Timetabling Services for RMIT

Information Session
April 2013

www.rmit.edu.au
Timetabling Services Vision

- Timetabling Services will be a recognised leading provider of professional tertiary education for student timetable services to RMIT University.
- To enhance the student experience and fully optimise University resources.
- RMIT will provide you with a professional service which is functionally aligned to your requirements through the introduction of constraint driven timetabling and a dedicated Timetabling team.
The benefits that Timetabling Services brings to RMIT

Timetabling Services will deliver a number of benefits to RMIT’s academic and teaching staff. These will include:

- A stable timetable that is better for the student and better for the academic and teaching staff.
- Improved Course Experience Survey.
- A more flexible approach to cater for your timetabling needs.
- A “right space” approach to teaching requirements.
- The ability to identify and resolve load planning issues before they become a problem.
- An improved equity and transparency for timetabling requirements.
- A one time data collection annually for timetabling requirements.
RMIT’s Constraint Driven Timetabling Approach

Syllabus Plus and SAMS relationship will interact in a coordinated and streamlined approach

- **Approval of New Programs and Program Amendments**: Academic Board approves new programs and program amendments.
- **Program and Course Configuration**: ARG populates SAMS with the approved program and course configurations. Program and Course information uploaded to Syllabus Plus.
- **Class Scheduling**: Schools generate class schedule in SAMS. Class information uploaded to Syllabus Plus.
- **Gather Teaching and Space Needs**: Program Managers/Coordinators specify teaching requirements. Academic and Teaching staff unavailability.
- **Timetable Preparation**: Timetable team develop the timetable to comply with the required business rules and constraints. Academic and Teaching staff unavailability. Generation of pathways and students sets to ensure a clash free timetable.
- **Draft Timetable**: Teaching requirements and constraints are used to create an initial draft timetable. Draft timetable is reviewed by Colleges/School, with changes made as required.
- **Approve and Publish Final Timetable**: The timetable is published to key stakeholders and uploaded to STS.
- **Students Enrol**: Students enrol and select teaching activities to build a personalised timetable.
- **Continuous management of timetable change and space utilisation**: Ongoing management and maintenance of changes and enhancements to the published timetable.

### Diagram

- **SAMS**
  - ARG populates SAMS with the approved program and course configurations.
  - Program and Course information uploaded to Syllabus Plus.
- **Syllabus Plus**
  - Schools generate class schedule in SAMS.
  - Class information uploaded to Syllabus Plus.
  - Program Managers/Coordinators specify teaching requirements.
  - Academic and Teaching staff unavailability.
  - Timetable team develop the timetable to comply with the required business rules and constraints.
  - Generation of pathways and students sets to ensure a clash free timetable.
  - Teaching requirements and constraints are used to create an initial draft timetable.
  - Draft timetable is reviewed by Colleges/School, with changes made as required.
  - The timetable is published to key stakeholders and uploaded to STS.
  - Students enrol and select teaching activities to build a personalised timetable.
  - Ongoing management and maintenance of changes and enhancements to the published timetable.
- **SAMS**
Constraint Driven Timetabling – What has changed

INSTITUTION

COLLEGES / SCHOOLS

TEACHING RESOURCE

ACTIVITY TEMPLATES

LOCATION

EQUIPMENT

STAFF

DELIVERY STRUCTURE

MODULES

PROGRAMMES OF STUDY

PATHWAYS

STUDENT SETS

SUITABILITIES/CONSTRAINTS

ACTIVITY (auto generated and timetabled)
Our approach for the 2014 Timetable

<table>
<thead>
<tr>
<th>Academic Program (by year level)</th>
<th>Information gathered from SAMS.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor of Basket Weaving – Yr 1</td>
<td>Information gathered from SAMS.</td>
</tr>
<tr>
<td>Course 1-------------------------</td>
<td>Information gathered from Course Coordinators via online data collection tool. Includes teaching week pattern, room requirements, sequencing and staff.</td>
</tr>
<tr>
<td>Course 2-------------------------</td>
<td>Classes generated by Syllabus Plus. Day, Time and room allocated as per the requirements advised.</td>
</tr>
<tr>
<td>Course 3-------------------------</td>
<td></td>
</tr>
<tr>
<td>Course 4-------------------------</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Class Type – Lecture</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Class Type – Lab</td>
<td></td>
</tr>
<tr>
<td>Class Type – Tutorial</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lecture 1------------------------</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tutorial 1-----------------------</td>
<td></td>
</tr>
<tr>
<td>Tutorial 2-----------------------</td>
<td></td>
</tr>
<tr>
<td>Tutorial 3-----------------------</td>
<td></td>
</tr>
<tr>
<td>Tutorial 4-----------------------</td>
<td></td>
</tr>
</tbody>
</table>
Timetabling Services - 6 Month Plan

May
- Academic Engagement groups.
- Timetabling Processes and Procedures developed and implemented.

June
- Academic Engagement Groups.
- Course requirements data collection commences.
- Continue course requirements data collection.
- Semester 2, STS “Go Live” all Colleges.
- Semester 2 Commences for TAFE and HE.

July
- Course requirements data collection completed.
- STS opens for semester 1, 2014 configuration.
- SAMS Class Scheduling undertaken, Aug to Oct.
- Academic Engagement Groups.
- Course requirements data collection commences.

Aug
- Publish Draft Timetable for review.
- Final Timetable for 2014 produced, 18 October.

Sept
- Re-enrolment commences in November.

Oct
- Further updates being made to this slide.
Demonstration – Academic Program
Demonstration - Pathways
Demonstration – Course Requirements
Demonstration – Course Requirements
Demonstration – Course Requirements
Demonstration – Program Timetable
Demonstration – Student Timetable
Demonstration – Student Group Preferences

<table>
<thead>
<tr>
<th>Student Sets</th>
</tr>
</thead>
<tbody>
<tr>
<td>NS321-Year 1/01</td>
</tr>
<tr>
<td>NS321-Year 1/02</td>
</tr>
<tr>
<td>NS321-Year 1/03</td>
</tr>
<tr>
<td>NS321-Year 1/04</td>
</tr>
<tr>
<td>NS321-Year 1/05</td>
</tr>
<tr>
<td>NS321-Year 1/06</td>
</tr>
<tr>
<td>NS321-Year 1/07</td>
</tr>
<tr>
<td>NS321-Year 1/08</td>
</tr>
<tr>
<td>NS321-Year 1/09</td>
</tr>
<tr>
<td>NS321-Year 1/10</td>
</tr>
<tr>
<td>NS321-Year 1/11</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Constraints</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoid concurrency</td>
</tr>
<tr>
<td>NS321-Year 1/01</td>
</tr>
<tr>
<td>NS321-Year 1/02</td>
</tr>
<tr>
<td>NS321-Year 1/03</td>
</tr>
<tr>
<td>NS321-Year 1/04</td>
</tr>
<tr>
<td>NS321-Year 1/05</td>
</tr>
<tr>
<td>NS321-Year 1/06</td>
</tr>
<tr>
<td>NS321-Year 1/07</td>
</tr>
<tr>
<td>NS321-Year 1/08</td>
</tr>
<tr>
<td>NS321-Year 1/09</td>
</tr>
<tr>
<td>NS321-Year 1/10</td>
</tr>
<tr>
<td>NS321-Year 1/11</td>
</tr>
</tbody>
</table>

Constraint Profiles:
- 1 Non Teaching Day
- 2 Non Teaching Days
- 3 Non Teaching Days

Total: 11 Student Sets
Demonstration – Student Timetable
Demonstration – Scheduling Dashboard
Demonstration – Program Timetable
Demonstration – Timetable Changes
Why do things differently

- Extract University Timetabling knowledge.
- Integrate with PeopleSoft student.
- Better timetable information for students and teaching staff.
- Better readiness for changes.
- Ability to consider all timetabling.
- Ability to identify problems more easily.
- Better understanding of facility use.
What are other Universities experiencing to meet their timetabling requirements

- Trust is important to achieve a good outcome
- More flexibility when changing teaching needs with room requirements
- Understanding complex requirements and having flexibility to address them
- Creating a partnership with Colleges and Schools to deliver a realistic timetable requirements
- More flexibility in course delivery and equitable access to scarce locations and equipment resources
- It isn’t rules that set the timetable, but constraints that shape the timetable

Constraint driven timetabling has been a successful method for addressing other Universities timetabling requirements. This approach has been valued for the additional services it offers and the benefits it delivers to their internal customers in a more timely and flexible approach.
**Timetable Systems Reference Model**

- **SAMS**
  - Using staging tables and the SPDA import tool. Course and Program information will be filtered and extracted from SAMS on a nightly basis. Data will then be uploaded to Syllabus Plus.

- **Syllabus Plus**
  - Business Owner: Property Services
  - Application Tasks & Responsibility:
    1. Course Requirements – academics & teachers
    2. Pathway & Student Set development - Timetabling
    3. Day/Time/Room Allocation - Timetabling

- **STS**

- **HE Timetables**
  - Business Owner: ARG
  - Application Tasks & Responsibility:
    1. Association setting & configuration - Timetabling
    2. Personalised timetable development - Students

- **TAFE Timetables**
  - Published to School websites and noticeboards.
How Timetabling Services will assist you further

- Through building your room requirements to meet your specific teaching needs.
- Through adding room development to model future teaching requirements.
- Future system and operational changes will provide you with a more stable timetable for academic, teaching staff and students.
- A more efficient data collection process will occur to address your teaching requirements.

Timetabling Services will provide:

- A new timetable when changes to an existing timetable are made.
- STS administration.
- Timetable reporting.
Meet the new Timetabling Services team

Timetabling Services will be located within Property Services and across Colleges to be more focused on addressing your timetabling requirements in a more streamlined and efficient approach.
Allocating Champions across Schools and Colleges

- Timetabling Services charter is to build partnerships with academic and teaching staff, Schools and Colleges to efficiently meet your timetabling requirements.

- To enable this level of service, we are seeking your commitment to Champion this innovative change across your School.

- The role of a Champion is to be a contact point within School/Colleges to disseminate key timetabling information and messages to your colleagues and peers.

- You will be briefed on any new procedural or system enhancements to the Timetabling Services processes.

- Looking for commitment to Champion your School or College.

Would you like to volunteer yourself to be a Champion within your School?
Any Questions