UBC Saves 4,650 Man Hours through Optimization Project

The Problem

Awaiting the loss of multiple rooms can be daunting for a scheduling office, and the University of British Columbia (UBC) was faced with that exact challenge. In September 2007, UBC would lose 30 rooms to renovations for 1 1/2 years and would permanently lose two large lecture rooms with seating capacities of 320 and 240. In addition, the institution planned to re-purpose another 31 rooms in September 2008. Due to this anticipated loss of 60+ rooms, UBC was forced to re-evaluate its room scheduling methods.

Traditionally, UBC uses Astra Schedule's Optimizer to assign classrooms in a "preferred tier" method and allows departments to specify individual room preferences for classes. By using the underbook percentage tool in Astra Schedule, UBC does not allow classes to be scheduled into rooms that are not at least 80 percent full.

Many classes are pre-assigned from term to term. Each year, schedulers copy forward the term which includes all room assignments that match their region (Tier 1). They allow users to schedule and assign course sections from December to March, at which time they remove access and Optimize the course sections that were not scheduled into Tier 1 space. They typically Optimize close to 1,600 of the 16,000 sections.

The Idea

With the loss of 60+ rooms lingering before them, schedulers at UBC devised a solution that:

1. Would allow courses previously scheduled in the soon-to-be offline rooms to reserve another space.
2. Would uphold the 80 percent fill ratio to maximize space utilization.
3. Would minimize faculty push back

While the 80 percent fill ratio was still enforced, the academic preferences were relaxed to allow for wider scheduling and to reduce the number of pre-assigned rooms. In other words, faculty no longer had as much say in room location.

The Optimizer was then run in two stages— initially to schedule classes into departmental buildings, and then to schedule the remainder of the classes into open space within defined geographical zones. This prevented instructors' classes from being scheduled too far from one another. Patti Kraigher, systems development coordinator at UBC, said, "We're trying to do what's best for the campus as a whole, not just each department."

The Solution

To handle push back from faculty, UBC allowed faculty members to make changes to the schedule if the changes stayed within the academic course guidelines and maintained the 80 percent fill rate.

In other situations, faculty were encouraged to complete a "consideration form," which the scheduling office would review. Of the 368 forms that were received, 56 were approved.

The Results

Optimization saved UBC an enormous amount of scheduling hours. "We estimated the cumulative number of hours saved by our department Timetable Representatives (TReps), modestly speaking, to be 4,650 hours," said Kraigher (six weeks scheduling x 5 hours per week x 155 TReps).

To gauge the satisfaction of the faculty, the scheduling office surveyed the department TReps. The majority of respondents were either satisfied or very satisfied with the rooms assigned during the optimization scheduling process— rounding out the success of the project.

FOUNDED: 1877

LOCATED: Vancouver, BC

ENROLLMENT: 43,000

OFFERING: 96 undergraduate and graduate degree programs

Return on Investment

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Patti Kraigher
Systems Development Coordinator
University of British Columbia

Testimonial

"We're trying to do what's best for the campus as a whole, not just each department."

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