

Data Analysis and Strategic Development: Engineering Student Workload

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The Faculty of Applied Science and Engineering at the University of Toronto takes student workload concerns very seriously. Understanding what assignments students are working on and when enables the Director of First Year Curriculum (the PI for this project) to better relay course assignment deadlines to all first-year engineering instructors. Furthermore, it enables more effective and efficient integration of campus resources (such as, but not limited to, tutorials, recitations, etc.) so that they can be deployed when students need them most.

The first-year workload survey is an instrument deployed via an authenticated portal already used by the Office of Student Life, University of Toronto. Access to this system, called Campus Labs: Baseline, was granted to the First Year Office at the Faculty of Applied Science and Engineering by the Office of Student Life so that the workload survey could more safely, securely, and reliably handle the large volume of responses (900 students) that we have in our program here in engineering. Each week, only 25 students from each first-year engineering program will be asked to complete the survey. Every week, there will be a new batch of 25 students from each program completing the survey; the goal is to have each student in first-year engineering respond to at least one weekly workload survey.

The research questions that this workload survey investigate include:

- 1) What course-related activities are the students working on each week in first-year engineering?
- 2) How much time are students spending on each of these assignments?
- 3) How difficult are these assignments?
- 4) How much of these assignments are review material?

These research questions help frame a more broader study of workload in first year engineering as they are used in addition to the two surveys already deployed:

- 1) All incoming first-year students were asked how much time they thought they'd be spending per first-year engineering course before they arrived to their first class.
- 2) All Course Coordinators of first-year courses were asked to provide a list of all assignments they use in their class, this includes information about what those assignments were worth (%-weight) and how much time those instructors think students ought to be spending on each of those assignments.

We hope to use the triangulation of data from instructor expectations // student expectations // student actual workload data (quant and qual) to investigate and mitigate barriers to learning in engineering education.

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Research Area: Engineering Education, Quantitative + Qualitative Data analysis