

Implementation of a Modern Campus-wide Assessment Resource

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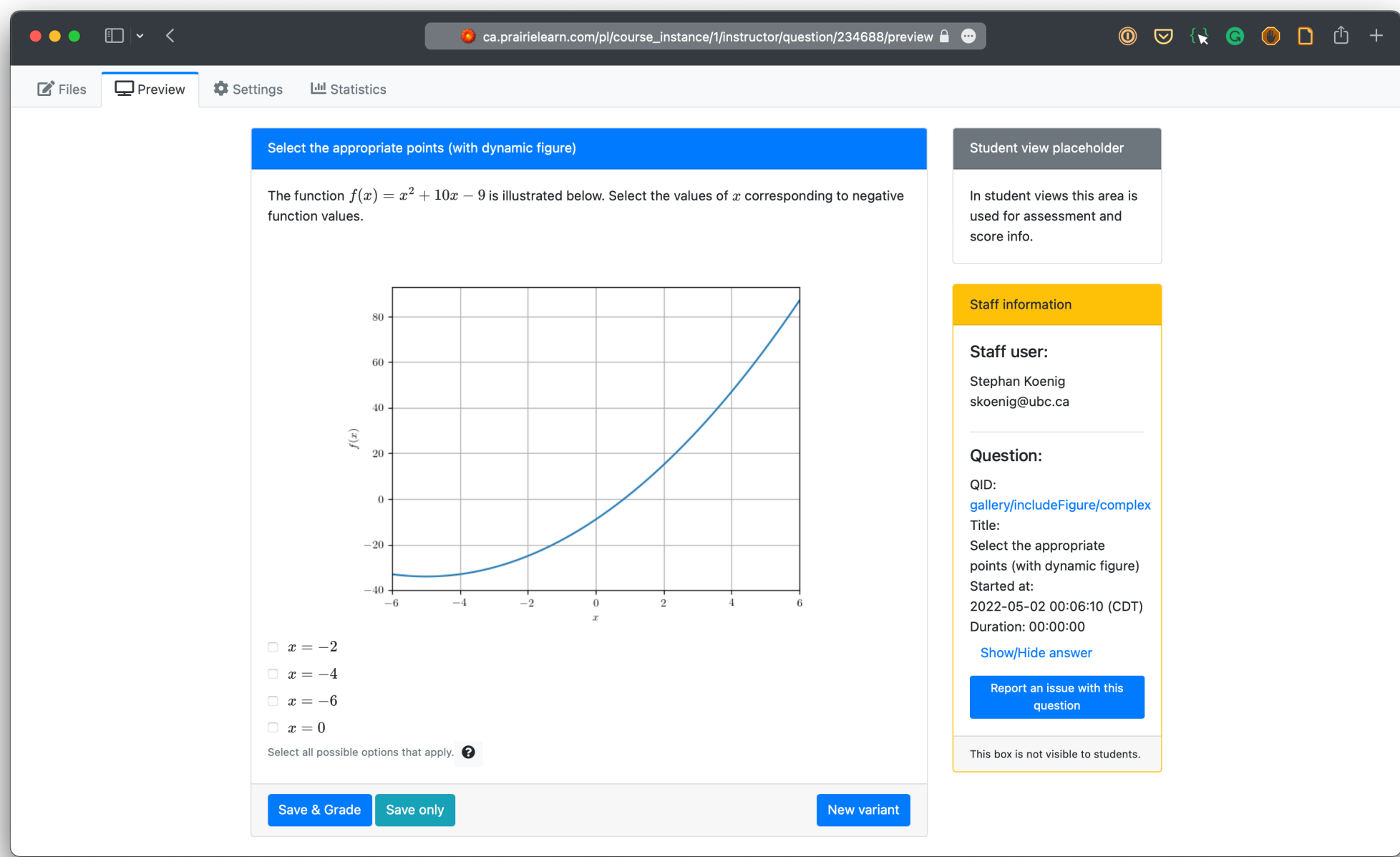
Objectives

We envision centralized support for a computer-based testing facility on a large scale. In alignment with the recommended assessment innovations outlined in UBC's Beyond COVID project, our goals are to:

- Increase student agency and equity by allowing them to schedule their assessments.
- Improve the speed, quality, reliability and consistency of assessment and feedback by combining manual and automated grading.
- Streamline exam logistics (including CFA accommodations) for course instructors freeing time for assessment design.
- Facilitate research into the effects of teaching innovations (e.g., second-chance testing, mastery learning) by ensuring robust and uniform delivery and collecting assessment data.

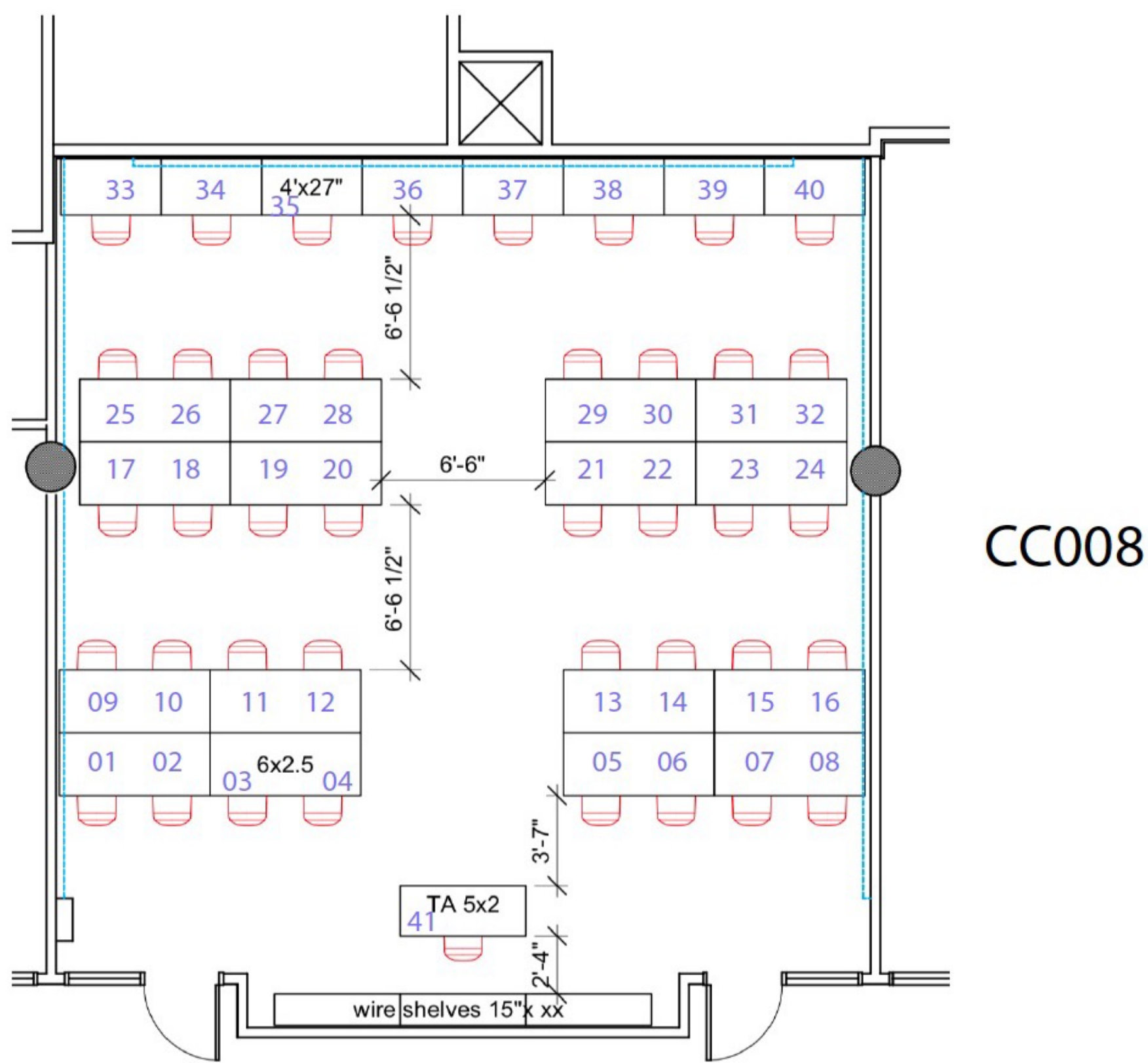
Assessment tool PrairieLearn [1]

- Facilitates rich and unconstrained question types
- Supports isomorphic questions and randomization
- Enables short exams that are more frequent at lower stakes and with second chances



Computer-based Testing Facility

Based on similar, well-studied and reported [initiative at the University of Illinois Urbana-Champaign](#) (2015 – present) [2], repurposed lab ICCS008 was modified to facilitate security, invigilation and student flow.



- 40 seats with privacy screens (30 scheduled, 10 flex)
- Network-restricted
- Shelves for student personal belongings
- Check-in station

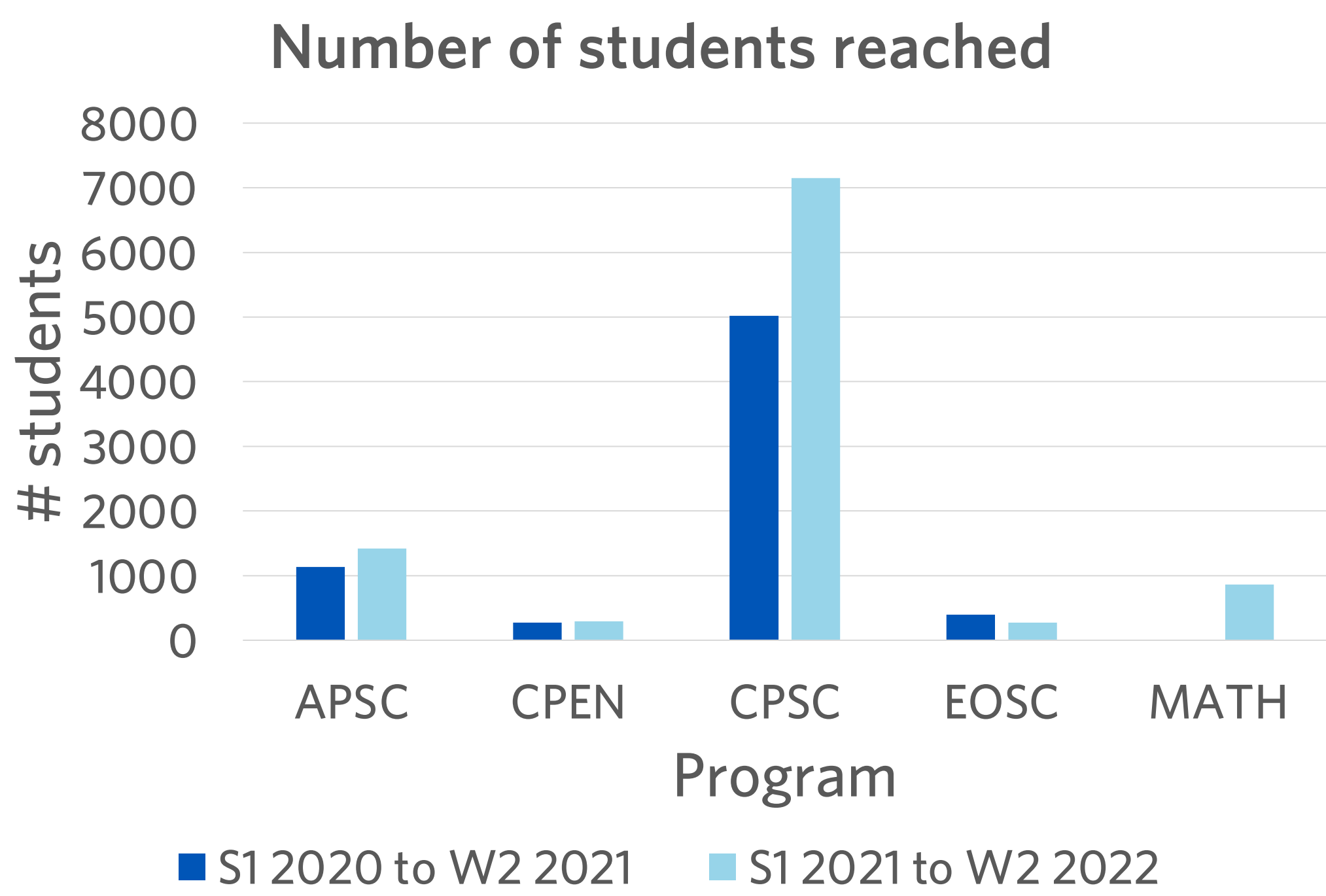
Scheduling tool PrairieTest

- Exam seatings offered every hour, on the hour
- Currently, a single course in each seating
- Invigilator responsible for check-in, exam timing via PrairieTest in accordance with any CFA accommodations
- PrairieLearn integrated and Canvas linkable

Progress so far

PrairieLearn is already implemented in 21 courses across five programs (Applied Science, Computer Engineering, Computer Science, Earth and Ocean Sciences and Mathematics). Many courses have extensive databases of mostly randomized and/or isomorphic questions that allow deployment of these questions across years and even context (e.g., use both as a practice and an exam question).

Course	Number of questions
CPSC 203	177
CPSC 210	311
CPSC 221	913
CPSC 313	650



Project outputs

- Create assessment instruments in summer 2022 (tests, exams, quizzes, etc.) in >7 new large courses adding ~3000 students.
- Document and report logistics and processes, including invigilator training.
- Standardize computer-based assessment experiences across FoS.
- Increase availability of computer-based exams.
- Facilitate community of practice around computer-based assessment design and delivery.

Want to get involved?

Would you like to create or migrate content to PrairieLearn and take advantage of randomized/isomorphic questions and/or a computer-based testing facility? Please reach out to Stephan Koenig (stephan.koenig@ubc.ca) or Cinda Heeren (project lead, cinda.heeren@ubc.ca).

Reference / Bibliography

1. West, Matthew, Geoffrey Herman, and Craig Zilles. "PrairieLearn: Mastery-Based Online Problem Solving with Adaptive Scoring and Recommendations Driven by Machine Learning." In *2015 ASEE Annual Conference and Exposition Proceedings*, 26.1238.1-26.1238.14. Seattle, Washington: ASEE Conferences, 2015. <https://doi.org/10.18260/p.24575>.
2. A Zilles, Craig, Matthew West, David Mussulman, and Tim Bretl. "Making Testing Less Trying: Lessons Learned from Operating a Computer-Based Testing Facility." In *2018 IEEE Frontiers in Education Conference (FIE)*, 1-9, 2018. <https://doi.org/10.1109/FIE.2018.8658551>.

Acknowledgement

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