Cohort Project

First Meeting

Dr. Tsang

Project Basis

Dr. Tsang explained the basis of the project, being the desire to have each incoming class of each engineering major (Computer Science, Mechanical Engineering, Chemical Engineering, etc.) divided in to cohorts of roughly equal size. These groups will then be placed in to classes together throughout their time at Western. This provides a developmental advantage to the students in these cohorts, as they will know students in each of their classes, allowing them to make study groups, ask each other questions, and grow friendships throughout their college careers.

History

The college of engineering started implementing student cohorts in 2004 as a way to ensure that students had classes with others in their major. This also helps ensure that students get into the first year classes they need. Each major in CEAS was grouped into one or 2 cohorts depending on size. A cohort takes their core classes together for their first fall semester (eg CS 1110, IEE1020), and sometimes part of a cohort will be together for other classes (like if half a cohort needed precalculus and the other half needed calculus). This was originally done by hand, creating cohorts based on expected need and sorting students into cohorts where classes had reserved space for them. Eventually, online class registration was implemented, but the cohorts are still created by a person recognizing patterns in course offerings. The automated creation and scheduling of cohorts is what we have been tasked with. Automation is increasingly necessary, since the College of Arts and Sciences (CAS) also wants to implement the Cohort system for their STEM majors.

Considerations (add to these if I miss anything)

- Right now, the data will be given to us in Excel spreadsheets. Each major will have its own sheet which lists their required courses, and information pertaining to those courses. This includes course number, course ID, building name, classroom, and more. Some information on the sheet is unnecessary, but can be easily parsed through.
- When determining the size of a cohort for each major, we should take into account the capacity of the required classes of each major. For example, Dr. Tsang said a cohort size of 24 students was derived for the Chemical Engineering major (and other majors), because the lab section of their main freshmen year course has a capacity of 24 students.

- Building name should be taken into account, as it is important to know which campus the class is on, so we can ensure the students have time to take the bus to each class. However, we want to try to make the classes close enough together to allow for as much free time as possible. The excel sheet has a field indicating what campus each class is on (main, parkview, possibly others for CAS)
- Scheduling should also be done with pre-requisites in mind. Though first iteration will only be fall semester classes for freshman students (no prereqs). The Excel sheets do not indicate prerequisites for classes.
- Some students may come in with credits the accumulated during high school.
- The program should be as flexible as possible. We want it to still be applicable five years from now as the size of each major fluctuates. Right now, Mechanical engineering is the largest engineering major, but this could easily change in the near future.
- We will be meeting with people in other departments (CEAS advising and CAS advising) to gather more information. Dr. Tsang will introduce us through email to the people he wants us to meet.