

CSE 587: Project 2

Stage 2 - Design of questions (Experiments)

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May 5, 2016

1 Objective

Design a set of questions that provide insights into the situation of classroom scheduling at UB's North Campus.

2 Dataset

The dataset used were comma separated files (.csv) that describe the various classrooms on North Campus with details such as semester, classroom, current no. of students, maximum no. of students.

3 Observations

3.1 Proper Utilization

We believe that the main aim of this stage of the project should be to detect proper utilization of classrooms, we decided to compute the utilization by comparing the values of current number of students and maximum number of students. This fraction was then converted to a percentage and the values determined.

- Semester wise (all time) Winter - 83%
- Year wise (all time) 1993 - 135%
- Department wise (all time) ULC - 100%
- Room wise (all time) Baldy 305, Baldy 306, Baldy 309, Baldy 311 - 100%
- Time wise (all time) Before 8:00AM - 100%

3.2 Wastage

We then proceeded to find out the classrooms which have been wasted, i.e a classroom capacity of 250 was allotted to students numbering 50. This causes a wastage of 200 spaces, which is 4/5th of the actual classroom. We find such classrooms by converting their wastage to a percent.

- Semester wise (all time) - Fall - 38%
- Year wise (all time) - 2016 - 53% , no classes for 2017 so it is 100%
- Department wise (all time) - BMI 87%
- Room wise (all time) - 220Win 111, Alumni 145 - 100%
- Time wise (all time) - 5:00PM - 5:59PM - 59%

3.3 High Workload or Busyness

Classrooms have to be used often, a classroom that meets once a week for 1 hour is essentially being wasted. So we calculate the measure of busyness by calculating the number of days it meets in a week and multiplying that number with the no of hours for each day. This gives the approximate number of hours the classroom is used.

- Semester wise (all time) - Fall - 155460 hours
- Year wise (all time) - 2009 - 15065 hours
- Department wise (all time) - ENG - 21213 hours
- Building wise (all time) - Baldy - 40866 hours
- Time wise (all time) - 11:00AM - 11:59AM - 36177 hours

3.4 Statistical Inferences

It is always a good idea to gather statistics of each classroom, semester, year. We compute the mean, median and standard deviation respectively of number of current students for each category.

- Semester wise (all time) Fall 12.23 2.00 30.86
- Year wise (all time) 1992 25.78 9.00 68.29
- Department wise (all time) IMC 115.78 142.00 55.00
- Room wise (all time) Knox 20 240.31 256.00 154.13
- Time wise (all time) - 11:00AM - 11:59AM 33.30 22.00 48.21