120           | Sec 22               | *       |        |        |         |         |         |         |         |         |         | IND120  |
| IND211           | Sec 02               | *       |        |        |         |         |         |         |         |         |         | IND211  |
| IND221           | Sec 22               | *       |        |        |         |         |         |         |         |         |         | IND221  |
| IND311           | Sec 04               | *       |        |        |         |         | Sec 03  |         |         |         |         | IND311  |
| IND321           | Sec 44               | *       |        |        |         |         | Sec 33  |         |         |         |         | IND321  |
| Sort Top Refresh | First Prev Next Last | Search: |        |        | Prd. 00 | Prd. 01 | Prd. 02 | Prd. 03 | Prd. 04 | Prd. 05 | Prd. 06 | Prd. 07 |

Figure 11 - Interactive Scheduling Board with specific colors identified in Chip Options

### View Menu

The options in the View menu (Figure 12) allow you to customize how the data on the Scheduling Board is displayed. You determine whether the data is displayed by Courses, by teachers, or by rooms. In addition, you can determine whether that data (by Courses, by teachers, or by rooms) is displayed by year, semester or term. Table 8 describes each option in the View menu.

| Options          | View                  | Tools   | Window  | Help    |
|------------------|-----------------------|---------|---------|---------|
| Sort Top Refresh | Course Breakdown      |         |         |         |
| First Prev       | ✓ By Year             |         |         | Prd. 02 |
| Search:          | By Semester           | Prd. 00 | Prd. 01 |         |
|                  | By Term               |         |         |         |
| ART110           | Courses               |         |         |         |
| ART120           | ✓ By Course Key       |         |         |         |
| ART230           | By Short Description  |         |         |         |
| ART240           | By Estimated Sections |         |         |         |
| ART314           | By Subject            |         |         | Sec 02  |
| ART324           | Teachers              | Sec 66  | Sec 11  | Sec 22  |
| ASB100           | By Name Key           |         |         |         |
| ASB200           | By Short Name         |         |         |         |
| ENG110           | By Primary Department |         |         |         |
| ENG125           | Rooms                 |         |         |         |
| ENG210           | By Building Room      |         |         |         |
| ENG225           | By Room Description   |         |         |         |
| ENG310           | By Room Type          | Sec 33  | Sec 11  | Sec 02  |

Figure 12 - View menu

| Option                          | Description  |
|---------------------------------|--|
| [Course/Teacher/Room] Breakdown | <p>The wording of this option depends on the selection made in the lower portion of the menu. For example, if a Teacher selection has been made, the option reads as Teacher Breakdown.</p> <p>The options By Year, By Semester, and By Term determine how many rows of data are available for the Teacher/Course/Room. For example: if the view is By Teacher and a teacher has Courses assigned Period 01 in both Semester 01 and Semester 02, the By Semester view would show only Semester 01 classes in the Semester 01 row of the teacher’s name and only Semester 02 classes in the Semester 02 row.</p>  |
| Courses                         | <p>Displays Courses vertically in the left-hand column. Chips can be moved (within the Course’s row only) to the desired period.</p>   |
| Teachers                        | <p>Displays teachers vertically in the left-hand column. Chips can be moved to the desired teacher and period, but will not appear on the board unless they are currently assigned to a teacher. For information about this, see <a href="#">“Placing Sections Using the Interactive Scheduling Board”</a> (page 56).</p> <p>If By Primary Departments is selected, Primary Departments must be assigned to a staff member for this option to display appropriately. To learn more about Primary Departments, see “Step 4 – Maintain Staff” in the <i>WSIPC Guide to Future Scheduling: Part One - Preparing to Schedule</i>.</p> <p>If the Scheduling Configuration option (Student Management\Office\FS Setup\CF\SC) Assign Default Building/Room from Teacher’s Staff Entity Record has been enabled, when chips are moved from one teacher to another on the board, you are prompted to assign the teacher’s building and room defaults to the Meeting Pattern for the chip. For this functionality to work, building and room defaults must be assigned in Staff Profile (Student Management\Staff\SF\SF\Entity).</p> |

| Option | Description  |
|--------|--|
| Rooms  | Displays rooms vertically in the left-hand column. Chips can be moved to a room and period but do not appear on the board unless they are assigned to a period and/or room. For information about this, see <a href="#">"Placing Sections Using the Interactive Scheduling Board"</a> (page 56). |

**Table 8 - Options on the View menu**

Figure 13 is an example of what the Interactive Scheduling Board can look like when the View is customized By Semester. The difference between this view and the view in Figure 11 on page 43 (customized By Year) is that Green chips (Semester 1) and Yellow chips (Semester 2) are on different rows for each Course. There is one row per Semester, so there are two rows per Course because this Entity has two Semesters defined in their Scheduling setup. To see how the chips are now divided per Semester, look at Course ART314 and ART324 in Figure 13 below. The Sections for Semester 1 (Green chips) appear on a separate row than the Sections for Semester 2 (Yellow chips).

| Options  | View   | Tools | Window | Help   | Prd. 00 | Prd. 01 | Prd. 02 | Prd. 03            | Prd. 04            | Prd. 05            | Prd. 06 | Prd. 07 |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |
|--|--------|-------|--------|--------|---------|---------|---------|--------------------|--------------------|--------------------|---------|---------|--------------------|--------|---|--|--|--|--|--|--|--|--------------------|--|--------------------|--|--|--|--|--|--|--|--|--|--------------------|--|--------------------|--|--|--|--|--|--|--|--|--|--------------------|--|--------------------|--------|---|--|--|--|--|--|--|--|--------------------|--|--------------------|--------|---|--|--|--|--|--|--|--|--------------------|--|--------------------|--|--|--|--|--|--|--|--|--|--------------------|--|--------------------|--|--|--|--|--|--|--|--|--|--------------------|--|--------------------|--------|---|--|--|--|--|--|--|--|--------------------|--|--------------------|--------|---|--------|--------|--|--|--|--|--------------------|--|--------------------|--|--|--|--|--|--|--|--|--|--------------------|--|--------------------|--|--|--|--|--|--|--|--|--|--------------------|--|--------------------|--------|---|--------|--------|--|--|--|--|--------------------|--|--------------------|--------|---|--|--|--|--|--|--|--|--------------------|--|--------------------|--|--|--|--|--|--|--|--|--|--------------------|--|--------------------|--|--|--|--|--|--|--|--|--|--------------------|--|--------------------|--------|---|--|--|--|--|--|--|--|--------------------|--|--------------------|--------|---|--|--|--|--|--|--|--|--------------------|--|--------------------|--|--|--|--|--|--|--|--|--|--------------------|--|--------------------|--|--|--|--|--|--|--|--|--|--------------------|--|--------------------|--------|---|--|--|--|--|--|--|--|--------------------|--|--------------------|--------|---|--------|--|--|--|--|--|--|--------------------|--|--------------------|--|--|--|--|--|--|--|--|--|--------------------|--|--------------------|--|--|--|--|--|--|--|--|--|--------------------|--|--------------------|--------|---|--------|--|--|--|--|--------------------|--|--------------------|--|--|--|--|--|--|--|--|--|--------------------|--|--------------------|--|--|--|--|--|--|--|--|--|--------------------|--|--------------------|--------|---|--|--|--|--|--|--|--|--------------------|--|--------------------|--|--|--|--|--|--|--|--|--|--------------------|--|
| <div style="display: flex; justify-content: space-between;"> <div>                     Sgrr Top Refresh<br/>                     First Prev Next Last<br/>                     Search:                 </div> <div>                     Sort Top Refresh<br/>                     First Prev Next Last<br/>                     Search:                 </div> </div>  |        |       |        |        |         |         |         |                    |                    |                    |         |         |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">ART110 (SEMESTER1)</td> <td style="width: 10%;">Sec 01</td> <td style="width: 10%;">*</td> <td colspan="7"></td> <td style="width: 10%;">ART110 (SEMESTER1)</td> <td style="width: 10%;"></td> </tr> <tr> <td>ART110 (SEMESTER2)</td> <td></td> <td></td> <td colspan="7"></td> <td>ART110 (SEMESTER2)</td> <td></td> </tr> <tr> <td>ART120 (SEMESTER1)</td> <td></td> <td></td> <td colspan="7"></td> <td>ART120 (SEMESTER1)</td> <td></td> </tr> <tr> <td>ART120 (SEMESTER2)</td> <td>Sec 66</td> <td>*</td> <td colspan="7"></td> <td>ART120 (SEMESTER2)</td> <td></td> </tr> <tr> <td>ART230 (SEMESTER1)</td> <td>Sec 05</td> <td>*</td> <td colspan="7"></td> <td>ART230 (SEMESTER1)</td> <td></td> </tr> <tr> <td>ART230 (SEMESTER2)</td> <td></td> <td></td> <td colspan="7"></td> <td>ART230 (SEMESTER2)</td> <td></td> </tr> <tr> <td>ART240 (SEMESTER1)</td> <td></td> <td></td> <td colspan="7"></td> <td>ART240 (SEMESTER1)</td> <td></td> </tr> <tr> <td>ART240 (SEMESTER2)</td> <td>Sec 66</td> <td>*</td> <td colspan="7"></td> <td>ART240 (SEMESTER2)</td> <td></td> </tr> <tr> <td>ART314 (SEMESTER1)</td> <td>Sec 05</td> <td>*</td> <td>Sec 01</td> <td>Sec 02</td> <td colspan="4"></td> <td>ART314 (SEMESTER1)</td> <td></td> </tr> <tr> <td>ART314 (SEMESTER2)</td> <td></td> <td></td> <td colspan="7"></td> <td>ART314 (SEMESTER2)</td> <td></td> </tr> <tr> <td>ART324 (SEMESTER1)</td> <td></td> <td></td> <td colspan="7"></td> <td>ART324 (SEMESTER1)</td> <td></td> </tr> <tr> <td>ART324 (SEMESTER2)</td> <td>Sec 66</td> <td>*</td> <td>Sec 11</td> <td>Sec 22</td> <td colspan="4"></td> <td>ART324 (SEMESTER2)</td> <td></td> </tr> <tr> <td>ASB100 (SEMESTER1)</td> <td>Sec 01</td> <td>*</td> <td colspan="7"></td> <td>ASB100 (SEMESTER1)</td> <td></td> </tr> <tr> <td>ASB100 (SEMESTER2)</td> <td></td> <td></td> <td colspan="7"></td> <td>ASB100 (SEMESTER2)</td> <td></td> </tr> <tr> <td>ASB200 (SEMESTER1)</td> <td></td> <td></td> <td colspan="7"></td> <td>ASB200 (SEMESTER1)</td> <td></td> </tr> <tr> <td>ASB200 (SEMESTER2)</td> <td>Sec 02</td> <td>*</td> <td colspan="7"></td> <td>ASB200 (SEMESTER2)</td> <td></td> </tr> <tr> <td>ENG110 (SEMESTER1)</td> <td>Sec 05</td> <td>*</td> <td colspan="7"></td> <td>ENG110 (SEMESTER1)</td> <td></td> </tr> <tr> <td>ENG110 (SEMESTER2)</td> <td></td> <td></td> <td colspan="7"></td> <td>ENG110 (SEMESTER2)</td> <td></td> </tr> <tr> <td>ENG125 (SEMESTER1)</td> <td></td> <td></td> <td colspan="7"></td> <td>ENG125 (SEMESTER1)</td> <td></td> </tr> <tr> <td>ENG125 (SEMESTER2)</td> <td>Sec 66</td> <td>*</td> <td colspan="7"></td> <td>ENG125 (SEMESTER2)</td> <td></td> </tr> <tr> <td>ENG210 (SEMESTER1)</td> <td>Sec 05</td> <td>*</td> <td>Sec 01</td> <td colspan="6"></td> <td>ENG210 (SEMESTER1)</td> <td></td> </tr> <tr> <td>ENG210 (SEMESTER2)</td> <td></td> <td></td> <td colspan="7"></td> <td>ENG210 (SEMESTER2)</td> <td></td> </tr> <tr> <td>ENG225 (SEMESTER1)</td> <td></td> <td></td> <td colspan="7"></td> <td>ENG225 (SEMESTER1)</td> <td></td> </tr> <tr> <td>ENG225 (SEMESTER2)</td> <td>Sec 55</td> <td>*</td> <td>Sec 11</td> <td colspan="4"></td> <td>ENG225 (SEMESTER2)</td> <td></td> </tr> <tr> <td>ENG310 (SEMESTER1)</td> <td></td> <td></td> <td colspan="7"></td> <td>ENG310 (SEMESTER1)</td> <td></td> </tr> <tr> <td>ENG310 (SEMESTER2)</td> <td></td> <td></td> <td colspan="7"></td> <td>ENG310 (SEMESTER2)</td> <td></td> </tr> <tr> <td>ENG311 (SEMESTER1)</td> <td>Sec 05</td> <td>*</td> <td colspan="7"></td> <td>ENG311 (SEMESTER1)</td> <td></td> </tr> <tr> <td>ENG311 (SEMESTER2)</td> <td></td> <td></td> <td colspan="7"></td> <td>ENG311 (SEMESTER2)</td> <td></td> </tr> </table> |        |       |        |        |         |         |         |                    |                    |                    |         |         | ART110 (SEMESTER1) | Sec 01 | * |  |  |  |  |  |  |  | ART110 (SEMESTER1) |  | ART110 (SEMESTER2) |  |  |  |  |  |  |  |  |  | ART110 (SEMESTER2) |  | ART120 (SEMESTER1) |  |  |  |  |  |  |  |  |  | ART120 (SEMESTER1) |  | ART120 (SEMESTER2) | Sec 66 | * |  |  |  |  |  |  |  | ART120 (SEMESTER2) |  | ART230 (SEMESTER1) | Sec 05 | * |  |  |  |  |  |  |  | ART230 (SEMESTER1) |  | ART230 (SEMESTER2) |  |  |  |  |  |  |  |  |  | ART230 (SEMESTER2) |  | ART240 (SEMESTER1) |  |  |  |  |  |  |  |  |  | ART240 (SEMESTER1) |  | ART240 (SEMESTER2) | Sec 66 | * |  |  |  |  |  |  |  | ART240 (SEMESTER2) |  | ART314 (SEMESTER1) | Sec 05 | * | Sec 01 | Sec 02 |  |  |  |  | ART314 (SEMESTER1) |  | ART314 (SEMESTER2) |  |  |  |  |  |  |  |  |  | ART314 (SEMESTER2) |  | ART324 (SEMESTER1) |  |  |  |  |  |  |  |  |  | ART324 (SEMESTER1) |  | ART324 (SEMESTER2) | Sec 66 | * | Sec 11 | Sec 22 |  |  |  |  | ART324 (SEMESTER2) |  | ASB100 (SEMESTER1) | Sec 01 | * |  |  |  |  |  |  |  | ASB100 (SEMESTER1) |  | ASB100 (SEMESTER2) |  |  |  |  |  |  |  |  |  | ASB100 (SEMESTER2) |  | ASB200 (SEMESTER1) |  |  |  |  |  |  |  |  |  | ASB200 (SEMESTER1) |  | ASB200 (SEMESTER2) | Sec 02 | * |  |  |  |  |  |  |  | ASB200 (SEMESTER2) |  | ENG110 (SEMESTER1) | Sec 05 | * |  |  |  |  |  |  |  | ENG110 (SEMESTER1) |  | ENG110 (SEMESTER2) |  |  |  |  |  |  |  |  |  | ENG110 (SEMESTER2) |  | ENG125 (SEMESTER1) |  |  |  |  |  |  |  |  |  | ENG125 (SEMESTER1) |  | ENG125 (SEMESTER2) | Sec 66 | * |  |  |  |  |  |  |  | ENG125 (SEMESTER2) |  | ENG210 (SEMESTER1) | Sec 05 | * | Sec 01 |  |  |  |  |  |  | ENG210 (SEMESTER1) |  | ENG210 (SEMESTER2) |  |  |  |  |  |  |  |  |  | ENG210 (SEMESTER2) |  | ENG225 (SEMESTER1) |  |  |  |  |  |  |  |  |  | ENG225 (SEMESTER1) |  | ENG225 (SEMESTER2) | Sec 55 | * | Sec 11 |  |  |  |  | ENG225 (SEMESTER2) |  | ENG310 (SEMESTER1) |  |  |  |  |  |  |  |  |  | ENG310 (SEMESTER1) |  | ENG310 (SEMESTER2) |  |  |  |  |  |  |  |  |  | ENG310 (SEMESTER2) |  | ENG311 (SEMESTER1) | Sec 05 | * |  |  |  |  |  |  |  | ENG311 (SEMESTER1) |  | ENG311 (SEMESTER2) |  |  |  |  |  |  |  |  |  | ENG311 (SEMESTER2) |  |
| ART110 (SEMESTER1)   | Sec 01 | *     |        |        |         |         |         |                    |                    | ART110 (SEMESTER1) |         |         |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |
| ART110 (SEMESTER2)   |        |       |        |        |         |         |         |                    |                    | ART110 (SEMESTER2) |         |         |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |
| ART120 (SEMESTER1)   |        |       |        |        |         |         |         |                    |                    | ART120 (SEMESTER1) |         |         |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |
| ART120 (SEMESTER2)   | Sec 66 | *     |        |        |         |         |         |                    |                    | ART120 (SEMESTER2) |         |         |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |
| ART230 (SEMESTER1)   | Sec 05 | *     |        |        |         |         |         |                    |                    | ART230 (SEMESTER1) |         |         |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |
| ART230 (SEMESTER2)   |        |       |        |        |         |         |         |                    |                    | ART230 (SEMESTER2) |         |         |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |
| ART240 (SEMESTER1)   |        |       |        |        |         |         |         |                    |                    | ART240 (SEMESTER1) |         |         |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |
| ART240 (SEMESTER2)   | Sec 66 | *     |        |        |         |         |         |                    |                    | ART240 (SEMESTER2) |         |         |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |
| ART314 (SEMESTER1)   | Sec 05 | *     | Sec 01 | Sec 02 |         |         |         |                    | ART314 (SEMESTER1) |                    |         |         |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |
| ART314 (SEMESTER2)   |        |       |        |        |         |         |         |                    |                    | ART314 (SEMESTER2) |         |         |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |
| ART324 (SEMESTER1)   |        |       |        |        |         |         |         |                    |                    | ART324 (SEMESTER1) |         |         |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |
| ART324 (SEMESTER2)   | Sec 66 | *     | Sec 11 | Sec 22 |         |         |         |                    | ART324 (SEMESTER2) |                    |         |         |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |
| ASB100 (SEMESTER1)   | Sec 01 | *     |        |        |         |         |         |                    |                    | ASB100 (SEMESTER1) |         |         |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |
| ASB100 (SEMESTER2)   |        |       |        |        |         |         |         |                    |                    | ASB100 (SEMESTER2) |         |         |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |
| ASB200 (SEMESTER1)   |        |       |        |        |         |         |         |                    |                    | ASB200 (SEMESTER1) |         |         |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |
| ASB200 (SEMESTER2)   | Sec 02 | *     |        |        |         |         |         |                    |                    | ASB200 (SEMESTER2) |         |         |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |
| ENG110 (SEMESTER1)   | Sec 05 | *     |        |        |         |         |         |                    |                    | ENG110 (SEMESTER1) |         |         |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |
| ENG110 (SEMESTER2)   |        |       |        |        |         |         |         |                    |                    | ENG110 (SEMESTER2) |         |         |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |
| ENG125 (SEMESTER1)   |        |       |        |        |         |         |         |                    |                    | ENG125 (SEMESTER1) |         |         |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |
| ENG125 (SEMESTER2)   | Sec 66 | *     |        |        |         |         |         |                    |                    | ENG125 (SEMESTER2) |         |         |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |
| ENG210 (SEMESTER1)   | Sec 05 | *     | Sec 01 |        |         |         |         |                    |                    | ENG210 (SEMESTER1) |         |         |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |
| ENG210 (SEMESTER2)   |        |       |        |        |         |         |         |                    |                    | ENG210 (SEMESTER2) |         |         |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |
| ENG225 (SEMESTER1)   |        |       |        |        |         |         |         |                    |                    | ENG225 (SEMESTER1) |         |         |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |
| ENG225 (SEMESTER2)   | Sec 55 | *     | Sec 11 |        |         |         |         | ENG225 (SEMESTER2) |                    |                    |         |         |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |
| ENG310 (SEMESTER1)   |        |       |        |        |         |         |         |                    |                    | ENG310 (SEMESTER1) |         |         |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |
| ENG310 (SEMESTER2)   |        |       |        |        |         |         |         |                    |                    | ENG310 (SEMESTER2) |         |         |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |
| ENG311 (SEMESTER1)   | Sec 05 | *     |        |        |         |         |         |                    |                    | ENG311 (SEMESTER1) |         |         |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |
| ENG311 (SEMESTER2)   |        |       |        |        |         |         |         |                    |                    | ENG311 (SEMESTER2) |         |         |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |        |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |        |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |                    |        |   |  |  |  |  |  |  |  |                    |  |                    |  |  |  |  |  |  |  |  |  |                    |  |

**Figure 13 - Interactive Scheduling Board with the View set to By Semester**



When the Scheduling Board is customized to view By Primary Department (Figure 14), you can view the teachers who have been assigned to the same Primary Department grouped together. In Figure 14, the first three teachers listed have been assigned to the same Primary Department (ENG).

| Options           | View | Tools    | Window          | Help     | Prd. 00  | Prd. 01  | Prd. 02  | Prd. 03  | Prd. 04         | Prd. 05         | Prd. 06  | Prd. 07           |
|-------------------|------|----------|-----------------|----------|----------|----------|----------|----------|-----------------|-----------------|----------|-------------------|
| Sort              | Top  | Refresh  |                 |          |          |          |          |          |                 |                 |          |                   |
| First             | Prev | Next     | Last            |          |          |          |          |          |                 |                 |          |                   |
| Search:           |      |          |                 |          |          |          |          |          |                 |                 |          |                   |
| ENG - CStudiant   |      | ENG125 * |                 |          |          |          |          |          |                 |                 | ENG462 * | ENG - CStudiant   |
| ENG - DLambornsc  |      |          |                 |          |          |          |          |          |                 |                 |          | ENG - DLambornsc  |
| ENG - MJacotscr   |      |          |                 |          |          |          |          |          |                 |                 |          | ENG - MJacotscr   |
| ENG - MNuckelssc  |      | ENG420 * |                 | ENG325 * |          |          |          | ENG321 * | ENG422 *        |                 |          | ENG - MNuckelssc  |
| ENG - Svaccarez   |      | ENG225 * | ENG225 *        |          |          |          |          |          |                 |                 |          | ENG - Svaccarez   |
| FA - AHenningsc   |      |          |                 |          |          |          |          |          |                 |                 |          | FA - AHenningsc   |
| FA - CDenisescr   |      |          |                 | MUS520 * |          |          |          | MUS120 * |                 |                 | MUS312 * | FA - CDenisescr   |
| FA - EKnersscr    |      | ART324 * | ART324 *        | ART324 * |          |          |          |          |                 |                 |          | FA - EKnersscr    |
| FA - RVanveensc   |      |          |                 |          |          |          |          |          |                 |                 |          | FA - RVanveensc   |
| FA - SKallioscr   |      |          |                 |          |          |          |          |          |                 |                 |          | FA - SKallioscr   |
| MTH - CKreuzersc  |      |          |                 |          |          |          |          |          |                 |                 |          | MTH - CKreuzersc  |
| MTH - CNeisescr   |      |          |                 |          |          |          |          |          |                 |                 |          | MTH - CNeisescr   |
| MTH - JAlumbaugh  |      |          |                 |          |          |          |          |          |                 |                 |          | MTH - JAlumbaugh  |
| MTH - LGorgonesc  |      |          |                 |          |          |          |          |          |                 |                 |          | MTH - LGorgonesc  |
| MTH - LReiherscr  |      |          |                 |          |          |          |          |          |                 |                 |          | MTH - LReiherscr  |
| MTH - QTanbergsc  |      |          |                 |          |          |          |          |          |                 |                 |          | MTH - QTanbergsc  |
| MTH - RAlvearscr  |      |          |                 | MTH222 * | MTH462 * | MTH222 * | MTH420 * | MTH222 * | Do Not Sched. * | Do Not Sched. * |          | MTH - RAlvearscr  |
| MTH - WDaringscr  |      | ASB100 * | MTH212 *        | MTH320 * |          |          | MTH340 * |          |                 |                 |          | MTH - WDaringscr  |
| PEH - LHethscr    |      |          |                 |          |          |          |          |          |                 |                 |          | PEH - LHethscr    |
| SCI - AOsaillescr |      | SCI422 * |                 |          |          |          |          |          |                 |                 |          | SCI - AOsaillescr |
| SCI - ASchanersc  |      |          |                 |          |          |          |          |          |                 |                 |          | SCI - ASchanersc  |
| SCI - BB          |      |          | Do Not Sched. * |          |          |          |          |          |                 |                 |          | SCI - BB          |
| SCI - CGrauerscr  |      | SCI422 * |                 |          |          |          |          |          |                 |                 |          | SCI - CGrauerscr  |
| SCI - DVerburgsc  |      |          |                 |          |          |          |          |          |                 |                 |          | SCI - DVerburgsc  |
| SCI - MFontescr   |      |          |                 |          |          |          |          |          |                 |                 |          | SCI - MFontescr   |
| SCI - SJabsscr    |      |          |                 |          |          |          |          |          |                 |                 |          | SCI - SJabsscr    |
| SCI - YMccookscr  |      | SCI920 * |                 |          |          |          |          |          |                 |                 | RES155 * | SCI - YMccookscr  |
| SOC - DFormbyscr  |      | SOC225 * |                 |          |          |          |          |          |                 |                 |          | SOC - DFormbyscr  |
| Sort              | Top  | Refresh  |                 |          |          |          |          |          |                 |                 |          |                   |
| First             | Prev | Next     | Last            |          |          |          |          |          |                 |                 |          |                   |
| Search:           |      |          |                 |          |          |          |          |          |                 |                 |          |                   |

Figure 14 - Interactive Scheduling Board with the View set to By Primary Department

### Tools Menu

The next Toolbar menu is Tools (Figure 15). The options in this menu allow you to create, view and print the Conflict Matrix, provide a link to the Interactive Master Schedule Builder, and provide a link to export the data in the Scheduling Board to Excel. Table 9 describes options in the Tools menu.

| Options | View | Tools                               | Window  | Help |
|---------|------|-------------------------------------|---------|------|
| Sort    | Top  | Refresh                             |         |      |
| First   | Prev | Next                                | Last    |      |
| Search: |      |                                     |         |      |
|         |      | Create Course Conflict Matrix...    |         |      |
|         |      | View Course Conflict Matrix...      |         |      |
|         |      | Print Course Conflict Matrix...     |         |      |
|         |      | Interactive Master Schedule Builder | Prd. 02 |      |
|         |      | Export To Excel...                  |         |      |

Figure 15 - Tools menu

| Options                             | Description   |
|-------------------------------------|---|
| Create Course Conflict Matrix       | Shortcut to create a Conflict Matrix, which is a required utility when using either the Master Schedule Builder or the Interactive Scheduling Board.  |
| View Conflict Matrix                | Displays the Conflict Matrix you generated in " <a href="#">Step 5: Calculate Potential Conflicts in the Schedule Master</a> " (page 34).   |
| Print Course Conflict Matrix        | Generates a printed version of the Conflict Matrix. The Conflict Matrix does not have to be printed to determine class placement. Once the Conflict Matrix is generated, the software can analyze classes and determine their best placement.   |
| Interactive Master Schedule Builder | Shortcut to access the Interactive Master Schedule Builder, a process that assists in building the Schedule Master.   |
| Export to Excel                     | <p>Allows you to export specific fields and periods in the Scheduling Board to an Excel document. You can do this for specific terms, semesters or the entire year. You can determine whether only the first chip in each cell is printed or whether all chips in the cell are printed.</p> <p><b>Note:</b> If the Spreadsheet Format is CSV/Microsoft Office 2000 in your user Preferences, then when you select Export to Excel, you must set two additional Delimiter options: Course and Field.</p> |

**Table 9 - Options on the Tools menu**

Figure 16 and Figure 17 show the options available to export data from the Scheduling Board to Excel when the View is by Teachers or by Courses. Once you have made the selections on the screen, you can export the results to Excel. Figure 18 shows an example of data from the Scheduling Board exported to Excel based on the previous selections.

The screenshot shows the 'Scheduling Board Export Maintenance' interface. On the left, a table titled 'Fields to Print Edit' lists seven fields with checkboxes: 1. Section, 2. Course Description, 3. Teacher(full), 4. Period - Building - Room, 5. Terms - Days, 6. Class Period Times, and 7. Total Section Enrollment. On the right, there are input fields for 'Start Period: 00' and 'Stop Period: 07', a 'Print For:' dropdown set to 'Entire Year', and a 'Print' dropdown set to 'First Class' with the text 'in Cell'. A checkbox for 'Show Period Times in Heading' is present and unchecked. At the top right, there are icons for help, print, and other functions. 'Export' and 'Back' buttons are located on the right side.

Figure 16 - Export to Excel screen selections when the view is by Courses

The screenshot shows the 'Scheduling Board Export Maintenance' interface for a 'Teachers' view. The 'Fields to Print Edit' table on the left lists eight fields: 1. Course Key/Section, 2. Course Description, 3. Teacher(short), 4. Teacher(full), 5. Period - Building - Room, 6. Terms - Days, 7. Class Period Times, and 8. Total Section Enrollment. The right side features 'Start Period: 00', 'Stop Period: 07', 'Print For:' set to 'Entire Year', and a 'Teacher Display:' dropdown set to 'As on Scheduling Board'. The 'Print' dropdown is set to 'First Class' with 'in Cell' text. The 'Show Period Times in Heading' checkbox is unchecked. The top right contains navigation icons, and 'Export' and 'Back' buttons are on the right.

Figure 17 - Export to Excel screen selections when the view is by Teachers

Step 6: Learn to Use the Interactive Scheduling Board and the Master Schedule Builder

|   | A           | B  | C   | D   | E  | F  | G   | H  |
|---|-------------|--|---|---|--|--|---|--|
| 1 | AOsaillescr | Period 00<br>SCI410/02<br>PHYSICS S1<br>AOsaillescr<br>Abram Osaillescr<br>00 - 401 - H206<br>01 - 02 - MTWRF<br>0 | Period 01   | Period 02   | Period 03  | Period 04  | Period 05   | Period 06  |
| 2 | BHibbonscr  | IND100/02<br>WOODS I<br>BHibbonscr<br>Broderick Hibbonscr<br>00 - 401 - SHOP<br>01 - 02 - MTWRF<br>0               |   | IND400/02<br>ADV WOODS S1<br>BHibbonscr<br>Broderick Hibbonscr<br>02 - 401 - SHOP<br>01 - 02 - MTWRF<br>0 | IND311/03<br>WELDING I SEM 1<br>BHibbonscr<br>Broderick Hibbonscr<br>03 - 401 - SHOP<br>01 - 02 - MTWRF<br>0 | IND411/04<br>WELDING II S1<br>BHibbonscr<br>Broderick Hibbonscr<br>04 - 401 - SHOP<br>01 - 02 - MTWRF<br>0 | IND400/05<br>ADV WOODS S1<br>BHibbonscr<br>Broderick Hibbonscr<br>05 - 401 - SHOP<br>01 - 02 - MTWRF<br>0 |  |
| 3 | CDenisescr  |  |   | MUS500/02<br>GUITAR S1<br>CDenisescr<br>Connie Denisescr<br>02 - 401 - BAND<br>01 - 02 - MTWRF<br>0       | MIS101/30<br>STUDY HALL S1<br>CDenisescr<br>Connie Denisescr<br>03 - 401 - BAND<br>01 - 02 - MTWRF<br>0      | MUS115/04<br>MUS PROD FA S1<br>CDenisescr<br>Connie Denisescr<br>04 - 401 - BAND<br>01 - 02 - MTWRF<br>0   |   | MUS310/06<br>HS BAND S1<br>CDenisescr<br>Connie Denisescr<br>06 - 401 - BAND<br>01 - 02 - MTWRF<br>0 |
| 4 | CGrauerscr  | SC204/06<br>MATERIAL SCI S1<br>CGrauerscr<br>Catheryn Grauerscr<br>00 - 401 - H202<br>01 - 02 - MTWRF<br>0         | MIS101/11<br>STUDY HALL S1<br>CGrauerscr<br>Catheryn Grauerscr<br>01 - 401 - H202<br>01 - 02 - MTWRF<br>0 |   | MIS101/34<br>STUDY HALL S1<br>CGrauerscr<br>Catheryn Grauerscr<br>03 - 401 - H202<br>01 - 02 - MTWRF<br>0    |  |   |  |
| 5 |             |  |   |   |  |  |   |  |

Figure 18 - Scheduling Board data exported to Excel based on options selected in Figure 17

### Window Menu

The next Toolbar menu is Window (Figure 19). The options in this menu allow you to customize the Scheduling Board with multiple windows to help you place Course Sections and make decisions about their placement in the Schedule Master. Table 10 describes options on the Window menu.

You can view multiple windows simultaneously on the Scheduling Board to view information on a Course. Typically, this requires that you increase the resolution of your monitor to allow more windows to fit on the screen.

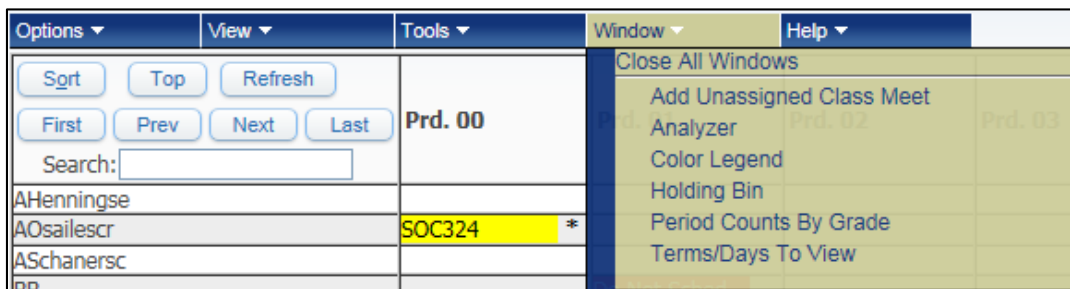


Figure 19 - Window menu

| Option                    | Description  |
|---------------------------|--|
| Close all Windows         | Closes all active windows. This does not close the scheduling board itself—it returns you to a view where only the scheduling board is open.   |
| Add Unassigned Class Meet | <p>When the View is by Teacher, it opens the window from which you can create a chip for Meeting Patterns that do not have a teacher. When the View is by Room, it opens the window from which you can create a chip for Meeting Patterns that do not have a building and room assigned.</p> <p>See <a href="#">“Placing Sections Using the Interactive Scheduling Board”</a> (page 56) to learn more about this option.</p> |
| Analyzer                  | Opens the window that appears when you right-click on a cell and click Analyze for a Section. See <a href="#">“Placing Sections Using the Interactive Scheduling Board”</a> (page 56) to learn more about this option.   |
| Color Legend              | Opens a window to display the chip color settings selected on the Chip Options screen (Figure 20 on page 52).  |
| Holding Bin               | This option is only available when the view on the board is by Teachers or Rooms. See <a href="#">“Placing Sections Using the Interactive Scheduling Board”</a> (page 56) to learn more about this option.   |

| Option                        | Description   |
|-------------------------------|---|
| <p>Period Counts by Grade</p> | <p>Displays the estimated number of students that will be scheduled by period (Figure 21 on page 52). Each count is the <b>highest</b> count of <b>any term</b> that falls within the timeframe being reviewed (Terms/Days to View, Options window selection). For example, if All=All Year, Schedule Terms=01-04 is selected in the Terms/Days to View window, the Period Counts by Grade values will be the highest count from any of the terms (i.e. Semester 1, Term 1, Term 2, Semester 2, Term 3 or Term 4). Instead, if the Terms/Days to View selection is changed to S1=Semester One, Schedule Terms=01-02, then the counts will be the highest count from only Terms 1 and 2. When viewing these counts to determine whether enough seats per grade level are filled, and All Year is selected, there may be a term that has significantly less enrollment than the counts displayed. Therefore, it is recommended that you view specific terms to ensure balanced enrollment in each term.</p> <p>Totals are provided by gender and total students, by grade/grad year for each period. The totals are calculated by running the Update Estimated Class Counts Grade Utility. Refresh can be selected after a chip is moved to a different period to see the effect on the counts.</p> <p>You can also access Period Counts by Grade in the Period Heading row. To access this option, right-click with your mouse in any Period Heading column.</p> |
| <p>Terms/Days to View</p>     | <p>Opens a window that controls the terms and weekdays of chips that are displayed (Figure 22 on page 53). This allows easy viewing of Day 1 vs. Day 2 (or M-W-F vs. T-R) and Semester 1 vs. Semester 2.</p> <p>The calculations in the Period Counts By Grade window are based on the view that you select here (for example, if you select Semester 1 as the Term/Days to View option, then only Semester 1 counts are included in Period Counts by Grade calculations).</p>  |

**Table 10 - Options on the Window menu**

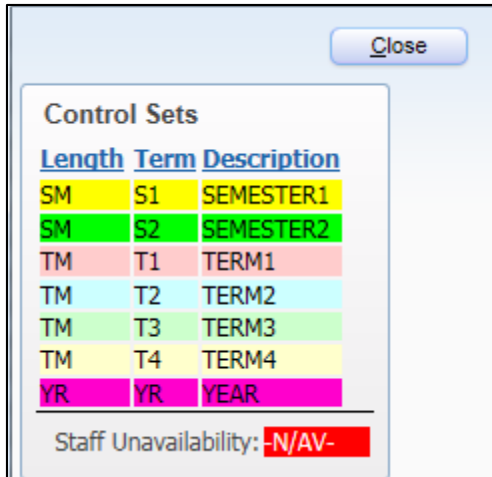


Figure 20 - Color Legend window showing the colors selected (in this example the Options\Chip Color Options is by Control Sets)

| Period ▲   | Grad Year | Grade | Females | Males | Total Students |
|------------|-----------|-------|---------|-------|----------------|
| 01         | 2017      | 12    | 19      | 24    | 43             |
| 01         | 2018      | 11    | 42      | 25    | 66             |
| 01         | 2019      | 10    | 25      | 38    | 63             |
| 01         | 2020      | 09    | 41      | 47    | 88             |
| 01 [TOTAL] | 9999      | All   | 127     | 134   | 261            |
| 02         | 2017      | 12    | 48      | 59    | 107            |
| 02         | 2018      | 11    | 66      | 61    | 128            |
| 02         | 2019      | 10    | 44      | 66    | 110            |
| 02         | 2020      | 09    | 41      | 42    | 83             |
| 02 [TOTAL] | 9999      | All   | 199     | 229   | 428            |
| 03         | 2017      | 12    | 33      | 44    | 77             |
| 03         | 2018      | 11    | 33      | 42    | 75             |
| 03         | 2019      | 10    | 17      | 27    | 45             |
| 03         | 2020      | 09    | 25      | 32    | 56             |
| 03 [TOTAL] | 9999      | All   | 108     | 145   | 253            |

34 records displayed

\* Note: These Totals reflect values Calculated by Running the Scheduling Board 'Update Estimated Counts' Utility.

Figure 21 - Period Counts By Grade window

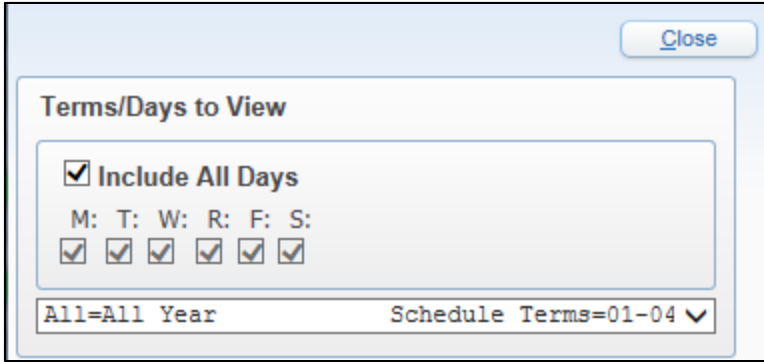


Figure 22 - Terms/Days to View window

### Help Menu

The next Toolbar menu is Help (Figure 23). The options in this menu allow you to quickly access SkyDoc help about the Interactive Scheduling Board.

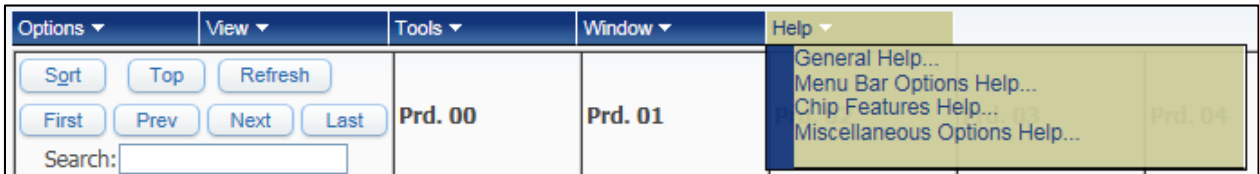


Figure 23 - Help menu

### Navigation Options

The Navigation options (Figure 24) help you navigate within the current page and to other pages (if there are multiple pages) of the Scheduling Board. If you pause your mouse pointer over each Navigation option, a short description of the option appears. Table 11 describes the Navigation options.

**Note** If you don't see the options for First, Prev, Next, or Last, check the Ranges (Options menu) to see if you selected the Use Paging when Displaying Scheduling Board Items. If it's not selected, the Navigation options won't appear and selections appear on one page. The Use Paging option is automatically selected in Internet Explorer.

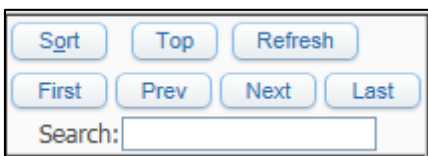


Figure 24 - Interactive Scheduling Board Navigation options



| Option  | Description  |
|---------|--|
| Sort    | Edits the sort order of the first column of data (by Course, by Teacher, or by Room). Use the move icon to change the order of the records in the column. Use the Reset button to set the data back to the original order. |
| Top     | Scrolls back to the top of the screen. You may need to do this if you used the scroll bar on the right side of the screen to move the screen.  |
| Refresh | Re-synchronizes the screen with the data from the database.  |
| First   | Moves to the first page of data.   |
| Prev    | Moves to a previous page of data from the one you're viewing.  |
| Next    | Moves to the next page of data from the one you're viewing.  |
| Last    | Moves to the last page of data.  |
| Search  | Finds a specific Course, teacher, or room according to how you're viewing the Interactive Scheduling Board.  |

**Table 11 - Interactive Scheduling Board Navigation options**

## Staff Unavailability Chip Options

Some teachers should not be scheduled into certain periods of the day. The Staff Unavailability option allows you to block a staff member from being scheduled into certain periods. When this feature is used, a Staff Unavailability chip is placed in the unavailable periods based on the Do Not Schedule Time Entry Records created in Staff maintenance. To assign a color to these chips for easy recognition on the Scheduling Board, click the Options menu on the toolbar and select Chip Options. Staff Unavailability chips appear only when the first column of data is being viewed By Teacher.

To learn more about creating Do Not Schedule Time Entry Records, see "Step 4: Maintain Staff, Create Do Not Schedule Time Entry Records" in the *WSIPC Guide to Future Scheduling: Part One - Preparing to Schedule*.

|             |  |
|-------------|--|
| <b>Note</b> | Staff Unavailability chips cannot be moved using the drag-and-drop technique like other chips. To move Unavailability chips, go to Staff maintenance and change the Do Not Schedule Time Entry Record. |
|-------------|--|

| Option            | Description  |
|-------------------|--|
| Move Class to Top | If there are multiple class chips in a cell, an asterisk (*) appears on the right edge of the chip. To view other chips in the cell, right-click on a chip to select this option. Click Move to Top to display other Sections. The option allows you to choose which chip to display on top.                     |
| Tool Tip          | If you pause your mouse over a Staff Unavailability chip on the board, a tool tip appears. The information in the tool tip includes the staff member's name, the terms and days the staff member is not available and any other chips that are in the cell (chips that are under the Staff Unavailability chip). |

**Table 12 - Interactive Scheduling Board Staff Unavailability Chip options**

When the Scheduling Board is customized to view By Teacher, as seen below in Figure 25, you can see the Staff Unavailability chips. In this example, you can see red Staff Unavailability chips in Periods 01, 05, and 06.

| Options     | View | Tools   | Window | Help | Prd. 00  | Prd. 01       | Prd. 02  | Prd. 03  | Prd. 04  | Prd. 05         | Prd. 06         |
|-------------|------|---------|--------|------|----------|---------------|----------|----------|----------|-----------------|-----------------|
| Sort        | Top  | Refresh |        |      |          |               |          |          |          |                 |                 |
| First       | Prev | Next    | Last   |      |          |               |          |          |          |                 |                 |
| Search:     |      |         |        |      |          |               |          |          |          |                 |                 |
| ALUMBJAM000 |      |         |        |      |          |               |          |          |          |                 |                 |
| ALVEARUB000 |      |         |        |      |          | Do Not Sched. | MTH222 * | MTH462 * | MTH222 * | MTH420 *        | MTH222 *        |
| DARINWIN000 |      |         |        |      | ASB100   | MTH212 *      | MTH320 * |          | MTH340 * | Do Not Sched. * | Do Not Sched. * |
| DENISCON000 |      |         |        |      |          |               | MUS520 * |          | MUS120 * |                 | MUS312 *        |
| FONTEMOS000 |      |         |        |      |          |               |          |          |          |                 |                 |
| FORMBDOR000 |      |         |        |      | SOC225 * |               |          |          |          |                 |                 |
| GORGOLIE000 |      |         |        |      |          |               |          |          |          |                 |                 |

**Figure 25 - Scheduling Board with Staff Unavailability Chip in Periods 01, 05, and 06**

## Period Headings

The periods configured for the Entity, plus Period 00, appear across the top of the Scheduling Board. A period will not appear in the period heading if it has not been created as a Scheduling Period Time Code (Student Management\Office\FS\BC Setup\CO\SP).

Figure 26 shows an example of the period headings and the “wrapping” of the columns that can occur across the screen when all of the periods do not fit on the screen.

| Sort    | Top  | Refresh | Prd. 00 | Prd. 01 | Prd. 02 | Prd. 03 | Prd. 04 | Prd. 05 | Prd. 06 | Prd. 07 |
|---------|------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| First   | Prev | Next    | Last    |         |         |         |         |         |         |         |
| Search: |      |         |         |         |         |         |         |         |         |         |

**Figure 26 - Period Headings: Period 00 – Period 07**

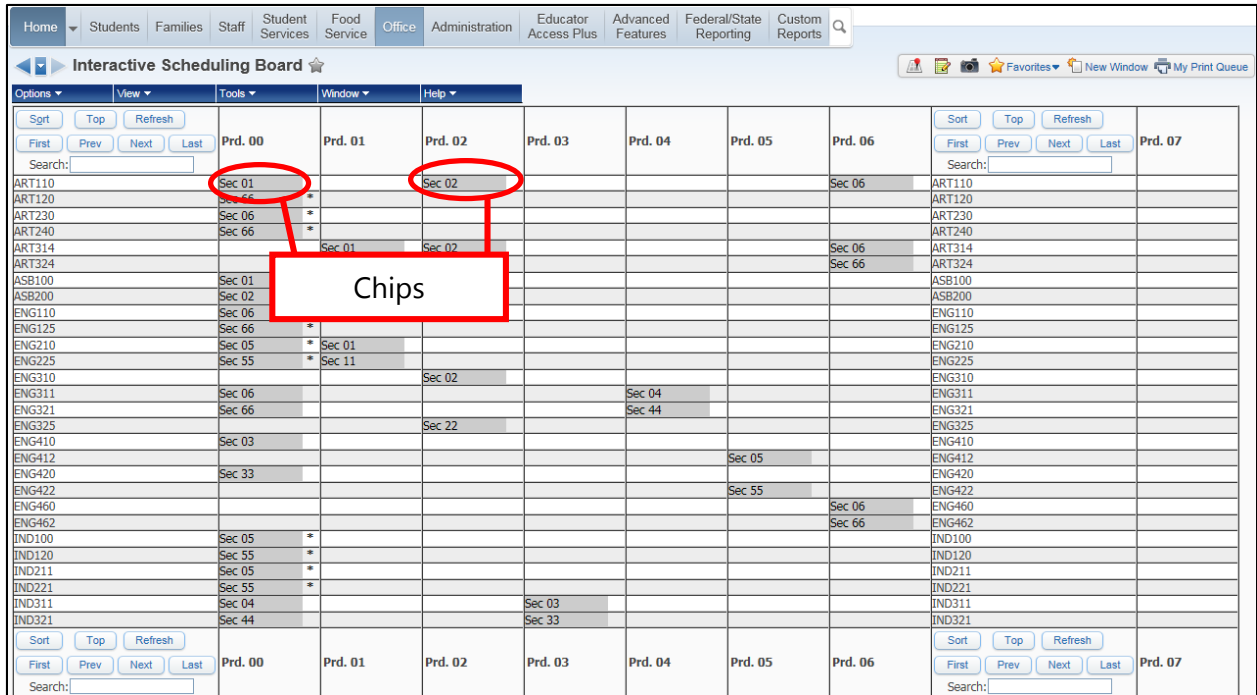
There is one option in the Periods Heading columns called View Period Counts By Grade. To access this option, right-click with your mouse in any Period Heading column. This opens the same window that appears if you click Window in the top toolbar and then click Period Counts By Grade. See "[Window Menu](#)" (page 49) to learn more about this option.

## Placing Sections Using the Interactive Scheduling Board

Now that you've learned how to select Courses to work with and how to customize the Scheduling Board, there are options that allow you to place the Course Sections into a specific Period of the Schedule Master.

When the Scheduling Board first appears, it looks similar to the image in Figure 27. It has not been customized with specific colors and no sort method is defined. Customization is discussed in "[Customizing the Interactive Scheduling Board](#)" (page 41).

On the Scheduling Board, each Section of a Course is represented by a "chip" (Figure 27). All chips appear in Period 00 if the Initialize Class Meet Details Utility has been run and the Scheduling Period was initialized to 00 (zero). Some chips may appear in specific periods if they have been manually placed as a "must have" or have not been initialized using the Initialize Class Meet Details Utility. See "[Step 4: Prepare Meeting Patterns for Placement in the Schedule Master](#)" (page 28) to learn how to initialize the Scheduling Period and other values on the Meeting Pattern.



**Figure 27 - Interactive Scheduling Board**

This section discusses the options that allow you to move chips and help you determine the best placement for chips in the Schedule Master.

## Drag and Drop Chips

You can move Sections around on the board by dragging and dropping chips. To drag and drop a chip, use your mouse to click and hold a chip and then drag and drop it into another cell.

**Note** Staff Unavailability chips cannot be moved using the drag-and-drop technique like other chips. To move Unavailability chips, go to Staff maintenance and change the Do Not Schedule Time Entry Record. To learn more about Unavailability Chips, see "[Staff Unavailability Chip Options](#)" (page 54).

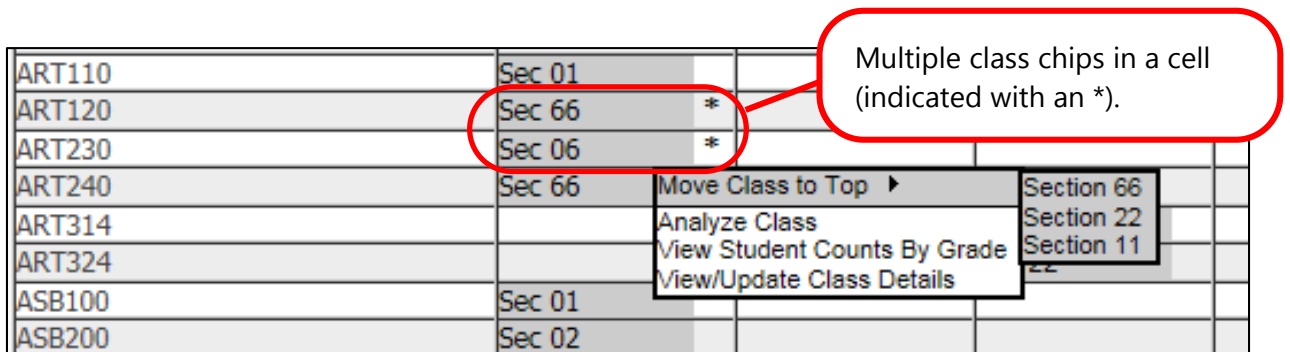
When viewing data on the board by Course, dragging and dropping chips assigns the Period. When viewing data on the board by teacher, dragging and dropping chips assigns the Period and teacher. When viewing data on the board by room, this assigns the Period and room. When you move a chip to another cell, data is updated and saved on the Meeting Pattern immediately.

## Move Class to Top

If there is more than one class chip in a cell, an asterisk (\*) appears on the right edge of the chip. You can view other chips (Sections) in the cell and choose which Section to display as the top chip.

To view other chips (Sections) in a cell and to choose which Section appears as the top chip:

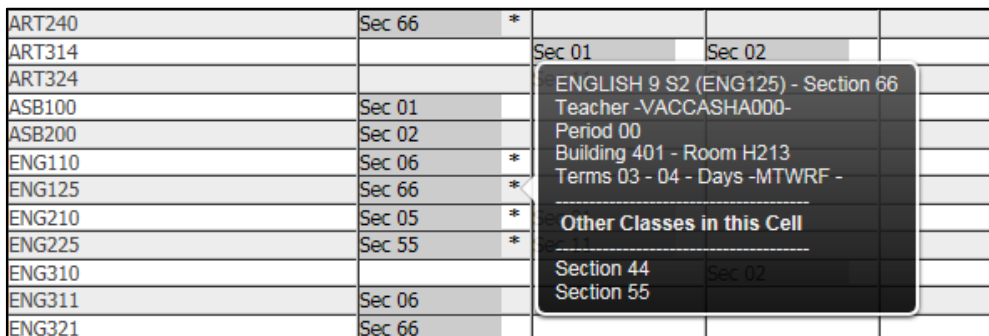
1. Right-click a chip.
2. Click **Move Class to Top**. A list of the other chips in the cell appears.
3. Click the chip (Section) you want to display as the top chip.



**Figure 28 - Right-click on a chip with an asterisk to the right, and pause your mouse pointer over the Move Class to Top option.**

## Tool Tip

If you pause your mouse pointer over a chip on the board, a pop-up box or tool tip appears. The information in this tool tip includes the Course short description, Course Code, Section number, teacher, period, building and room, terms, days the class meets, and any other chips that are in the cell (chips that are under the top chip).



**Figure 29 - A pop-up box appears when you pause your mouse pointer over a chip on the board.**

## Analyzer

In the toolbar at the top of the Scheduling Board, you can click the **Window** menu and access the **Analyzer** option. This opens the same window that appears when you right-click on a cell and click **Analyze** for a Section.

---

**Tip** If the Analyzer fails to analyze a class, check to see that **Allow Period to be suggested by Master Builder** is selected in **Scheduling Period Times**.

---

The information in the analysis window includes actual and estimated conflicts, estimated students, and teacher and room status/conflicts. It also suggests a Control Set, Period, Staff and Room from available values. That combination of values and five other suggested combinations are listed and ranked by the fewest conflicts (Figure 30).

If there are student, staff and/or room conflicts, buttons (**Conflict**, **Staff** and/or **Room**) become available. You can click these buttons to see the conflicts specific to the selected combination of values suggested by the software. If you click **Conflict**, there are three options you can use to determine how the common requests are displayed:

- **Only Display Common Requests with Conflicts:** Displays a list of classes that have been placed in the same period as the selected class (based on the selected class's available period value on the **Scheduling Board Analysis** screen) and the students that have requested the conflicting classes.
- **Display All Classes that Overlap:** Displays a list of all classes that have been placed in the same period as the selected class (based on the selected class's available period value on the **Scheduling Board Analysis** screen), regardless of whether there are common requests. The list shows classes only, not the students requesting the classes.
- **Display All Common Requests:** Displays a list of classes that the students who requested the selected class have also requested, regardless of whether the class is in the same period.

If you click **Move**, the chip is moved to the suggested period (the period currently selected in the **Periods** column). This automatically updates the Meeting Pattern. This is considered a placement by the Master Builder (not a manual placement).

**Note** When creating or editing a Section, if a Control Set value is selected that is not a Control Sets Possible value for the Course, you can *still* select the Control Set. However, you are warned when saving the Section that the Control Set is not selected as an available Control Set for the Course. Additionally, if the Control Set is selected (and is not a Control Sets Possible value for the Course) the Course cannot be analyzed in the Master Schedule Builder and Interactive Schedule Builder unless the Master Builder Suggestion Rules – Point Breakdown Options area is adjusted. See “Master Builder Suggestion Rules – Point Breakdown Options” in Table 16 (page 76) to learn more about configuring the Master Builder Suggestion Rules – Point Breakdown Options area to allow analysis of a Section of a Course where the Control Set value is not selected as an Available Control Set.

**Scheduling Board Analysis Screen**

**Class Meet Information** [Edit Class Meet](#) Close

Class: ART110/02    ART 1 SEMESTER 1    Dsp Period: 02    Dsp Terms: 01 - 02    Dsp Days Meet: MTWRF  
 Teacher: EKnerscr    Building/Room: 401-ART    Schd Period: 02    Schd Terms: 01 - 02    Schd Days Meet: MTWRF

---

**Class Analysis Options**

Control Sets (Terms)     Day Meets     Periods     Staff Members     Room Numbers    Buildings:     Analyze

---

**Class Meet Available Values**

| Control Set (Days) | Periods | Staff (Priority) | Rooms (Priority) |
|--------------------|---------|------------------|------------------|
| S1 (<None>)        | 03      | <None> (0)       | <None> (0)       |
| S1 (MTWRF)         | 04      | EKnerscr (1)     | 401 - ART (1)    |
|                    | 05      |                  |                  |
|                    | 06      |                  |                  |
|                    | 07      |                  |                  |

Rank: 3    Actual Conflicts: 0  
 Estimated Conflicts: 6    Estimated Students: 138

[Move](#)    [Conflict](#)    [Staff](#)    [Room](#)

---

**Suggested Values - 7 Possible Combinations**

| Rank | Cntrl Set/ Days | Prd | Act Conf | Est Conf | Est Stu | Staff    | Building/ Room | Rank Value | Act Co 50 |
|------|-----------------|-----|----------|----------|---------|----------|----------------|------------|-----------|
| 1    | S1 - MTWRF      | 07  | 0        | 0        | 0       | EKnerscr | 401 - ART      | 605        | 50        |
| 2    | S1 - MTWRF      | 03  | 0        | 7        | 91      | EKnerscr | 401 - ART      | 589        | 50        |
| 3    | S1 - MTWRF      | 04  | 0        | 6        | 138     | EKnerscr | 401 - ART      | 588        | 50        |
| 4    | S1 - MTWRF      | 05  | 0        | 8        | 121     | EKnerscr | 401 - ART      | 526        | 50        |
| 5    | S1 - MTWRF      | 01  | 0        | 11       | 123     | EKnerscr | 401 - ART      | 521        | 50        |
| 6    | S1 - MTWRF      | 02  | 0        | 13       | 180     | EKnerscr | 401 - ART      | 515        | 50        |
| 7    | S1 - MTWRF      | 06  | 0        | 9        | 179     | EKnerscr | 401 - ART      | 501        | 50        |

7 records displayed

**Figure 30 - The Scheduling Board Analysis screen. In this example, you see information for ART110 because the chip has been analyzed by right-clicking and selecting Analyze Class.**

| AREA | PURPOSE OF AREA |
|------|-----------------|
|------|-----------------|

|                        |  |
|------------------------|--|
| Class Meet Information | Displays current information about the Class Meet. |
|------------------------|--|

| Options in This Area | Description of Option |
|----------------------|-----------------------|
|----------------------|-----------------------|

|                 |   |
|-----------------|---|
| Edit Class Meet | Shortcut to the Course Master to allow you to edit the Class Meet for the selected class. |
|-----------------|---|

| AREA | PURPOSE OF AREA |
|------|-----------------|
|------|-----------------|

|                        |  |
|------------------------|--|
| Class Analysis Options | Determines which elements of the Class Meet the Interactive Scheduling Board will suggest. The only option available is Periods unless you have enabled the Advanced Master Schedule Builder (AMSB). |
|------------------------|--|

| Options in This Area | Description of Option |
|----------------------|-----------------------|
|----------------------|-----------------------|

|         |  |
|---------|--|
| Periods | Suggests periods of the day in which the class could be scheduled in the Suggested Values table. If not selected, the analyzer will not suggest a value other than the current Scheduling Period assigned to the Class Meet. |
|---------|--|

| AREA | PURPOSE OF AREA |
|------|-----------------|
|------|-----------------|

|                             |   |
|-----------------------------|---|
| Class Meet Available Values | Once a Course and Section are selected for processing, information about the Meeting Pattern appears, as well as options located at the bottom of this area that can be used to schedule and/or adjust the information. |
|-----------------------------|---|

| Options in This Area | Description of Option |
|----------------------|-----------------------|
|----------------------|-----------------------|

|                     |   |
|---------------------|---|
| Control Sets (Days) | Identifies the Class Control Set (length of a Course and terms of the Section) and the days (MTWRF or Day Rotation) on which the class will be scheduled. |
|---------------------|---|

|         |   |
|---------|---|
| Periods | All available periods the class can be scheduled into. The suggested Period is selected. To choose another period, click a different selection. If you select a period in which a different Section of the same Course is already offered, a warning appears. That period also appears in red in the Suggested Values table to the right. |
|---------|---|



| Options in This Area                       | Description of Option   |
|--|---|
| Staff (Priority)                           | <p>Staff assigned to the class. Following the staff member's name is the Priority assigned to the staff member. This functionality is used with the Advanced Master Schedule Builder.</p> <p>Typically only &lt;None&gt; is listed as the Staff option, as teachers are usually assigned as part of building the Schedule Master.</p>   |
| Rooms (Priority)                           | <p>Rooms assigned to the class. Following the room assignment is the Priority assigned to the room. This functionality is used with the Advanced Master Schedule Builder.</p>   |
| Suggested Values - # Possible Combinations | <p>Combinations of the possible values in the Control Set, Periods, Staff and Rooms columns, ranked by the software. The suggested combination (Rank 1) is selected.</p>  |
| Rank                                       | <p>Value calculated by the software based on Actual Conflicts and Estimated Conflicts for the selected Control Set, Period, Staff and Room availability.</p>  |
| Act Conf (Actual Conflicts)                | <p>Indicates the number of conflicts that will exist between Courses that are both Singletons (single-Section Courses). If a period shows a number for Actual Conflicts, the Section being scheduled is guaranteed to have that number of student conflicts if it is scheduled into that period.</p> <p><b>Example:</b> Band is a year-long Singleton Course that has been scheduled into period 1. Ten students request Band and Photography, a semester-long Singleton Course. If Photography is scheduled into period 1, these students have a guaranteed conflict in their schedule: they cannot take Band and Photography in period 1.</p> |

| Options in This Area              | Description of Option  |
|-----------------------------------|--|
| Est Conf<br>(Estimated Conflicts) | Indicates the number of conflicts between multiple-Section Courses and between Singleton and multiple-Section Courses. The calculation occurs by dividing the number of conflicts between Courses and the total number of estimated Sections for two Courses. A factor is then applied to come up with an estimated number of possible conflicts if this Section of the Course were assigned to the selected Period.   |
| Est Stu<br>(Estimated Students)   | <p>Estimated number of students who could potentially be scheduled into a class that Period based on the number of requests and the number of classes placed in that Period in the Schedule Master. This information is used for balancing.</p> <p><b>Note:</b> The number of Estimated Students could be higher than the number of students enrolled. Since the students are not yet scheduled, the software is estimating which Section they will be in, which could make the numbers high. Try to keep the numbers as evenly distributed as possible.</p> |
| Rank Value                        | The point value that determines the Rank of the Class Meet. All of the points from each contributing factor of a class's placement (Actual Conflicts, Estimated Conflicts, Estimated Students, etc.) are totaled to determine the Rank Value (in points).  |
| Pts<br>(Points)                   | The value assigned to each contributing factor of a class's placement. The value for each factor, for each Class Meet, is determined by internal logic.  |
| Move                              | Places the chip into the period currently selected in the Periods column in the Class Meet Available Values area.  |
| Conflict                          | Course and student conflict information pertaining to the selected period. You can view common requests with conflicts, all classes that overlap, or all common requests.  |
| Staff                             | Course and class conflict information pertaining to the selected staff member.   |

| Options in This Area | Description of Option   |
|----------------------|---|
| Room                 | Course and class conflict information pertaining to the selected room/building. |

**Table 13 - Options on the Interactive Master Schedule Builder screen**

|             |   |
|-------------|---|
| <b>Note</b> | In the Class Meet Available Values area in the Control Set (Days), Staff (Priority) and Rooms (Priority) columns, there is an option of <None> in addition to the value assigned to the Meeting Pattern. If <None> is the selected option, or you select this option, <None> will be the value saved to the Meeting Pattern for the Days, Staff or Rooms value. |
|-------------|---|

## Analyze Class

To analyze a class, you can right-click on a chip and select *Analyze*. This opens the analysis window. This displays the same window that appears if you click the Window menu on the toolbar at the top of the Scheduling Board and click *Analyzer*. See "[Analyzer](#)" (page 59) to learn more about this option.

## View Student Counts by Grade

To view student counts by grade, you can right-click on a chip and select the *Estimated Counts by Grade* option. This option displays the estimated student count for the class, by gender and total students, and by grad year/grade (see Figure 31). The numbers in the *Estimated Counts by Grade* area is the total number of active students' requests divided by the number of active Sections. It does not look at the Period. It evenly splits the Females/Males by grade based upon the number of requests and the number of Sections. Every Section of that Course shows the exact same numbers, which may or may not add up to all of the Females/Males by grade for the requests. The numbers are an estimate and assume a perfect scheduling run in which all students are scheduled into all requested classes.

Using the example in Figure 31, the *Estimated Counts by Grade* area is calculated as follows:

- There are 3 Sections of ART120 and 41 Requests from active students. The Maximum Students for each Section is 28, or a total of 84 available seats.
- The counts by gender is the total number of student requests by gender divided by the number of Sections, separated by grade level. The numbers are averages and may be rounded up or down.

- The totals on this screen reflect totals calculated by running the Update Estimated Class Counts Grade Utility (Student Management\Office\FS\BM Setup\UT\CB).

**Tip** Try to keep the numbers as evenly distributed as possible. Use the numbers to determine if fewer (low numbers) or more (high numbers) Sections are needed. The numbers can also be affected by Optimum and Maximum Number of Students on the Section. Consider adjusting those numbers if necessary.

**Add Unassigned Meets**

**Course/Class Information**

Class: ART120/22 ART I SEMESTER 2

Terms: S2 (03 - 04) Grades: 09 - 12 Requests: 41

Min. Students: 10 Opt. Students: 34 Max. Students: 40

**Estimated Counts By Grade**

| Grad Year | Grade | Females | Males | Total Students |
|-----------|-------|---------|-------|----------------|
| 2017      | 12    | 1       | 1     | 1              |
| 2018      | 11    | 3       | 1     | 3              |
| 2019      | 10    | 1       | 0     | 1              |
| 2020      | 09    | 4       | 4     | 8              |
| 9999      | All   | 8       | 6     | 14             |

\* Note: These Totals reflect values Calculated by Running the Scheduling Board 'Update Estimated Counts' Utility.

**Figure 31 - Example of the screen that appears when you right-click on a chip and click View Student Counts By Grade**

| Option   | Description  |
|----------|--|
| Class    | Course/Section of the chip being viewed.                 |
| Terms    | Terms assigned to the Section for the chip being viewed. |
| Grades   | The Grade Range on the Course.                           |
| Requests | The number of active student requests for the Course.    |

| Option                    | Description  |
|---------------------------|--|
| Min. Students             | Minimum number of students on this Section of the Course.  |
| Opt. Students             | Optimum number of students on this Section of the Course.  |
| Max. Students             | Maximum number of students on this Section of the Course.  |
| Estimated Counts by Grade | An estimated count of students if there is a perfect scheduling run (all students get every one of their requested Courses). The count is broken down by Grad Year and gender. The estimate is calculated by taking the number of requests for a Course and separating the students into all available sections, leveling the counts by gender, grade level, and by how full the Section might be if students were to get all of their requests based on the Optimum and Maximum number of students for the Section. |

**Table 14 – Options on the Add Unassigned Meets screen.**

## View/Update Class Details

To view/update class details, you can right-click on a chip and select this option. When you select this option, the Edit Class Meet screen appears (Figure 32). This option allows most Meeting Patterns' values to be updated. If Meeting Pattern information is changed, you can re-analyze the chip/Section to verify its correct Period placement.

**Edit Class Meet**

Course  
 Entity: 401 WSIPC High School  
 Class: ART120/22 ART I SEMESTER 2  
 Control Set: S2 - SEMESTER2 Class Status: Active

Start and Stop Terms  
 \* Display Term Start: 03 \* Stop: 04 \* Scheduling Term Start: 03 \* Stop: 04

Meet Pattern  
 \* Display Period: 02 M T W R F S Display:        
 \* Scheduling Period: 02 Scheduling:        
 \* Attendance Period: 02 Attendance:

Lunch Code  
 None  Group A  Group B  Group C  Group D  Group E  Group F

Building: 401 Building (401)  
 Room: ART ART Type:  
 Teacher: KNERRELI000 Knerrscr Elida R

Teacher Type  ?  
 Primary  Alternate  
 Display This Class Meet On Student Schedules  
 Allow Access to EA+  
 Allow Access to Gradebook

Class Meeting Time Override  
 Start Time: 12:00 AM Stop Time: 12:00 AM

Class Meet Type  
 Instructional  Lunch  Recess  Study Hall  Other

Washington State Reporting  
 Teacher Indicator  ?  
 Primary  
 Instructional Staff  ?  
 Yes  No

**Figure 32 - The Edit Class Meet screen appears when you right-click on a chip and click View/Update Class Details.**

## Add Unassigned Class Meet

This option is only available if the View is by Teachers or Rooms. In the toolbar at the top of the Scheduling Board, you can click the Window menu and then access the Add Unassigned Class Meet option.

The Add Unassigned Class Meet option opens a window from which you can create a chip for Meeting Patterns that do not have a teacher, when viewing by teacher, or those chips that do not have a building and room assigned, when viewing by room. When the chip is created, it is placed in the Holding Bin. See "[Holding Bin](#)" (page 69) to learn more about this feature.

| Class       | Description   | Length     | Grades  | Credits | Req/Elec | Status |
|-------------|---------------|------------|---------|---------|----------|--------|
| ▶ MIS101/01 | STUDY HALL S1 | SM (01-02) | 11 - 12 | 0.000   | Elective | Active |
| ▶ MIS101/02 | STUDY HALL S1 | SM (01-02) | 11 - 12 | 0.000   | Elective | Active |
| ▶ MIS101/06 | STUDY HALL S1 | SM (01-02) | 11 - 12 | 0.000   | Elective | Active |
| ▶ MIS105/22 | STUDY HALL S2 | SM (03-04) | 11 - 12 | 0.000   | Elective | Active |
| ▶ MIS105/23 | STUDY HALL S2 | SM (03-04) | 11 - 12 | 0.000   | Elective | Active |
| ▶ MIS105/31 | STUDY HALL S2 | SM (03-04) | 11 - 12 | 0.000   | Elective | Active |
| ▶ MIS105/60 | STUDY HALL S2 | SM (03-04) | 11 - 12 | 0.000   | Elective | Active |
| ▶ MIS105/61 | STUDY HALL S2 | SM (03-04) | 11 - 12 | 0.000   | Elective | Active |

13 records displayed

Class:  ABC

**Figure 33 – The Classes with Unassigned Teachers screen that appears when you click the Window menu from the toolbar at the top of the Scheduling Board and then click Add Unassigned Class Meet**

---

**Note** Class Meeting Patterns only appear in the Add Unassigned Class Meet window when the value in the Actual Nbr of Sections on the Course falls within the Low and High values entered in Actual # of Sections on the Ranges Options screen for the Interactive Scheduling Board.

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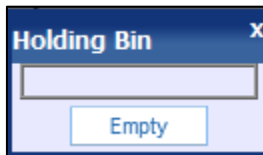
## Holding Bin

The Holding Bin option is only available when the view on the board is by teachers or rooms. You can access it through the toolbar at the top of the Scheduling Board. Click the Window menu and then select Holding Bin.

When the view is by teachers or rooms, if there are chips with no teacher or room assigned and the chip needs to be temporarily unscheduled (placed in Period 00), there is no cell to place the chip in. In this situation, the chip can be placed in the Holding Bin.

Drag and drop a chip into the Holding Bin to temporarily unschedule the chip. This removes the teacher when you are viewing the Scheduling Board in By Teacher mode and removes the room when viewing the Scheduling Board in By Room mode.

If you click Empty, this removes the chip from the screen. The Meeting Pattern still exists and the chip is still available in the Course view or can be added back to the board in the Teacher and Room view using the Add Unassigned Class Meet option. See "[Add Unassigned Class Meet](#)" (page 68) to learn more about this option.



**Figure 34 – The Holding Bin screen appears when you click the Window menu from the toolbar at the top of the Scheduling Board and then click Holding Bin**



# Scheduling Using the Master Schedule Builder

The Master Schedule Builder, like the Interactive Scheduling Board, is used to build the Schedule Master. It uses student requests, teacher availability and room usage to determine where each Course should be placed to minimize the amount of student conflicts created during the scheduling process. Because it helps you determine Course placement in the Schedule Master, it makes manual schedule building unnecessary. Like the Interactive Scheduling Board, information about conflicts, teacher and room status and student counts are readily available. The Master Schedule Builder uses the same analysis techniques and provides the same information that the Interactive Scheduling Board does.

---

**Note** The Advanced Master Schedule Builder (AMSB) uses the same tools (Interactive Master Schedule Builder and the Automated Master Schedule Builder), but with advanced options. AMSB is not discussed in this Guide because it requires significant setup and understanding. To learn more about this process, see the *WSIPC Guide to Advanced Master Schedule Builder Process*.

---

The Master Schedule Builder can be processed using two modes: Interactive and Automated. Table 15 describes each mode.

| Mode      | Description   |
|-----------|---|
| Automated | <p>Assigns periods automatically based on student, teacher and room conflicts. No interaction or processing is done by the user. Because most users want more control over the building of the Schedule Master than this feature offers, most schools do not use the Automated option, or use it for placement of a limited selection of Courses (such as only multiple-Section Courses, greater than Tripletons).</p> <p><b>Note:</b> If you are using the Advanced Master Schedule Builder process, it can also assign Control Sets, Day Meets, staff members, and room/buildings. Follow the processes in the <i>WSIPC Guide to Advanced Master Schedule Builder Process</i> if AMSB is enabled.</p> |

| Mode        | Description  |
|-------------|--|
| Interactive | Allows you to select the Course and Section to process. The software suggests a Period based on student, teacher and room conflict, but you can select a Period different than the one suggested. For this reason, this is the recommended mode and is the mode explained in this Guide. |

**Table 15 - Master Schedule Builder modes**

## Configuring the Interactive Master Schedule Builder Options

This section explains how to configure the Interactive Master Schedule Builder screen, *not* how to create the Master Schedule using the Master Schedule Builder. This screen determines which Courses are available in the Master Schedule Builder. Step-by-step procedures for creating the Master Schedule using the Master Schedule Builder are provided in [“Placing Sections Using the Master Schedule Builder”](#) (page 76) .

To configure the Interactive Master Schedule Builder Options:

1. Go to Student Management\Office\FS\BM\MS\IA.
2. Configure the Interactive Master Schedule Builder screen (Figure 35).  
Table 16 describes the options in this area.
3. Click OK.

After you click OK, the Master Schedule Builder screen appears and you can begin creating the Schedule Master. To learn more about this process, see [“Placing Sections Using the Master Schedule Builder”](#) (page 76).

Step 6: Learn to Use the Interactive Scheduling Board and the Master Schedule Builder

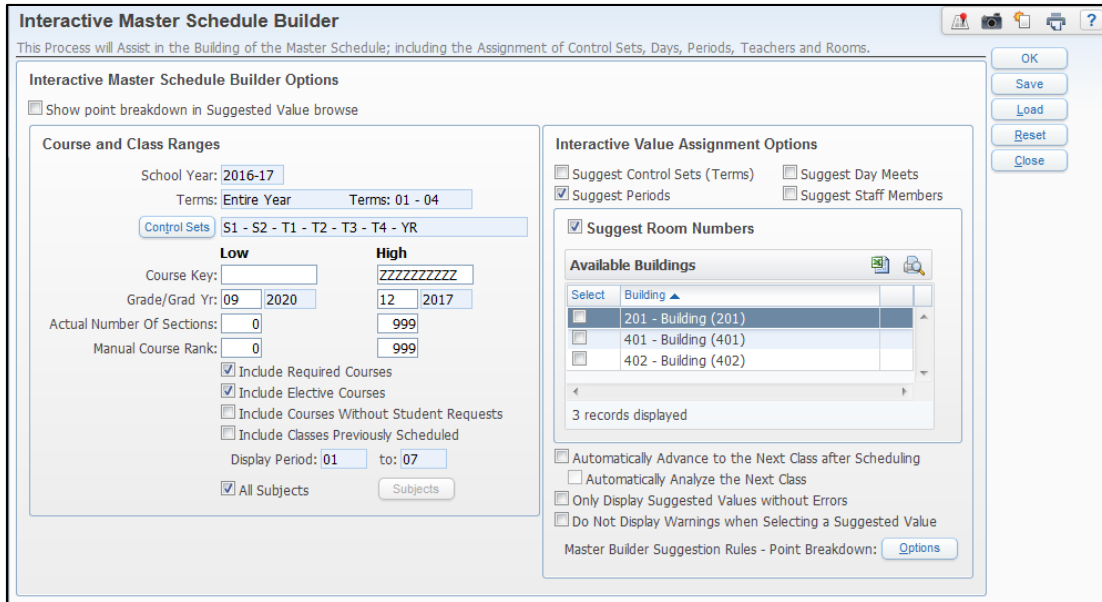


Figure 35 - Default selections on the Interactive Master Schedule Builder screen

| AREA                    | PURPOSE OF AREA  |
|-------------------------|--|
| Course and Class Ranges | Displays School Year and Terms and ranges for classes to be scheduled.   |
| Options in This Area    | Description of Options   |
| School Year             | School year for future scheduling.   |
| Terms                   | Defaults to the terms selected when the school year for future scheduling was selected.  |
| Control Sets            | Defines the Control Sets that will be available when selecting Courses in the Master Schedule Builder.   |
| Course Key              | <p>Restricts the Courses to be processed by Course Key. Typically this is left at the default settings. However, you can restrict this range to process all of one type of Course where the Course keys are within a range of Course keys.</p> <p><b>Example:</b> All of your art Course keys begin with the letters "AR." To process only Art Courses, you could restrict the range to AR through ARZZZZ.</p> |

| Options in This Area                     | Description of Options   |
|--|--|
| Grade/Grad Yr                            | <p>Any Course that includes the Grade Level in this range will be available for processing. The Grade Level value is located in the Course Master.</p> <p><b>Example:</b> A high school wants to schedule senior-level Courses in the Schedule Master first to give seniors the best opportunity to have all of their Course requests scheduled. Therefore, the Grade/Grad Yr boxes are set as 12 through 12. All Courses available to seniors are available for placement in the Schedule Master.</p> |
| Actual Number Of Sections                | <p>Specifies the Courses and Sections that will be processed based on the value in the Actual Nbr of Sections box of the Course in the Course Master.</p>  |
| Manual Course Rank                       | <p>Determines the Courses processed by their Course Rank value. When the Advanced Master Schedule Builder (AMSB) is used, the Course Rank value on each Course can be changed from the default value of 999. If you are not using the AMSB, the Course Rank value cannot be changed. Therefore, leave the values set at the default settings so that all Courses are processed by the Schedule Master Builder.</p>   |
| Include Required Courses                 | <p>Specifies whether Courses with a value equal to Required in the Elective/Required field in the Course Master will be processed.</p>   |
| Include Elective Courses                 | <p>Specifies whether Courses with a value equal to Elective in the Elective/Required field in the Course Master will be processed.</p>   |
| Include Courses Without Student Requests | <p>Specifies whether Courses with no requests will be processed.</p>   |

| Options in This Area                        | Description of Options  |
|---|---|
| <p>Include Classes Previously Scheduled</p> | <p>Determines whether Sections (classes) previously placed in the Schedule Master in a specific period will be available to be processed.</p> <p>This check box is commonly used after Courses are placed in the Schedule Master. It can be used to help resolve conflicts through Course adjustments. Due to these changes, a new period may be suggested. You may also want to see if a particular Section would now fit better with a different teacher, room, or term assignment.</p> |
| <p>Display Period</p>                       | <p>Restricts previously scheduled classes by its Display Period value. This option is only available if the option Include Classes Previously Scheduled is selected.</p>  |
| <p>All Subjects</p>                         | <p>Includes all Courses regardless of their assigned subject in the Course Master. If Subjects is selected you can specify certain subjects.</p>  |

| AREA  | PURPOSE OF AREA  |
|---|--|
| <p>Interactive Value Assignment Objects</p> | <p>Determines which elements of the Class Meet the Interactive Master Schedule Builder will suggest. The only option is Periods unless you have enabled the Advanced Master Schedule Builder (AMSB). Includes additional options related to processing of classes.</p> |

| Options in This Area                | Description of Options   |
|-------------------------------------|--|
| <p>Suggest Control Sets (Terms)</p> | <p>Used in conjunction with the Advanced Master Schedule Builder.</p>  |
| <p>Suggest Day Meets</p>            | <p>Used in conjunction with the Advanced Master Schedule Builder.</p>  |
| <p>Suggest Periods</p>              | <p>Selected by default. Only option available for suggestion when Advanced Master Schedule Builder is not enabled.</p> |
| <p>Suggest Staff Members</p>        | <p>Used in conjunction with the Advanced Master Schedule Builder.</p>  |
| <p>Suggest Room Numbers</p>         | <p>Used in conjunction with the Advanced Master Schedule Builder.</p>  |

| Options in This Area                                     | Description of Options   |
|--|--|
| Available Buildings                                      | Used in conjunction with the Advanced Master Schedule Builder.   |
| Automatically Advance to the Next Class after Scheduling | After scheduling the Section you are currently processing, the next Section is automatically selected and the suggested Period appears. This eliminates the need to click Select to process the next Section and it increases the efficiency of the Master Builder.  |
| Automatically Analyze the next Class                     | After scheduling the Section you are currently processing, the next Section is automatically analyzed and information regarding conflicts and suggested combinations (periods, teachers and buildings/rooms) is available. This eliminates the need to click Analyze to analyze the next Section and it increases the efficiency of the Master Builder. This option is only available if the <b>Automatically Advance to the Next Class after Scheduling</b> option is selected. |
| Only Display Suggested Values without Errors             | Displays only those classes that do not have a conflict in the Suggested Values table.   |
| Do Not Display Warnings when Selecting a Suggested Value | Suppresses warnings on the Analysis screen regarding possible conflicts. If selected, warnings can be viewed by selecting the applicable buttons (Conflict, Staff or Room).  |

| Options in This Area  | Description of Options   |
|---|--|
| <p>Master Builder<br/>Suggestion Rules –<br/>Point Breakdown:<br/>Options</p> | <p>The Master Builder uses rules to suggest placement for Sections based on the Point Values set on this screen. The higher the Suggested Rank Value point value, the more that rule influences the placement of a Section. Each rule can be given a weight, or level of importance—the higher the point value, the higher the level of importance. All of the rules are assigned an initial default value. You can modify these defaults to influence the “scheduling formula” to more closely match the requirements of your Entity. Initially, you may want to run the utility with the default values. If you want specific logic information on any of the values, place your cursor in the box and double-click.</p> <p><b>Note:</b> To configure the Master Builder Suggestion Rules – Point Breakdown Options area to allow analysis of a Section of a Course where the Control Set value on a Course is not selected as an Available Control Set, you must select All Possible (instead of Only Available) for the Terms selection.</p> |

**Table 16 - Options on the Interactive Master Schedule Options screen**

## Placing Sections Using the Master Schedule Builder

Now you know how to select the desired Courses to work with in the Master Builder. This Section describes the options that allow you to place the Course Sections into a specific period of the Schedule Master.

To place Sections using the Master Schedule Builder:

1. Continuing from “[Configuring the Interactive Master Schedule Builder Options](#)” (page 71), select the first class you want to place in the Master Schedule by doing one of the following:
  - Accept the class the software selected.
  - Click the Class hyperlink.
  - Use the Express Entry Lookup (EEL).
  - Click Next to select the class you want to place in the Schedule Master.

2. Click **Analyze**. You will only have to do this for the first class unless you did not select **Automatically Analyze the next Class** on the **Ranges** screen.

---

**Note** When creating or editing a Section, if a Control Set value is selected that is not a Control Sets Possible value for the Course, the Control Set can *still* be selected. However, you are warned when saving the Section that the Control Set is not selected as an available Control Set for the Course. Additionally, if the Control Set is selected (and is not a Control Sets Possible value for the course) the Course cannot be analyzed in the Master Schedule Builder and Interactive Schedule Builder unless the **Master Builder Suggestion Rules – Point Breakdown Options** area is adjusted. See “**Master Builder Suggestion Rules – Point Breakdown Options**” in Table 16 (page 76) to learn more about configuring the **Master Builder Suggestion Rules – Point Breakdown Options** area to allow analysis of a Section of a Course where the Control Set value is not selected as an Available Control Set.

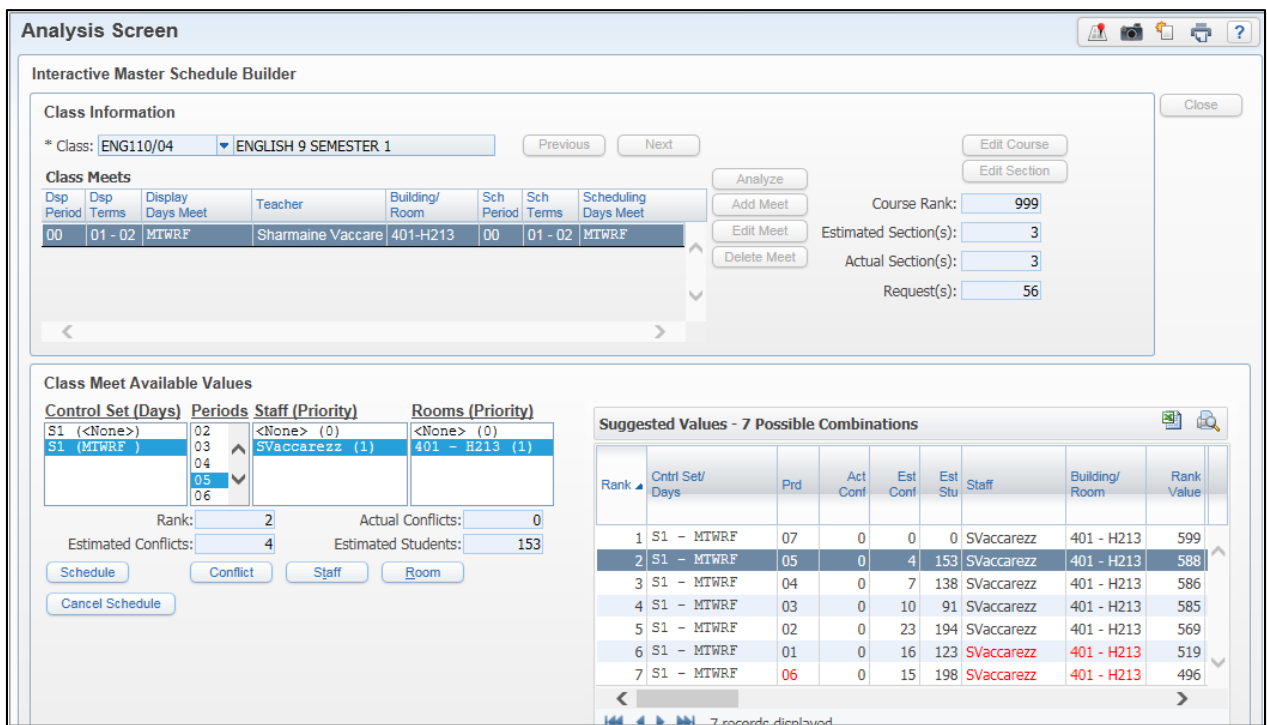
---

3. Determine the **Control Set (Days)** and **Period** the Section should be scheduled in. See Table 17 below for a description of options on this screen that help you make that determination.
4. Do one of the following:
  - To accept the suggested values (**Control Set**, **Period**, **Staff**, **Building/Room**), click **Schedule**.
  - Select other values and click **Schedule**. See Table 17 for a more detailed description of these options.
5. Do one of the following:
  - If you *did not* select the **Automatically Advance to the Next Class** after **Scheduling** option on the **Options** screen, select the next class you want to place in the Schedule Master.
  - If you *did* select **Automatically Advance to the Next Class** after **Scheduling** and want to select a class other than the next class that is selected, click **Cancel Schedule** and click the **Class** hyperlink or use the **EEL** to select the next class you want to place in the Schedule Master.



6. Repeat steps 2 through 5 until you have placed all desired classes in the Schedule Master.
7. Click Close.

**Note** The analyzer will only allow one class per Period per teacher. If a teacher is teaching multiple classes the same Period (such as Spanish I, II, and III), use the analyzer to place the primary class and then manually place the rest of the Courses on the Scheduling Board. You can also edit a Class Meet to place the conflicting Courses.



**Figure 36 - Interactive Master Schedule Builder screen where Analyze for the first Section has been selected**

| AREA                 | PURPOSE OF AREA  |
|----------------------|--|
| Class Information    | Displays information about the Course and is the area used to select a Course for placement in the Schedule Master. There are also areas on the screen that provide opportunity for editing the Course and Section information.  |
| Options in This Area | Description of Option  |
| Class                | Allows selection of the Section to be placed in the Schedule Master, using the hyperlink or Express Entry Lookup (EEL).  |
| Previous / Next      | Moves to the previous or next Course or Section according to the values specified on the Ranges screen.  |
| Analyze              | <p>Provides information regarding the selected Section in the Class Meet Available Values area. The information analyzed includes actual and estimated conflicts, estimated students, staff and room status/conflicts. It also suggests a Control Set, Period, Staff and Room from available values. That combination of values and five other suggested combinations are listed and ranked by the fewest conflicts.</p> <p>If there are student, staff or room conflicts, buttons become available (Conflict, Staff and/or Room). You can use these buttons to view the conflicts specific to the selected combination of values suggested by the software.</p> |
| Add Meet             | <p>Shortcut to the Course Master to allow you to add a Class Meet to the selected class.</p> <p><b>Note:</b> This button is not available when the Class Meet Available Values is in Analyze mode. Click Schedule or Cancel Schedule to make it available.</p>   |
| Edit Meet            | Shortcut to the Course Master to allow you to edit the Class Meet for the selected class.  |
| Delete Meet          | Allows you to delete the Class Meet for the selected class.  |
| Edit Course          | Shortcut to the Course Master to allow you to edit values on the selected Course.  |

| Options in This Area | Description of Option   |
|----------------------|---|
| Edit Section         | Shortcut to the Course Master to allow you to edit values on the selected Section.  |
| Course Rank          | Specifies a value that determines the order in which courses are processed and placed in the Schedule Master. Course Rank is only used in conjunction with the Advanced Master Schedule Builder. The default value of all Courses is 999 when the Advanced Master Schedule Builder is not used. |
| Estimated Section(s) | The Estimated Nbr of Sections value of the Course from the Course Master.   |
| Actual Section(s)    | The Actual Nbr of Sections value of the Course from the Course Master.  |
| Request(s)           | The Current Requests value of the Course from the Course Master.  |

| AREA                        | PURPOSE OF AREA   |
|-----------------------------|---|
| Class Meet Available Values | Once a Course and Section are selected for processing, information about the Meeting Pattern appears, as well as options located at the bottom of this area that can be used to schedule and/or adjust the information. |

| Options in This Area | Description of Option   |
|----------------------|---|
| Control Sets (Days)  | <p>Identifies the Class Control Set (length of a Course and terms of the Section) and the days (MTWRF or Day Rotation) on which the class will be scheduled.</p> <p><b>Note:</b> If &lt;None&gt; is the selected option, &lt;None&gt; is the value saved to the Meeting Pattern for the Days value.</p>                                 |
| Periods              | All available periods the class can be scheduled into. The suggested Period is selected. To choose another period, click a different selection. If you select a period in which a different Section of the same Course is already offered, a warning appears. That period also appears in red in the Suggest Values table to the right. |

| Options in This Area | Description of Option  |
|----------------------|--|
| Staff (Priority)     | <p>Staff assigned to the class. Following the staff member’s name is the Priority assigned to the staff member. This functionality is used with the Advanced Master Schedule Builder.</p> <p>If &lt;None&gt; is the only Staff option, there is no teacher on the Meet. Teachers are usually assigned as part of building the Schedule Master.</p> <p><b>Note:</b> If &lt;None&gt; is the selected option, &lt;None&gt; is the value saved to the Meeting Pattern for the Staff value.</p> |
| Rooms (Priority)     | <p>Rooms assigned to the class. Following the room assignment is the Priority assigned to the room. This functionality is used with the Advanced Master Schedule Builder.</p> <p><b>Note:</b> If &lt;None&gt; is the selected option, &lt;None&gt; is the value saved to the Meeting Pattern for the Rooms value.</p>  |

| Buttons in This Area | Description of Option  |
|----------------------|--|
| Schedule             | Schedules the Course Section into the period currently selected in the Periods column in the Class Meet Available Values area.   |
| Conflict             | Course and student conflict information pertaining to the selected period. You can view common requests with conflicts, all classes that overlap, or all common requests.                        |
| Staff                | Course and class conflict information pertaining to the selected staff member.   |
| Room                 | Course and class conflict information pertaining to the selected room/building.  |
| Cancel Schedule      | Allows you to avoid having to place the Section—this is the only way to access the Class Information portion of the screen, to select another Section to schedule, or to click the Close button. |

| AREA                          | PURPOSE OF AREA   |
|-------------------------------|---|
| Suggested Values Combinations | Combinations of the possible values in the Control Set, Periods, Staff and Rooms columns, ranked by the software. The suggested combination (Rank 1) is selected.   |
| Columns in This Area          | Description of Columns  |
| Rank                          | Value calculated by the software based on Actual Conflicts and Estimated Conflicts based on Control Set, Period, Staff and Room availability.   |
| Cntrl Set/Days                | Indicates the Control Set and Day Pattern of the class being analyzed.  |
| Prd                           | Indicates the Period with the highest ranking and least amount of conflicts for suggested placement.  |
| Actual Conflicts              | <p>Value that indicates conflicts have occurred only between Courses that are both Singletons (single-Section Courses). If a period shows a number for Actual Conflicts, the Section being scheduled is guaranteed to have that number of student conflicts if it is scheduled into that period.</p> <p><b>Example:</b> Band is a year-long Singleton Course that has been scheduled into period 1. Ten students request Band and Photography, a semester-long Singleton Course. If Photography is scheduled into period 1, these students have a guaranteed conflict in their schedule: they cannot take Band and Photography in period 1.</p> |
| Estimated Conflicts           | Indicates conflicts have occurred between multiple-Section Courses and between Singleton and multiple-Section Courses. The calculation occurs by dividing the number of conflicts between Courses and the total number of estimated Sections for two Courses. A factor is then applied to come up with an estimated number of possible conflicts if this Section of the Course is assigned to the selected Period.  |

| Columns in This Area | Description of Columns   |
|----------------------|--|
| Estimated Students   | Estimated number of students that will be scheduled into any class in the selected period based on the current Course Master, assuming every student will be scheduled into every requested Course.  |
| Staff                | Staff attached to Class Meet.  |
| Building/Room        | Buildings and Rooms attached to Class Meet.  |
| Rank Value           | The point value that determines the Rank of the Class Meet. All of the points from each contributing factor of a class's placement (Actual Conflicts, Estimated Conflicts, Estimated Students, etc.) are totaled to determine the Rank Value (points). |
| Pts (Points)         | The value assigned to each contributing factor of a class's placement. The value for each factor, for each Meet, is determined by internal logic.  |

**Table 17 - Options on the Interactive Master Schedule Builder screen**

## Scheduling Using Both Methods Interchangeably

You can use the Interactive Scheduling Board and Master Schedule Builder methods interchangeably to build a Schedule Master. For example, you may want to schedule your single-Section Courses with the Scheduling Board and then use the Interactive Master Builder to schedule multiple-Section Courses. This approach shows the single-Section Courses in a visual layout so you can conceptualize their placement in the overall schedule. This can help because you may not be able to visualize multiple-Section Courses in the Scheduling Board.

The method or combinations of methods used to create the Schedule Master is up to you. The example in the previous paragraph is just one way to use the methods interchangeably. Because each method updates the Meeting Pattern information as soon as you move chips or schedule a class, you can change methods of scheduling classes based upon your preferred method. Which method you choose may be determined by the classes you need to schedule.

# Step 7: Schedule Sections into the Schedule Master

Now that you know how to use the Interactive Scheduling Board and the Master Schedule Builder to place Sections in the Schedule Master, it's time to place Sections of the Courses.

Single-Section Courses are placed in the Schedule Master *first* because if they are placed correctly, this creates a Schedule Master with the fewest number of conflicts. When a set of students have requests for two single-Section Courses and those Courses are placed in the Schedule Master in the same Period, conflicts are guaranteed. To avoid conflicts, first place those Course Sections in different Periods. Place the Singletons with the highest number of requests first.

After you place single-Section Courses in the Schedule Master, run the Auto Scheduler in Imperative Mode to confirm that their placement (with adjustment if necessary) causes few or no scheduling conflicts. After you do this, it is time to place multiple-Section Courses.

You can choose from among the following methods:

- Place Doubletons only (two-Section Courses) and run the Auto Scheduler in Pseudo Mode to see how their placement affects the placement of Courses with one Section. Place Tripletons (three-Section Courses) and then place all remaining multiple-Section Courses. Courses with more than three Sections can typically be placed in the Schedule Master at the same time. (When more than three Sections of a Course are available, it is not as difficult to find a Section that fits into the student's schedule.)
- Place Doubletons only and run the Auto Scheduler in Pseudo Mode to see how their placement affects the placement of Courses with one Section, and then place all remaining multiple-Section Courses.
- Place all remaining multiple-Section Courses after placing single-Section Courses.

Regardless of how you choose to place multiple-Section Courses, the processes you use are the same. Repeat the same steps if you choose to separate the scheduling of Doubletons and Tripletons, or other multiple-Section Courses.

---

**Note** It's important to initialize the Scheduling Period to Period 0 (zero) on all Meeting Patterns so that the software can recommend the best placement for each Course. To learn more about this procedure, see "[Step 4: Prepare Meeting Patterns for Placement in the Schedule Master](#)" (page 28). If this initialization is not done, Courses other than Singletons will exist in the Schedule Master, increasing the likelihood of conflicts as you place your Singleton Courses.

---

## Placing Single-Section Courses in the Schedule Master

You can either use the Interactive Scheduling Board, the Master Schedule Builder or a combination of both methods to place single-Section Courses. You use the Actual Conflicts information in the Schedule Master building tools to build the best Schedule Master with no Actual Conflicts (or the fewest possible in some situations).

In order to schedule your single-Section Courses into the Schedule Master, you use the Range parameters to identify those Courses that are Singletons.

To place single-Section Courses in the Schedule Master:

1. Go to one of the following:
  - Student Management\Office\FS\BM\SB (Interactive Scheduling Board).
  - Student Management\Office\FS\BM\MS\IA (Interactive Master Schedule Builder).
2. Enter a value of "1" in the Actual # of Sections, Low and High boxes.
3. Configure the remaining options on the Ranges screen.

To learn more about other options, see "[Configuring the Range Options Screen](#)" (page 37), or see "[Configuring the Interactive Master Schedule Builder Options](#)" (page 71).

4. Click OK.



5. Place all single-Section classes in the Master Schedule, placing the Singletons with the highest number of requests first.

To learn more about this process, see "[Placing Sections Using the Interactive Scheduling Board](#)" (page 56), or see "[Placing Sections Using the Master Schedule Builder](#)" (page 76).

---

**Note** Ensure that as you place Sections in the Master Schedule, you populate missing data in the Meeting Pattern as needed. For example, when you initialized the Meeting Pattern, if you set the Scheduling Period to zero and the Teacher to None, when you place Sections into a specific Period in the Master Schedule, you may still need to assign a Teacher to the Meeting Pattern. To avoid the possibility of further conflicts, do this as you place each class.

---



**Caution** After placing single-Section Courses, save a copy of the Course Master using the Create a Schedule Master Save Point Utility (Student Management\Office\FS\BC Setup\UT\SP). This allows you to use the Restore Schedule Master to Previous Save Point Utility (Student Management\Office\FS\BC Setup\UT\PS) to restore the Course Master Meeting Patterns to its original state.

---

**Note** Up to this point, the WSIPC Future Scheduling Guides have been process oriented with step-by-step procedures that you follow sequentially. In this part of the process, "[Step 7: Schedule Sections into the Schedule Master](#)" (page 84), you may have better results if you run the Auto Scheduler in Imperative Mode *after* placing Single-Section Courses but *before* placing Multiple-Section Courses. Once you have made adjustments to the Schedule Master for the best placement of Singletons, place Doubleton Courses (Courses with two Sections) before running the Auto Scheduler in Pseudo Mode. Then, view Schedule Run Details and Reports and make additional adjustments to the Schedule Master before placing all other Multiple-Section Courses and repeating the process.

---

# Placing Multiple-Section Courses in the Schedule Master

After you place all Singleton Courses and run an Imperative scheduling run (to learn how, see [“Running the Auto Scheduler in Imperative or Pseudo Mode”](#) on page 88), you can either use the Interactive Scheduling Board, the Master Schedule Builder, or a combination of both methods to place multiple-Section Courses. You use the Actual Conflicts and Estimated Conflicts information in the Schedule Master building tools to build the best Schedule Master with the fewest Actual Conflicts.

To place multiple-Section Courses in the Schedule Master:

1. Go to one of the following:
  - Student Management\Office\FS\BM\SB (Interactive Scheduling Board).
  - Student Management\Office\FS\BM\MS\IA (Interactive Master Schedule Builder).
2. Enter a value in the Low and High boxes for Actual Number of Sections that is equal to the number of multiple-Section Courses that you want to place.

---

|                |   |
|----------------|---|
| <b>Example</b> | If you want to place Doubletons only, use a value of 2 to 2. If you want to place Doubletons and Tripletons, use a value of 2 to 3. If you want to place all multiple-Section Courses, use a value of 2 to 999. |
|----------------|---|

---

3. Configure the remaining options on the Ranges screen.

To learn more about other options, see [“Configuring the Range Options Screen”](#) (page 37), or see [“Configuring the Interactive Master Schedule Builder Options”](#) (page 71).

4. Click OK.
5. Place all selected Sections in the Master Schedule.

To learn more about this process, see [“Placing Sections Using the Interactive Scheduling Board”](#) (page 56), or see [“Placing Sections Using the Master Schedule Builder”](#) (page 76).

6. If not all multiple-Section Courses are placed in the schedule, repeat steps 2 through 5 until all Sections of all Courses are placed in the Master Schedule.

---

**Note** Ensure that as you place Sections in the Master Schedule you populate missing data in the Meeting Pattern as needed. For example, when you initialized the Meeting Pattern, if you set the Scheduling Period to zero and the Teacher to None, when you place Sections into a specific period in the Master Schedule you may still need to assign a Teacher to the Meeting Pattern. To avoid the possibility of further conflicts, do this as you place each class.

---



---

**Caution** After placing Doubleton and/or Tripleton Section Courses (if you aren't placing all multiples at once), save a copy of the Course Master using the Create a Schedule Master Save Point Utility (Student Management\Office\FS\BC Setup\UT\SP). This allows you to use the Restore Schedule Master to Previous Save Point Utility (Student Management\Office\FS\BC Setup\UT\PS) to restore the Course Master to its previous state before Doubletons and Tripletons were placed. Run again after all Sections are placed.

---

## Running the Auto Scheduler in Imperative or Pseudo Mode

If you've just finished placing all the single-Section Courses only in the Schedule Master, it is time to run the Auto Scheduler in the Imperative Mode. Imperative Mode allows you to see if any conflicts are being caused between single-Section Courses without actually scheduling students into Sections. This process allows you to minimize conflicts between single-Section Courses and the Periods they are placed in before scheduling any multiple-Section Courses.

For an Imperative scheduling run, it is important to determine where student and Course conflicts will occur and whether, with Course adjustments, conflicts can be avoided. The first goal in scheduling single-Section Courses is to have no actual conflicts.

If you have already placed all of the single-Section Courses in the Schedule Master and have just finished placing all of the Doubleton Courses, it is now time to run the Auto Scheduler in the Pseudo Mode. Any Course that gets scheduled at the same time as another Course becomes an implied imperative. Running the Auto Scheduler in Pseudo Mode lets you see how the placement of these Courses with two Sections affects the placement of Courses with one Section. You may want to run this process several times. Reports are available so that changes can be made to the Course Master to resolve conflicts *before* students are actually placed into the Schedule Master. It is much easier to identify problems and correct them when just Singletons and Doubletons have been placed.

---

|                      |  |
|----------------------|--|
| <b>Best Practice</b> | Before running the Auto Scheduler, consider locking the Auto Scheduler to prevent anyone from using it while you are working. To learn more about using Lock options, 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 Imperative or Pseudo Mode:

1. Go to Student Management\Office\FS\SS\AS\GS.
2. Click Add.
3. Do one of the following:
  - If you have just finished placing your single-Section Courses, and have not yet placed multiple-Section Courses, select **Imperative Conflict Run** as the **Scheduling Run To Perform** option. This is a simulated run for single-Section Courses only and will not schedule students into the Section.
  - If you have already placed your single-Section Courses and have just placed your Doubleton and/or Tripleton Courses, select **Pseudo Scheduling to Simulate Process** as the **Scheduling Run To Perform** option. This is a simulated run and will not schedule students into the Course Sections. It is much easier to identify problems and make corrections after Singletons and Doubletons are placed than when all Courses are included.

Step 7: Schedule Sections into the Schedule Master

4. Configure the remainder of the Generate Student Schedules Maintenance screen (Figure 37). Table 18 describes the options on this screen.
5. Click Save and Run.

A message appears stating that the scheduling run has finished. A report that shows each Grade Level that was processed, the number of students, the conflicts, percent of conflicts, imbalances (if selected on the Maintenance screen) and the imbalances percent (if applicable) appears. You can also view this data on the Student Scheduling Run Analysis screen (Student Management\Office\FS\ SS\AS\RA\Totals). To learn more about viewing the Schedule Run Analysis data, see "[Viewing Schedule Run Details and Reports](#)" (page 94).

**Generate Student Schedules Maintenance**

This Process will Allow the Mass Scheduling of Students into their Requested Courses based on the Ranges Entered by the User.

**Template Settings**

\* Template Description:

Share with other users in entity 401

**Schedule Generation Options**

Year To Generate Schedules For: 2016-17

Terms: Entire Year Terms: 01 - 04

**Student Ranges**

\* Grade/Grad Yr: Start 12 2017 End 09 2020

\* Student Type:  Low High ZZZ

\* NY Sched Team:  ZZZ

**Scheduling Run To Perform**

Actual Scheduling Run \* Number of Runs: 1 ?

Imperative Conflict Run

Pseudo Scheduling to Simulate Process

**Auto Scheduler Type**

.Net Scheduler  Progress Scheduler

**Scheduling Options**

Process Special Ed Courses

Close Sections When Filled

Build Free Period Matrix \* Semester Imbalance Max: 10 ?

Force Co-Requisites to Schedule All or Nothing

Only for flagged Co-Requisites ?

Schedule Required Courses first, then Elective Courses ?

**Creation Options**

Create Student Conflict Detail

Include Imbalances As Conflicts

**Balance By Student Attributes**

**Student Attributes**

| Select                   | Order | Field             |
|--------------------------|-------|-------------------|
| <input type="checkbox"/> | 0     | Gender            |
| <input type="checkbox"/> | 0     | Race              |
| <input type="checkbox"/> | 0     | Special Education |

3 records displayed

Asterisk (\*) denotes a required field

Figure 37 - Generate Student Schedules Maintenance screen

| Option                     | Description  |
|----------------------------|--|
| Grade/Grad Yr              | <p>Ranges of students to be scheduled by Grade Level/Graduation Year. In the Imperative and Pseudo Conflict Run, actual schedules are not created.</p> <p>The Start range is the Grade/Grad Yr level that you want scheduled <i>first</i> and the End range is the grade level that you want scheduled <i>last</i>. Typically, the hardest Grade Level/Graduation Year to schedule is scheduled first.</p>                                   |
| Student Type               | <p>Ranges of students to be scheduled by Student Type, if desired.</p>   |
| NY Sched Team              | <p>Ranges of students to be scheduled by Next Year Scheduling Team Code. This option only appears if Use Team Scheduling is enabled in Entity Year Options for Scheduling Entity Year Setup (Student Management\Office\FS Setup\CF\SE).</p>  |
| Process Special Ed Courses | <p>Includes and schedules those courses with a Schedule Type (in the Course Master) of Special Education.</p>  |
| Close Sections When Filled | <p>Determines whether Sections of a Course are 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. When processing an Imperative or Pseudo scheduling run, you may want to leave this option cleared to see how many students could have been scheduled into a particular Course Section if class maximums were not an issue.</p> |
| Build Free Period Matrix   | <p>Creates the Free Period Matrix Report that shows how many students are free each Period of the day. The information from this matrix is not useful when running an Imperative scheduling run because a full schedule is not being generated for a student.</p>  |

| Option   | Description   |
|--|---|
| 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>For example, assume the Semester Maximum Imbalance is set to 10 (the default). If a student has 2 free periods (that meet 5 days a week) one semester and the student has 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> <p>The information from this matrix is not useful when running an Imperative scheduling run because a full schedule is not being generated for a student.</p> |
| Force Co-Requisites to Schedule All or Nothing | <p>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 option Only for flagged Co-Requisites.</p>  |
| Only for flagged Co-Requisites                 | <p>Enforces the restraint (Force Co-Requisites to Schedule All or Nothing) <b>only</b> on those Courses where the Co-Requisite has the option Schedule All Co-Requisite Courses or None selected.</p>   |

| Option  | Description   |
|---|---|
| <p>Schedule Required Courses first, then Elective Courses</p> | <p>Schedules students into classes where the Course is marked Required, before scheduling students into Courses marked as Elective. The scheduler will first process required Singletons and multiple-Section Courses and will then process elective Singletons and multiple-Section Courses.</p> <p>The scheduler uses the value from Actual Number of Sections (not Estimated Number of Sections) for a Course when determining whether it is a Singleton or multiple-Section Course.</p> <p><b>Note:</b> When this option is selected, the Required Courses are arbitrarily scheduled without regard to the availability of the Elective Courses a student has requested. After the Required Courses are scheduled, it then attempts to fill the remaining schedule with the requested Elective Courses.</p> |
| <p>Create Student Conflict Detail</p>                         | <p>Creates the Student Conflict Detail Report that tells you which students have a Course conflict.</p> <p><b>Best Practice:</b> Always select this option so that Schedule Generation Reports are available.</p>   |
| <p>Include Imbalances As Conflicts</p>                        | <p>If the Create Student Conflict Detail option is selected, this option is available. It includes any imbalances as a conflict on the Student Conflict Detail Report.</p> <p>The information from this matrix is not useful for an Imperative scheduling run because a full schedule is not being generated for a student.</p>   |



| Option                        | Description   |
|-------------------------------|---|
| Auto Scheduler Type           | <p>Programming language used to run the Auto Scheduler. Do not select 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> |
| 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>  |

**Table 18 - Options on the Auto Scheduler Generate Student Schedules Maintenance screen**

## Viewing Schedule Run Details and Reports

Each time a scheduling run is generated, details and reports based on the outcome of the scheduling run are generated. These details and reports allow you to find out which students and Courses have conflicts. These reports are helpful for both an Imperative and a Pseudo scheduling run. However, the way you use the information is different depending on whether you're placing single-Section or multiple-Section Courses.

The following reports are available from a schedule generation run:

- Student Conflict Detail Report
- Course Conflict Report
- Conflict Totals Report

To learn more about running and interpreting these reports, see "[Running the Student Conflict Detail Report](#)" (page 98), "[Running the Course Conflict Report](#)" (page 103), or "[Running the Conflict Totals Report](#)" (page 110).

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

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

To view the run details and reports:

1. Go to Student Management\Office\FS\SS\AS\RA.
2. Click the arrow next to the scheduling run that you generated and want to review.
3. Click the arrow next to **Run Details**. The details of the scheduling run appear, which include most of the selections made when generating the scheduling run.

---

**Note** There is one exception in this display: **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 had 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 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 you didn't select **Create Student Conflict Detail** when you generated the scheduling run.

---

5. Click the arrow next to Totals.

---

**Note** 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 option Totals Only is selected. To learn more about the details available in this report, see "[Running the Conflict Totals Report](#)" (page 110). The Conflict Totals Report does not provide data that is helpful when analyzing an Imperative or Pseudo scheduling run.

---

6. Click the arrow next to Free Period Matrix.

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.

---

**Note** The data that appears is also the same data that is 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 available in this report, see "[Running the Conflict Totals Report](#)" (page 110).

---

Step 7: Schedule Sections into the Schedule Master

Figure 38 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 Imperative Run, and the hyperlinks provide access to the Student Conflict Detail Report, Course Conflict Report and Conflict Totals Report.

**Student Scheduling Run Analysis**

Available Auto Scheduling Run Records for the 2016-17 School Year

| Term       | Run Type   | Start Date | Start Time | End Date   | End Time | Str Grd | End Grd | Student Conflict Percent | User Name          |
|------------|------------|------------|------------|------------|----------|---------|---------|--------------------------|--------------------|
| YR (01-04) | Imperative | 10/22/2015 | 11:50 AM   | 10/22/2015 | 11:50 AM | 12      | 09      | 33.2% (102/307)          | Busbeescr, Barbara |

Expand All Collapse All Modify Details (displaying 3 of 3) View Printable Details

**Run Details** Student Conflict Detail Report Course Conflict Report Conflict Totals Report

Highest Period: 07 Build Free Matrix: Yes Start Graduation Year: 2017 End Graduation Year: 2020  
 Close Sections When Filled: No Create Conflict Detail: Yes Include Imbalances as Conflicts: No Encountered Error: No  
 Process Special Ed Courses: No

**Totals**

| Grade         | Total Students | Conflicts  | Conflict Percent | Imbalances | Imbalance Percent |
|---------------|----------------|------------|------------------|------------|-------------------|
| 09            | 71             | 2          | 2.8%             | 0          | 0.0%              |
| 10            | 77             | 5          | 6.5%             | 0          | 0.0%              |
| 11            | 82             | 40         | 48.8%            | 0          | 0.0%              |
| 12            | 77             | 55         | 71.4%            | 0          | 0.0%              |
| <b>Totals</b> | <b>307</b>     | <b>102</b> | <b>33.2%</b>     | <b>0</b>   | <b>0.0%</b>       |

**Free Period Matrix**

Grade: 12

| DAY | TERM: | 1     | GRADE: | 12    | STUDENTS: | 77    |
|-----|-------|-------|--------|-------|-----------|-------|
|     |       | --1-- | --2--  | --3-- | --4--     | --5-- |
|     |       | --6-- | --7--  |       |           |       |
| DAY | TERM: | 2     | GRADE: | 12    | STUDENTS: | 77    |
|     |       | --1-- | --2--  | --3-- | --4--     | --5-- |
|     |       | --6-- | --7--  |       |           |       |
| DAY | TERM: | 3     | GRADE: | 12    | STUDENTS: | 77    |
|     |       | --1-- | --2--  | --3-- | --4--     | --5-- |
|     |       | --6-- | --7--  |       |           |       |
| DAY | TERM: | 4     | GRADE: | 12    | STUDENTS: | 77    |
|     |       | --1-- | --2--  | --3-- | --4--     | --5-- |
|     |       | --6-- | --7--  |       |           |       |

**Figure 38 - Student Scheduling Run Analysis screen for Imperative scheduling run with all options expanded**

## Running the Student Conflict Detail Report and Interpreting the Results

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 "[Interpreting the Results of the Student Conflict Detail Report](#)" (page 100).

To run the Student Conflict Detail Report:

1. Go to Student Management\Office\FS\SS\AS\RA.
2. Do one of the following:
  - If you are analyzing an Imperative scheduling run, click the arrow next to the record for the Imperative Run Type that you generated.
  - If you are analyzing a Pseudo scheduling run, click the arrow next to the record for the Pseudo Run Type that you generated.
3. Click the Student Conflict Detail Report link next to Run Details.

---

|             |  |
|-------------|--|
| <b>Note</b> | The Student Conflict Detail Report link does not appear if you didn't select Create Student Conflict Detail 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 a 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.
- **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 will be printed as A (Arbitrary).

9. Click Run. The report appears. To learn how to interpret the results of this report, see ["Interpreting the Results of the Student Conflict Detail Report"](#) (page 100).

| 1sonyr04.p 19-2 |     | WSIPC High School                                     |   | 10/22/15        |       | Page:4   |  |          |
|-----------------|-----|---|---|-----------------|-------|----------|--|----------|
| 05.15.10.00.00  |     | IMPERATIVE SCHEDULING CONFLICT REPORT FROM 10/22/2015 |   |                 |       | 11:56 AM |  |          |
| COURSE          | LEN | T   | F | DESCRIPTION     | GRADE | SEQ#     | TEAM:  | CONFLICT |
| ENG310          | SM  | I   |   | ENGLISH 11 S1   | 11    | 02       | c^S1 MIWRF   |          |
| ENG325          | SM  | I   |   | ENGLISH 11 S2   | 11    | 22       | c^S2 MIWRF   |          |
| SOC310          | SM  | I   |   | U S HISTORY S1  | 11    | 03       | c^S1 MIWRF   |          |
| SOC320          | SM  | I   |   | U S HISTORY S2  | 11    | 33       | c^S2 MIWRF   |          |
| PEH240          | SM  | M   |   | WEIGHT TRAIN S1 | 11    | 01       | c^S1 ----- 02 c^S1 ----- 03 c^S1 ----- 04 c^S1 ----- 05 c^S1 ----- |          |
| PEH242          | SM  | M   |   | WEIGHT TRAIN S2 | 11    | 11       | c^S2 ----- 22 c^S2 ----- 33 c^S2 ----- 44 c^S2 ----- 55 c^S2 ----- |          |
| WLA300          | SM  | I   |   | SPANISH II S1   | 11    | 02       | c^S1 -----   |          |
| WLA302          | SM  | I   |   | SPANISH II S2   | 11    | 22       | c S2 +++++   |          |
| MTH310          | SM  | +   |   | ALGEBRA II S1   | 11    | 02       | c^S1 -----   |          |
| MTH320          | SM  | +   |   | ALGEBRA II S2   | 11    | 22       | c^S2 -----   |          |
| MIS470          | SM  | +   |   | STUDENT AID S1  |       |          |  |          |
| MIS472          | SM  | +   |   | STUDENT AID S2  |       |          |  |          |

**Figure 39 - Student Conflict Detail Report based on the Imperative scheduling run with the Section/Terms/Days Report Format selected**

## Interpreting the Results of the Student Conflict Detail Report

This section shows you how to interpret the results of the Student Conflict Detail Report (Figure 39 above).

To interpret the results of the Student Conflict Detail Report:

1. Locate Column T (Figure 39). The Codes that appear in Column T specify how the Course was scheduled. Table 19 describes the specific values that appear in this column.
2. Locate Column F (Figure 39). The Codes that appear in Column F denote special Scheduling Types for the Course. Table 20 describes the specific values that appear in this column.
3. Locate any Conflict Codes (Figure 39). 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 appear beneath the period assigned column. Table 21 describes the specific values that appear in this column.

---

**Note** The Imperative scheduling run and the Pseudo scheduling run do *not* schedule students. When the report descriptions below contain the word "scheduled" for either mode, this means "if" scheduled because these two modes do not schedule students.

---

| 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.  |

| Symbol in Column T     | Description   |
|------------------------|---|
| A, O, P, Q,<br>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 19 - Descriptions of the 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 20 - Descriptions of the 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 on which the Course meets and there will be spaces for the days on which 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 did not get scheduled into the Section because it was full.  |



| Conflict Codes | Description   |
|----------------|---|
| 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 are not able to 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) requirement 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 21 - 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. For an Imperative scheduling run, look for conflicts with other single-Section Courses. For a Pseudo scheduling run, look for conflicts in any Course 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. Find trends between specific Courses where conflicts are common. You'll use this information later to determine whether you may modify the placement of the Section in the Schedule Master. After a Pseudo scheduling run you may possibly create additional Sections of a multiple-Section Course.

---

**Note** Multiple-Section Courses that reside in Period 0 (zero) are seen by the software as conflicts because they are unscheduled requests, but for an Imperative run this is not a true conflict. These requests are listed for a student with an asterisk (\*) in Column T of the report, indicating the Course could not be scheduled.

---

## Running the Course Conflict Report and Interpreting the Results

This report summarizes the information about how students were scheduled into Sections of Courses (or would have been scheduled into Sections of Courses for the scheduling run). It offers totals based on each Course and Section (if desired) and indicates for each Course how many students requested the Course, how many would receive the Course and how many students would not receive the Course due to schedule conflicts. Use this report first if you are running it after placing Singletons because you can see if there are any conflicts so you can move the Sections as necessary. You can then use it in conjunction with the Student Conflict Detail Report to decide whether periods of a Section need to be modified or if Sections need to be added or dropped after placing multiple Section Courses.

To run the Course Conflict Report:

1. Go to Student Management\Office\FS\SS\AS\RA.
2. Do one of the following:
  - If you are analyzing an Imperative scheduling run, click the arrow next to the record for the Imperative Run Type that you generated.
  - If you are analyzing a Pseudo scheduling run, click the arrow next to the record for the Pseudo Run Type that you generated.
3. Click the Course Conflict Detail 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 would be scheduled and the number of conflicts that would occur (students are not actually scheduled since this is an Imperative or Pseudo scheduling run).

Selecting **Course & Class** displays additional information regarding the Section (in the case of the Imperative scheduling run this is only one Section). The information includes Meeting Pattern detail and Optimum, Maximum and Assigned seat counts.

---

5. If you want Courses that are still placed in period zero included on the report, select the **Print Courses/Classes Scheduled Period Zero** check box. Typically for an Imperative scheduling run you would not select this option because you wouldn't want to include all of the non-placed, multiple-Section Courses.
6. Click **Run**. The report appears. To learn how to interpret the results of this report, see ["Interpreting the Results of the Course Conflict Report"](#) (page 106).

Figure 40 shows a Course Conflict Report with the Course & Class Detail Sequence option selected for an Imperative scheduling run. Notice that some of the single-Section Courses listed have a conflict (CONF) count greater than zero. Investigate the student conflicts for these Courses to determine whether the Course should be moved to another Period.

| lsonyr03.p 19-2 |                 | WSIPC High School  |     | 10/22/15 |                         | Page:5 |     |         |     |     |      |     |      |      |      |      |      |      |      |
|-----------------|-----------------|--|-----|----------|-------------------------|--------|-----|---------|-----|-----|------|-----|------|------|------|------|------|------|------|
| 05.15.10.00.00  |                 | Imperative Course Conflict Run (Course & Class) Report From 10/22/2015 |     |          |                         |        |     | 1:08 PM |     |     |      |     |      |      |      |      |      |      |      |
| COURSE          | DESCRIPTION     | SCD  | TOT | COR      | CONFLICT'S OPEN PERIODS |        |     |         |     |     |      |     |      |      |      |      |      |      |      |
| SEC             | TEACHER         | TRM  | PD  | DAYS     | OPT                     | MAX    | ASG | TYP     | REQ | SCD | CONF | LGT | --1- | --2- | --3- | --4- | --5- | --6- | --7- |
| MIH410          | PRECALCULUS S1  |  |     |          |                         |        |     | N       | 39  | 32  | 7    | SM  |      |      |      |      |      |      |      |
| 05              | RAIvearscr      | S1   | 05  | MTWRF    | 34                      | 40     | 32  |         |     |     |      |     |      |      |      |      |      |      |      |
| MIH420          | PRECALCULUS S2  |  |     |          |                         |        |     | N       | 39  | 33  | 6    | SM  |      |      |      |      |      |      |      |
| 55              | RAIvearscr      | S2   | 05  | MTWRF    | 34                      | 40     | 33  |         |     |     |      |     |      |      |      |      |      |      |      |
| MIH460          | AP CALCULUS S1  |  |     |          |                         |        |     | N       | 14  | 14  | 0    | SM  |      |      |      |      |      |      |      |
| 03              | RAIvearscr      | S1   | 03  | MTWRF    | 34                      | 40     | 14  |         |     |     |      |     |      |      |      |      |      |      |      |
| MIH462          | AP CALCULUS S2  |  |     |          |                         |        |     | N       | 14  | 14  | 0    | SM  |      |      |      |      |      |      |      |
| 33              | RAIvearscr      | S2   | 03  | MTWRF    | 34                      | 40     | 14  |         |     |     |      |     |      |      |      |      |      |      |      |
| MIH900          | PROF MIH I S1   |  |     |          |                         |        |     | N       | 12  | 9   | 3    | SM  |      |      |      |      |      |      |      |
| 05              | WDaringscr      | S1   | 05  | MTWRF    | 34                      | 40     | 9   |         |     |     |      |     |      |      |      |      |      |      |      |
| MIH902          | PROF MTH I S2   |  |     |          |                         |        |     | N       | 12  | 9   | 3    | SM  |      |      |      |      |      |      |      |
| 55              | WDaringscr      | S2   | 05  | MTWRF    | 34                      | 40     | 9   |         |     |     |      |     |      |      |      |      |      |      |      |
| MUS115          | MUS PROD FA S1  |  |     |          |                         |        |     | N       | 12  | 12  | 0    | SM  |      |      |      |      |      |      |      |
| 04              | CDenisesocr     | S1   | 04  | MTWRF    | 34                      | 40     | 12  |         |     |     |      |     |      |      |      |      |      |      |      |
| MUS118          | MUS PROD FA S2  |  |     |          |                         |        |     | N       | 11  | 11  | 0    | SM  |      |      |      |      |      |      |      |
| 44              | CDenisesocr     | S2   | 04  | MTWRF    | 34                      | 40     | 11  |         |     |     |      |     |      |      |      |      |      |      |      |
| MUS119          | MUS PROD OCC S1 |  |     |          |                         |        |     | N       | 14  | 11  | 3    | SM  |      |      |      |      |      |      |      |
| 04              | CDenisesocr     | S1   | 04  | MTWRF    | 34                      | 40     | 11  |         |     |     |      |     |      |      |      |      |      |      |      |
| MUS120          | MUS PROD OCC S2 |  |     |          |                         |        |     | N       | 15  | 12  | 3    | SM  |      |      |      |      |      |      |      |
| 44              | CDenisesocr     | S2   | 04  | MTWRF    | 34                      | 40     | 12  |         |     |     |      |     |      |      |      |      |      |      |      |

**Figure 40 - Course Conflict Report with Course & Class Detail Sequence option selected for an Imperative scheduling run**

Figure 41 shows a Course Conflict Report with the Course & Class Detail Sequence option selected for a Pseudo scheduling run. Notice that some of the single-Section Courses listed have a conflict (CONF) count greater than zero. Investigate the student conflicts for these Courses to determine whether the Course should be moved to another Period.

| 1sonyr03.p 19-2<br>05.15.10.00.00                                  |               | WSIPC High School |    |       |     |     |     |           |     |     |      | 10/22/15 |                         | Page:2 |      |      |      |      |      |
|--|---------------|-------------------|----|-------|-----|-----|-----|-----------|-----|-----|------|----------|-------------------------|--------|------|------|------|------|------|
| Pseudo Course Conflict Run (Course & Class) Report From 10/22/2015 |               |                   |    |       |     |     |     |           |     |     |      |          |                         |        |      |      |      |      |      |
| 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- |
| ENG310   | ENGLISH 11 S1 |                   |    |       |     |     |     | N         | 28  | 28  | 0    | SM       |                         |        |      |      |      |      |      |
| 02   | MNuckelssec   | S1                | 02 | MTWRF | 34  | 40  | 28  |           |     |     |      |          |                         |        |      |      |      |      |      |
| ENG311   | ENG 11 CP S1  |                   |    |       |     |     |     | N         | 46  | 42  | 4    | SM       |                         |        | 3    |      | 2    |      | 4    |
| 04   | MNuckelssec   | S1                | 04 | MTWRF | 34  | 40  | 29  |           |     |     |      |          |                         |        |      |      |      |      |      |
| 06   | MNuckelssec   | S1                | 06 | MTWRF | 24  | 28  | 13  |           |     |     |      |          |                         |        |      |      |      |      |      |
| ENG321   | ENG 11 CP S2  |                   |    |       |     |     |     | N         | 46  | 42  | 4    | SM       |                         |        | 3    |      | 2    |      | 4    |
| 44   | MNuckelssec   | S2                | 04 | MTWRF | 20  | 30  | 29  | OPTIMUM E |     |     |      |          |                         |        |      |      |      |      |      |
| 66   | MNuckelssec   | S2                | 06 | MTWRF | 20  | 30  | 13  |           |     |     |      |          |                         |        |      |      |      |      |      |
| ENG325   | ENGLISH 11 S2 |                   |    |       |     |     |     | N         | 28  | 28  | 0    | SM       |                         |        |      |      |      |      |      |
| 22   | MNuckelssec   | S2                | 02 | MTWRF | 34  | 40  | 28  |           |     |     |      |          |                         |        |      |      |      |      |      |
| ENG410   | ENGLISH 12 S1 |                   |    |       |     |     |     | N         | 33  | 33  | 0    | SM       |                         |        |      |      |      |      |      |
| 03   | MNuckelssec   | S1                | 03 | MTWRF | 34  | 40  | 33  |           |     |     |      |          |                         |        |      |      |      |      |      |

**Figure 41 - Course Conflict Report with Course & Class Detail Sequence option selected for a Pseudo scheduling run**

## Interpreting the Results of the Course Conflict Report

This section shows you how to interpret the results of the Course Conflict Report (Figure 40 above).

To interpret the results of the Course Conflict Report:

1. Locate the upper row of column headings on the Course Conflict Report that you generated. The column descriptions in Table 22 describe the Course information and help you interpret the results of the report.
2. 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 23 describe the Section information for each Course and help you interpret the results of the report.

**Note**

The Imperative scheduling run and the Pseudo scheduling run do not schedule students. When the report descriptions below contain the word "scheduled" for either mode, this means "if" scheduled because these two modes do not schedule students.

| 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.   |
| SCD                     | Total number of students who could be scheduled during the schedule generation run. This count includes only students with the Grad Years or Grade Levels selected during the schedule generation run. During Imperative or Pseudo scheduling runs, this number represents the number of students who would be assigned if an actual schedule run was processed.  |
| CONF                    | Total number of students who could not be scheduled during the schedule generation run. The count includes students within the Grad Years or Grade Levels selected during the schedule generation run.  |
| COR LGT                 | Course Length of the Course from the Course Master.   |
| CONFLICT'S 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). This information can help you decide which period might be the best for assigning a Section.</p> <p>In the case of Semester length Courses, the count includes students who are free during that period for either semester.</p> |

**Table 22 - 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 is going to be taught.   |
| PD                      | Period in which the Section is going to be taught.   |
| DAYS                    | Days of the week in which the Section is going to 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. During Imperative or Pseudo scheduling runs, this number represents the number of students who would be assigned if an actual schedule run was processed.   |
| 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 option Close Sections when Filled is set to No, this message is informational and students are scheduled into the Section. If the option Close Sections when Filled is set to Yes, the student will not be scheduled into the Section since there are no longer seats available in that Section. |

**Table 23 - Section column headings for the Course Conflict Report**

## Step 7: Schedule Sections into the Schedule Master

For an Imperative scheduling run, use this report to determine which single-Section Courses have conflicts. When placing single-Section Courses, your goal is to have as few conflicts with other single-Section Courses as possible. When you review the report, look at the CONF (conflict) column for Courses with conflict totals greater than zero. When there is a conflict, return to the Interactive Scheduling Board or the Interactive Master Schedule Builder and select the Conflict button to view the students with conflicts for that Course. You can also use this report in conjunction with the Student Conflict Detail Report to determine which students are in conflict. You must determine whether one or more Courses need to be moved to another period of the day to eliminate some or all of the conflicts. In addition, review the report looking for OPTIMUM EXCEEDED or MAXIMUM EXCEEDED messages to determine whether additional Sections of these single-Section Courses need to be offered.

For a Pseudo scheduling run, 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, or return to the Interactive Scheduling Board or the Interactive Master Schedule Builder and select the Conflict button to view the students with conflicts for that Course.

You can determine what alternative periods a Section can be placed in by looking at the CONFLICT'S OPEN PERIOD details. You will need to determine whether one or more Courses need to be moved to another period of the day to eliminate some or all of the conflicts. In addition, review the report looking for OPTIMUM EXCEEDED or MAXIMUM EXCEEDED messages to determine whether additional Sections of these Courses need to be offered.

Lastly, you can use the counts in this report to determine if there are students with requests who have a Next Year status of Inactive and then correct the discrepancy. To do this, find the difference between the total number of requests (TOT REQ) and the number of students scheduled (SCD), plus students with conflicts (CONF). If there is a difference, the specific students can be found by running the Student Request Report (Student Management\Office\FS\RP\RE\SS) and selecting the Report option Only Students with Requests. In addition, the Report Type of By Range should be selected and Inactive selected as the NY Status. Be sure to leave the Grade/Grad Yr range wide open.



## Running the Conflict Totals Report and Interpreting the Results

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.

For an Imperative scheduling run, this report does not provide data that is helpful when analyzing an Imperative scheduling run. It is likely that every student will have at least one conflict and that the Conflict Percent values will be close to 100% for each grade level. This occurs because each request a student has for a multiple-Section Course that has not been placed in the Master Schedule still counts as an unscheduled Course, and therefore also counts as a conflict. Students may not have conflicts if their schedule has been manually built or if their schedule consists entirely of single-Section requests that do not conflict with one another.

For a Pseudo scheduling run, you should run and interpret the results of the Conflict Totals Report.

To run the Conflict Totals Report:

1. Go to Student Management\Office\FS\SS\AS\RA.
2. Click the arrow next to the record for the Pseudo 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.

---

|             |  |
|-------------|--|
| <b>Note</b> | 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. To learn how to interpret the results of this report, see "[Interpreting the Results of the Course Conflict Report](#)" (page 112).

Figure 42 shows a Conflict Totals Report with Detail Sequence of Free Periods By Grade & Totals selected. 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.

| 1sonyr02.p 05-2 |         | WSIPC High School   |       | 10/22/15     |       | Page:1 |       |         |  |
|-----------------|---------|---|-------|--------------|-------|--------|-------|---------|--|
| 05.15.10.00.00  |         | Auto Scheduling Run - Free Periods By Grade & Totals Report From 10/22/2015 |       |              |       |        |       | 1:15 PM |  |
| DAY             | TERM: 1 | GRADE: 12   |       | STUDENTS: 77 |       |        |       |         |  |
|                 |         | --1--   | --2-- | --3--        | --4-- | --5--  | --6-- | --7--   |  |
| MON             |         | 43  | 7     | 24           | 31    | 23     | 32    | 77      |  |
| TUE             |         | 43  | 7     | 24           | 31    | 23     | 32    | 77      |  |
| WED             |         | 43  | 7     | 24           | 31    | 23     | 32    | 77      |  |
| THU             |         | 43  | 7     | 24           | 31    | 23     | 32    | 77      |  |
| FRI             |         | 43  | 7     | 24           | 31    | 23     | 32    | 77      |  |

**Figure 42 - Conflict Totals Report with Detail Sequence of Free Periods By Grade & Totals selected**

Figure 43 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   |          | 10/22/15 |         | Page:5    |         |         |  |
|-------------------------------------|--|---|----------|----------|---------|-----------|---------|---------|--|
| 05.15.10.00.00                      |  | Auto Scheduling Run - Free Periods By Grade & Totals Report From 10/22/2015 |          |          |         |           |         | 1:15 PM |  |
| AUTO SCHEDULING RUN TOTALS BY GRADE |  |   |          |          |         |           |         |         |  |
|                                     |  | -----   |          |          |         |           |         |         |  |
|                                     |  | GRADE   | STUDENTS | CONFLICT | PERCENT | IMBALANCE | PERCENT |         |  |
|                                     |  | -----   |          |          |         |           |         |         |  |
|                                     |  | 09  | 71       | 3        | 4.2%    | 0         | 0.0%    |         |  |
|                                     |  | -----   |          |          |         |           |         |         |  |
|                                     |  | 10  | 77       | 14       | 18.2%   | 0         | 0.0%    |         |  |
|                                     |  | -----   |          |          |         |           |         |         |  |
|                                     |  | 11  | 82       | 47       | 57.3%   | 0         | 0.0%    |         |  |
|                                     |  | -----   |          |          |         |           |         |         |  |
|                                     |  | 12  | 77       | 55       | 71.4%   | 0         | 0.0%    |         |  |
|                                     |  | -----   |          |          |         |           |         |         |  |
|                                     |  | Total   | 307      | 119      | 38.8%   | 0         | 0.0%    |         |  |
|                                     |  | -----   |          |          |         |           |         |         |  |
| ***** End of report *****           |  |   |          |          |         |           |         |         |  |

**Figure 43 - Conflict Totals Report with Detail Sequence of Free Periods By Grade & Totals selected with totals shown**

## Interpreting the Results of the Course Conflict Report

The following information will help you interpret the Conflict Totals Report (Figure 42).

- 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. This gives you an idea of periods into which Sections may need to be added. 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 the Schedule Master. In some cases, a conflict rate of 10% is acceptable, and might be 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, there is not much left to be done to the Course Master. You must resolve the conflicts individually.

## Making Adjustments to the Schedule Master

After you run, interpret and review Schedule Generation Reports, use the information you have gathered to modify the Schedule Master. If an Imperative scheduling run was performed, modify single-Section Courses only. If a Pseudo scheduling run was performed, modify multiple-Section Courses only and do *not* make adjustments to previously placed single-Section Courses.

While reviewing the reports, note Courses with conflicts. If the number of students with conflicts is low, a change to the period for either Course may not be possible or may not need to be made. However, if many students are unable to be scheduled into one Course or the other, modify the Meet to find a better placement for the Course. Although, changing the period assignment may resolve some conflicts but could possibly create others.

## Step 7: Schedule Sections into the Schedule Master

If students have conflicts due to special scheduling situations like Lock Groups, Prerequisites or Co-requisite, look closely at the periods in which the Courses are offered. If students cannot get Course A's prerequisite because it is blocked out by another Course request, they will not be able to get Course A either. In this case, change or add a Section for the prerequisite or change the period of the Course that it is conflicting with. When setting up co-requisites, ensure that Sections and Meeting Patterns are created to allow for the co-requisite requirements that have been created. For example, if co-requisites must be taken in opposite semesters, be sure to create Sections and Meeting Patterns that address these requirements.

To make adjustments to the Schedule Master:

1. Do one of the following:
  - Repeat the steps in "[Placing Single-Section Courses in the Schedule Master](#)" (page 85) for single-Section Courses that are causing conflicts. Be sure to view all single-Section Courses when making changes to any Courses. To view previously scheduled Courses, select **Include Classes Previously Scheduled** on the Ranges screen if you are using the Master Schedule Builder.
  - Repeat the steps in "[Placing Multiple-Section Courses in the Schedule Master](#)" (page 87) for multiple-Section Courses that you are attempting to move in the Schedule Master. Be sure to view all Courses when making changes to any Course. To view previously scheduled Courses, select **Include Classes Previously Scheduled** on the Ranges screen if you are using the Master Schedule Builder.
2. Repeat the steps in "[Running the Auto Scheduler in Imperative or Pseudo Mode](#)" (page 88). Process an Imperative run if you have only placed and moved single-Section Courses. Process a Pseudo run if you have placed single-Section and multiple-Section Courses.
3. Repeat the steps in "[Viewing Schedule Run Details and Reports](#)" (page 94).

Perform this process until few or no conflicts remain between single-Section Courses, and few or no conflicts exist between multiple-Section Courses.

# Continuing the Future Scheduling Process

This concludes Future Scheduling: Part Three - Building the Scheduler Master. To continue the Future Scheduling process, see the *WSIPC Guide to Future Scheduling: Part Four - Scheduling Students*.

# 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

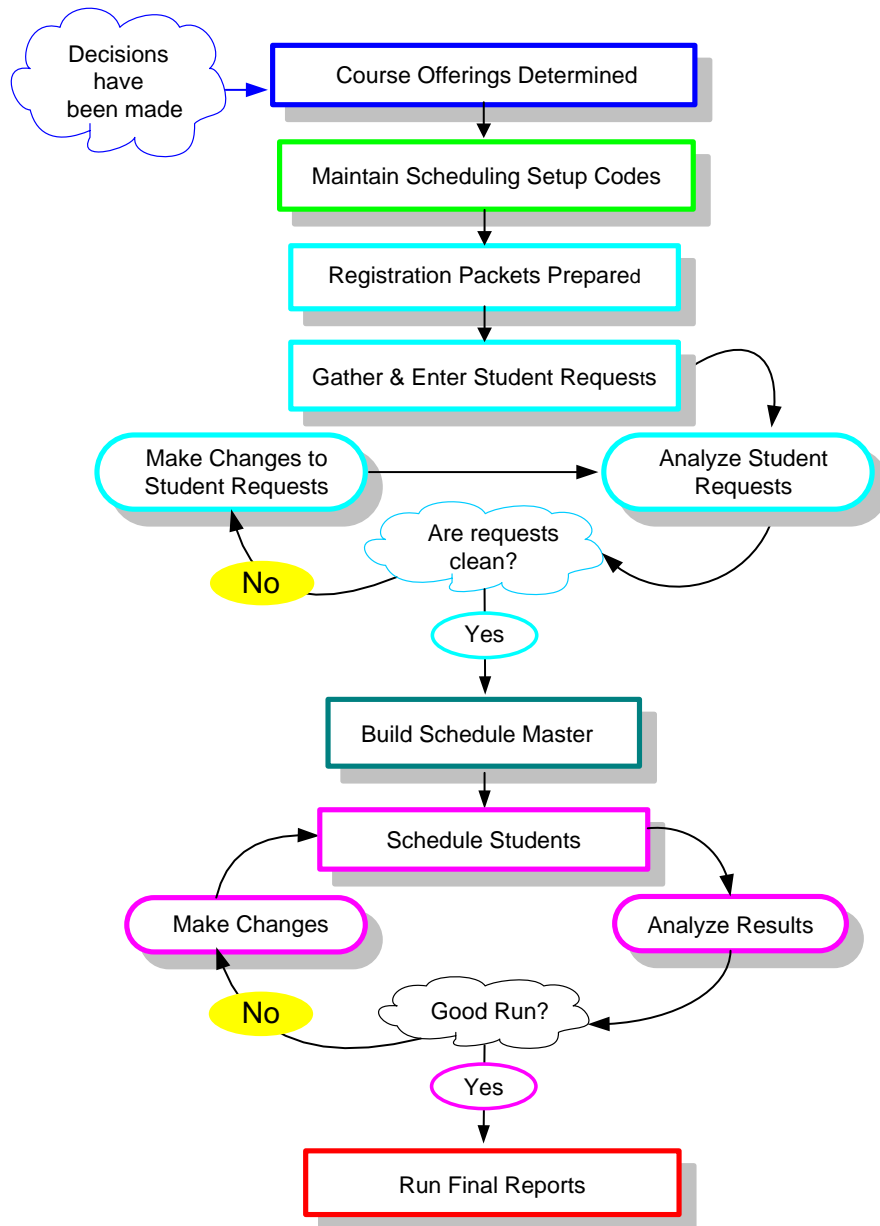
#### **PART FOUR: Scheduling Students**

- 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 option to Balance by Student Attributes is selected, then the students will be ordered or sorted first by the attribute(s) and then by their difficulty.

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 will be 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 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

---

|             |  |
|-------------|--|
| <b>Note</b> | 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, will make 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 will cause it to schedule before other Electives in its Loop. Setting it to a Priority 6 or higher will make this Elective schedule before Required Courses which are at the default priority *if* the Courses are of the same length and number of Sections.

---

|             |  |
|-------------|--|
| <b>Note</b> | 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 will place 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 will place 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 will still schedule 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 will look 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 will first attempt 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 will still be 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 will then honor the constraints put on the Course Section.

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|             |   |
|-------------|---|
| <b>Note</b> | The Auto Scheduler honors the options Force Co-Requisites to Schedule All or Nothing and Only for flagged Co-Requisites, 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. |
|-------------|---|

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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.

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|             |   |
|-------------|---|
| <b>Note</b> | 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 option **Allow Student with No Category to be Assigned** 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 will work similarly to Scheduling Teams in that it will give 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 system will create a list of students that will be processed based on the ranges selected. It will then process all students within the first graduation year selected. After processing the entire grade level it will then begin scheduling students with the next graduation year. In a high school setting this typically means seniors will be 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 will need to run the Mass Delete Auto-Scheduler Files process (Student Management\Office\FS\SS\AS\MS). That person will be able to 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.

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|             |  |
|-------------|--|
| <b>Note</b> | 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. |
|-------------|--|

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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 an option Terms To Process.
- 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 will only be 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 system when scheduling a specific Term or Semester. Also, if requests exist for Semester long Courses, they will not be scheduled by the system 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.

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- A student's classes can be unscheduled using the Unschedule Student Classes Utility. There is an option to specify the Terms To Process. Classes will only be unscheduled if their terms fall within the term being unscheduled.

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**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 system will not unschedule this year-long Course because the terms exceed the terms being unscheduled.

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- 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 display 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 display 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 option *Allow Web Access* selected.
- The student's *Graduated* flag (Student Management\Students\ST\PR\General\Profile) is set to *No*. If it is set to *Yes* and the Family Access District Display Settings (Student Management\Families\FM Setup\CF\DD) option *Display Non-Graduated Students Only* is selected, 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.

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|             |   |
|-------------|---|
| <b>Note</b> | If the option <b>Only list class sections for courses student requested</b> is enabled in Family Access, Entity Configuration for Available Classes, any Course that was requested for the student will be available. |
|-------------|---|

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- The Course was requested by the student (if the option **Only list class sections for courses student requested** 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 44 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 identify "Column T" (the first column), "Column F" (the second column), and "Conflict Codes" (the codes like 'c'S1' and '++++' in the third column).

| Column T  | Column F | Conflict Codes                |
|-----------|----------|-------------------------------|
| ENG310 SM | I        | 02 c'S1 MWRF                  |
| ENG325 SM | I        | 22 c'S2 MWRF                  |
| SOC310 SM | I        | 0                             |
| SOC320 SM | I        | 3                             |
| PEH240 SM | M        | 01 c'S1 ----- 02 c'S1 ----- 0 |
| PEH242 SM | M        | 11 c'S2 ----- 22 c'S2 ----- 3 |
| WLA300 SM | I        | 02 c'S1 -----                 |
| WLA302 SM | I        | 22 c S2 +++++ 55 c'S2 MWRF    |
| MTH310 SM | +        | 02 c'S1 -----                 |
| MTH320 SM | +        | 22 c'S2 -----                 |
| MIS470 SM | +        |                               |
| MIS472 SM | +        |                               |

**Figure 44 - 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 44) specify how the Course was scheduled. Table 24 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 system.  |
| 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 24 - 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 25 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 25 - 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 26 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 26 - 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.

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