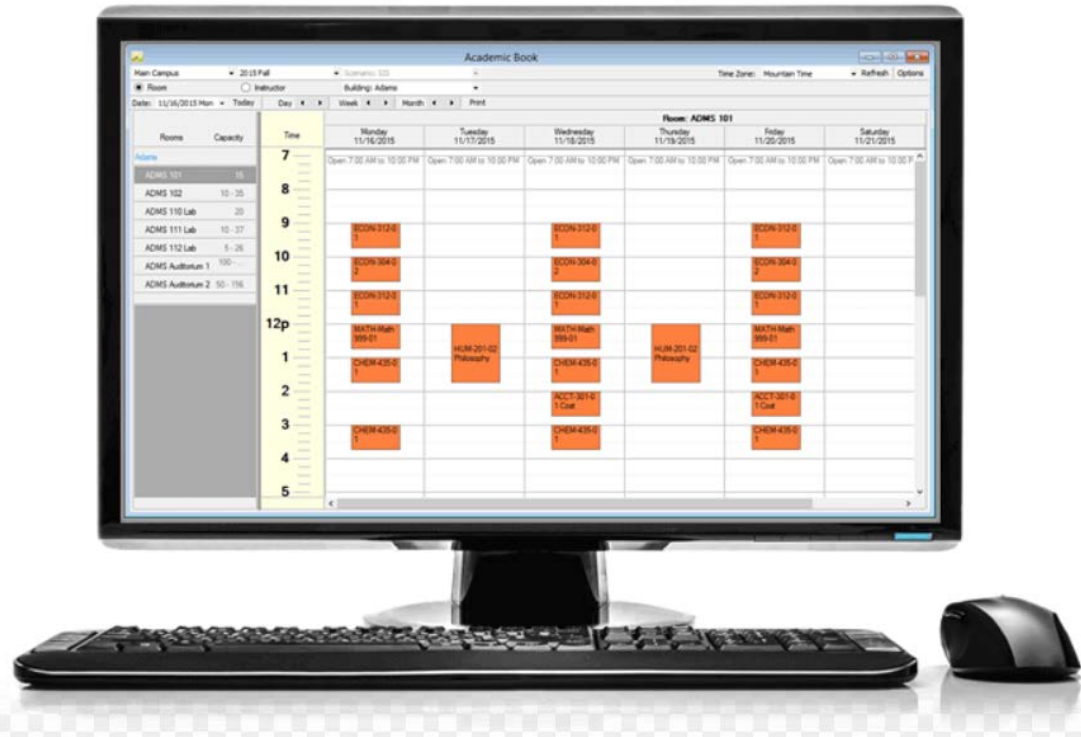# Institutional Timetabling Project

INFORMATION SESSION

SUSIE KENNEDY, REGISTRAR, **NICOLE FREIHEIT**, ASSISTANT REGISTRAR, CURRICULUM AND STUDENT RECORDS

OCTOBER 2018

Two Projects in One

Two institutional initiatives are being pursued in timetabling:

- An Annual Timetable
- A Coordinated Approach to Institutional Timetabling

The **Academic Timetable Working Group** was established in 2016 to work on these initiatives.

The working group membership includes representatives from the Registrar's Office, Deans' Offices, Graduate Studies, Enrolment Services, International, Institutional Analysis, the Student's Union and the Graduate Students' Association.

Academic Timetable Working Group: Current Membership

Susie Kennedy, Registrar (Chair)

Nicole Freiheit, Assistant Registrar – Curriculum and Student Records

Samantha Steel, Academic Timetable Coordinator

Amanda Boschmann, Academic Timetable Specialist

Emily Demyen, Room Booking Specialist, Registrar's Office

Marlene Taylor, Manager - Student Registration and Information

Trisha Henschel, Executive Director - Calgary Campus

Sydney McNally - Calgary Campus

Trish Jackson, Manager – Student Engagement - Enrolment Services

Mandy Moser, Manager, Institutional Analysis

Imaru Baquero, Manager, International Student Services

Marie Matkin, Director – Advising and Academic Support, Dhillon School of Business

Lori Skriver – Administrative Support, Dhillon School of Business

Deric Olsen, Interim Dean, Fine Arts

James Dobbie, Assistant Dean, Fine Arts

Nancy Grigg, Associate Dean, Education

Marguerite Anderson, Administriative Assistant, Education

Helen Kelley, Associate Dean, Graduate Studies

Kristie Masuda, Curriculum & Timetable Coordinator, Health Sciences

Jackie Rice, Interim Dean, Fine Arts

Shawn Johnsrude, Director - Arts & Science

Iso Ogumbor, President – GSA

Imogen Pohl, VP-Academic, ULSU

Jon Davidson, ULSU

Initiative 1: The Annual Timetable

Goal:

- Publish an annual timetable, including all three terms, for the 2020/2021 calendar year.

Why?

- Dean's Office and Strategic Enrolment Management committee request to support students' program planning, leading to timely program completion.

- Endorsed by the Provost Committee, the First Year Student Capacity Working Group(2016), the Classroom Governance Committee, the Campus Space Governance Committee(2016), and the SEM committee.

The Annual Timetable: Project Progress

The Faculties and the Registrar's Office have been transitioning the timetabling submission timeline.

In 2018, the transition year, timetable submissions moved earlier than in prior years.

Now in this 2018/2019 cycle, we are working with the new submission dates to support the publication of the annual timetable.

The Annual Timetable: Final Outcomes

1. Publish all three terms at once beginning with 2020/2021 in February/March 2020

> Maintain two registration periods initially:
> - March 2020 – Registration will open for summer and fall 2020
> - November 2020 – Registration will open for spring 2021

2. Consider moving to single registration period once results of full annual timetable understood

Initiative 2: A Coordinated Approach to Institutional Timetabling

Goal:

Create a coordinated timetable that maximizes students' access to courses over a full year leading to timely completion and to deliver an effective timetable for teaching staff while making optimal and efficient use of instructional space.

Why?

In 2014, the Classroom Governance Committee made the motions that the Registrar develop a timetable and scheduling policy, and chair a timetable and scheduling subgroup with the goal of improving timetabling and scheduling practices.

A Coordinated Approach

Why continued…

Optimize students' academic experiences
- Ensuring our programs' required courses are accessible and offered conflict-free to support timely program completion

Support the needs of courses and programs: pedagogy as the driver
- Timetable classes according to required classroom properties

Foster cross-institutional collaboration and coordination
- Instructional space and time allocated to achieve equitable distribution of resources

Prepare for further growth in enrolment

A Coordinated Approach: Advantages

- Students will have improved access to courses they need to complete their degree requirements.

- New pilot time patterns will provide more options for scheduling, including more 2x75–min options.

- Classes will be scheduled in rooms with characteristics that support the pedagogical design of the courses.

- Reporting tool will support academic units to better collaborate, understand supply and demand, and plan for future growth and trends in enrolment.

A Coordinated Approach: Project Plan

The plan for achieving a coordinated timetable is two-pronged.

- Firstly, we will pilot coordinated timetabling process and policy running simulations, refining along the way such that we meet the needs of students, faculty, and pedagogy.

- Secondly, we will use Infosilem timetabling software, which takes into account the inter-relatedness of student, professor, and pedagogical requirements to assign times and rooms that ensure a conflict-free, balanced timetable.

A Coordinated Approach: Project Progress

The Registrar's Office Timetabling Unit has run three simulations internally, getting familiar with Infosilem Timetabler, informing the Academic Timetable Working Group (ATWG) on functionality and simulation results.

Recommendations and best practices have been gathered from Infosilem and other post-secondary institutions.

The ATWG has met regularly in 2017 and 2018 to discuss and plan for the next institutional simulations and updated approach.

A Coordinated Approach: Academic Units

The missing piece of the puzzle, integral to next steps in planning the next institutional simulations and updated approach, is working closely with Department Chairs and Program Coordinators to learn about the needs of academic units and courses to ensure the coordinated approach continues to support pedagogy.

A Coordinated Approach: Course Combinations

The cornerstone of the University of Lethbridge's coordinated approach is the course combination: a set of courses a student is likely to take in a term that should be scheduled conflict-free.

- The objective of *core* course combinations is to improve students' access to courses they need to complete their programs in a timely manner.

- Core course combinations built from Program Planning Guides' Sample Sequencing Plans have been and will be used and refined in simulations. Ensuring core courses can schedule conflict-free is the foundation of the coordinated timetable.

A Coordinated Approach: Course Combinations – CHEM 2000 Example

For spring 2019, CHEM 2000 is listed in 8 programs' Sample Sequencing Plans, to be taken by roughly 280 students, in conjunction with 20 other specified courses from 7 different departments. Three excerpts:

BS PHYS

Year 1, Spring
Biology 1010 or Biology 1020
Chemistry 2000
Mathematics 2560 or
 Mathematics 2565
Physics 2000
Lib Ed Requirement course

BS ENVS

Year 1, Spring
Biology 1010 or Biology 1020
Chemistry 2000
Environmental Science 2000
Geography 2735
Mathematics/Statistics
 requirement

BS NEUR

Year 1, Spring
Biology 1020 or Biology 1010
Chemistry 2000
Neuroscience 2600
English 1900 or Writing 1000
Lib Ed Requirement course

A Coordinated Approach: Course Combinations – CHEM 2000 Example

This is one section of CHEM 2000 shown in relation to other course sections it's been timetabled conflict-free with to provide access to the students that need it.

A Coordinated Approach: Time Requests

New timetabling patterns and time bands will be piloted as part of the simulations.

Academic units will request a pilot pattern for each section, rather than specific days and times.

Course sections that cannot be timetabled through the use of patterns and system settings and still meet pedagogical needs will be identified for use of forced times within the time bands to support coordination.

A Coordinated Approach: Pilot Patterns

Time Pattern	Days of the Week	Possible Start Times	Time Bands
3x50	MWF MTR TRF	8:00, 9:00, 10:00, 11:00, 12:00, 13:00, 14:00, 15:00, 16:00, 17:00	The patterns fall into institutional time bands: 8:00-9:00 9:00-12:00 12:00-15:00
2x75	MW TR WF	9:00, 10:30, 12:00, 13:30, 15:00, 16:30	
1x2:45 Day	MTWRF	9:00, 12:00, 15:00	15:00-18:00
1x2:45 Eve	MTWR	18:00	18:00-21:00

A Coordinated Approach: Course Constraints & Scheduling Ties

Course constraints & scheduling ties are requirements that limit options available to the software for timetabling course sections.

They take into account scheduling requirements that support operational or pedagogical needs. Some examples include systemizing that sections must be scheduled:

- Same time or conflict-free

- Same day or not same day

- In the mornings, not in the mornings, on certain days, etc.

A Coordinated Approach: Patterns & Constraints

Using the pilot time patterns in conjunction with required course constraints and scheduling ties identified by Academic Units, rather than forcing times, will facilitate the creation of a conflict-free schedule for students while ensuring the pedagogical needs of the classes are met.

A Coordinated Approach: Room Requests

Academic Units will request preferred building, room type and key room characteristics for each section. An appropriate room that meets each section's capacity and pedagogical needs will be assigned from the General Classroom Space Inventory.

Where specialized space is needed, Academic Units will request a specific room from their Allocated Space Inventory, e.g. New Media may request a New Media–allocated or Fine Arts–allocated room.

A Coordinated Approach: Instructor Constraints

Instructor constraints are requirements that limit options available for timetabling a particular faculty member. They may limit where or when an instructor teaches. Examples:

- Assigned classrooms may be limited to one or two buildings or the time spaced between two sections may be lengthened to accommodate a faculty member with reduced mobility.

- A two-hour block-off every Tuesday afternoon may be set for a faculty member's standing committee meeting.

A Coordinated Approach: Instructor and Department Constraints

Department constraints are requirements that limit options available to the software for timetabling all or some of the faculty members who fall within a department.
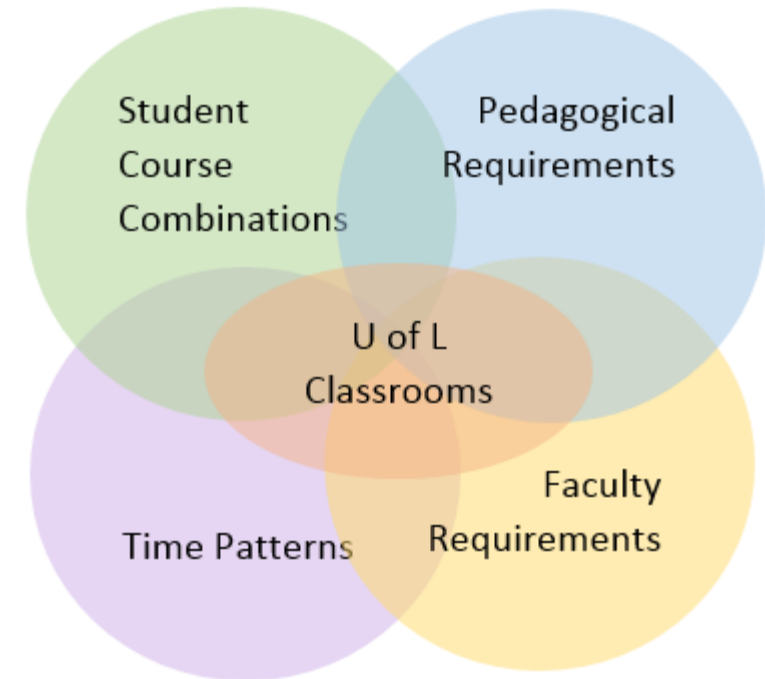
Academic Units will submit their instructor and department constraint requests to their respective Dean's Office for review. These constraints will be used when running the simulations.

A Coordinated Approach: Simulations

The RO and the Dean's Offices will work with Department Chairs and Program Coordinators to apply the new pilot tools in a series of simulations.

Four simulations are planned:

- Simulations 4 & 5 – First Draft and Second Draft on fall 2018

- Simulations 6 & 7 – First Draft and Second Draft on spring 2019

Student Course Combinations

Pedagogical Requirements

U of L Classrooms

Time Patterns

Faculty Requirements

A Coordinated Approach: Simulation Timeline

Sep to Dec 2018: Information Gathering with Academic Units

The RO and Dean's Offices will consult with Department Chairs and Program Coordinators to learn about how they timetable and to convert the Fall 2018 and Spring 2019 timetable submissions using new pilot tools.

February to March 2019: Simulation 4 on Fall 2018

The RO Timetabling Unit will input the pilot timetable submissions and constraints in collaboration with Dean's Offices, Department Chairs and Program Coordinators and run the Simulation 4 timetable.

A Coordinated Approach: Simulation Timeline

March 2019 through summer 2019: Review of Simulation 4 and Refinement in Simulations 5-7

The Academic Timetable Working Group, Dean's Offices, Department Chairs and Program Coordinators will review Simulation 4 results.

Feedback will be gathered, considered and incorporated in refinement of guidelines and approach for Simulations 5–7, with review and consultation along the way.

A Coordinated Approach: Final Outcomes

1. Through simulations, consultation and refinement, define and propose updated Institutional Academic Timetable Guidelines for adoption by the university to the Provost fall 2019.

2. Apply updated Institutional Academic Timetable Guidelines to the timetabling of the 2020/2021 Annual Academic Timetable fall 2019.

For More Information

Project Website: www.uleth.ca/ross/academic-timetabling

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