PowerScheduler
Prepare to Build
In Our ‘Prepare to Build’ Training

You should leave with:

- A good sense of how PowerScheduler works
- An overall understanding of the parameters necessary to build your master schedule and the variety of information that you need to enter in the PowerScheduler area
- A good familiarity with the steps you must complete in order to build your master schedule
The Steps to Scheduling

• Step 1: Prepare to build.
  Evaluating Needs and Entering data

• Step 2: Build the master schedule.
  Creating the master schedule “matrix”

• Step 3: Load the students into the master schedule.
  Satisfying student course requests
PowerScheduler

- Uses a rigorous approach.
- Ranks courses by difficulty to schedule.
- Calculates all possible ways to schedule each course.
- Scores the combinations:
  - Conflicts
  - Balance
  - Flexibility
- Selects the best schedule for each course.
Common Terms

- **Period**: A school’s day is sliced into segments of time called periods.

- **Cycle**: A cycle is the number of repeating days that comprise the schedule, such as a 6-day cycle. Days in a cycle are often called Day 1, Day 2; Day A, Day B; or another variation. A cycle is not the same as a calendar day or a day of the week.
The Tetris Connection

The Schedule Cube

The Concept

Periods

Days

S1

S2

Terms

A B C D E F

1 2 3 4 5 6 7
Course Shapes

Standard Courses

1 period every day

1 period every other day

2 periods every day
Course Shapes (continued)

Lab Courses

1 period every day with 1 additional lab period

1 period every day with 2 additional lab periods
Course Shapes (continued)

Floating Lab Courses

1 period every day with 1 additional floating lab period
The Scheduling Cube

Putting it all together

Days (A-F)

Terms

Periods (1-7)

S1

S2
One example of scheduling a course

- Calculating combinations
- Cube size: 7 periods, 6 days, 2 terms
- Standard course
- Meets every day
- One period per meeting
- All year long
- 2 teachers: one with three sections; one with 2
Two example combinations
The Math Behind the Scenes

First teacher (2 sections)

\[ C^2_7 = \frac{7!}{2! \cdot 5!} = 21 \]

Second teacher (3 sections)

\[ C^3_7 = \frac{7!}{3! \cdot 5!} = 35 \]

Total combinations: \(21 \times 35 = 735\)
Three Common Types of Schedules

• Traditional schedule

• Block schedule

• Rotated schedule
Traditional 5 Day/7 Period Schedule

Days (A-E)

Periods (1-7)

Terms

Writing
Reading
Math
LA
History
Science
LAB
PE
Woods
Music
A Sample Block Schedule
4 x 4 Block (4 courses per semester)

Jazz Choir
French 1
Trigonometry
Chemistry 1

English 10
U.S. History
Art
Geometry
Block Schedule for an A/B Day
Students take these courses all year, every other day

English 10  Jazz Choir
U.S. History  French 1
Art  Trigonometry
Geometry  Chemistry 1
Rotated Schedule
Students take these courses all year in different periods

English 10
U.S. History
Art
Geometry
Chemistry 1
Some questions you must consider

- How many periods per day?
- How many days per cycle?
- Does every course meet the same number of periods?
- Do all courses meet the same amount of days?
- If no, how many different day combinations are there?
- What are some constraints on the schedule in terms of time (days, periods, etc.), teacher availability, space?
Some Special Situations

Academic Teams

**Static:** The students are assigned to teams for academic and/or all courses. Usually found in middle schools.

A gifted child may be assigned to the Red team for academic courses. Another may be assigned to the Blue team, etc.

**Dynamic:** The teachers are on a team together, rather than the students. Usually found in middle schools.

A student’s request for Math is filled by Mr. Johnson on the Bears team. Every other academic request is filled by a Bears teacher, too.
The Scheduling Side or “Bubble”

- When completing data for the future school year, you work in the “build” side of the application. This is often referred to as the scheduling “side”, schedule “bubble” or PowerScheduler.

- You access this part of the software by choosing the PowerScheduler link from the main menu.
Automated Study Hall

Days (A-F)

Periods (1-7)

Terms

Writing
Reading
Math
LA
History
Science
Study Hall
Music

A  B  C  D  E  F

1  2  3  4  5  6  7

SI  S2
The Build Process

- Prepare/Validate
- Automated Study Halls
- Manually Change Student Schedules
- Commit
- Build
- Build stops
- Fix Problem
- Build complete
- Evaluate Build
- Load
- Evaluate Load
- Complete