**Guelph Engineering Competition  
January 2016  
Programming Design**

**Location: Thornbrough**

GENERAL RULES

1. All questions regarding the competition problem must be asked during the welcome and briefing session.  No questions will be answered during the design and Code stage except for clarification of a rule.
2. Teams are allowed to leave Thornbrough
3. Final prototype and the presentation must be submitted to the Server(E-mail) prior the deadline.
4. Teams can send the program ahead of time for a dry run (testing) 3 hours before the deadline

SCHEDULE:

The Programming Design competition will proceed as follows:

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| Friday November 11 | 6:00 PM - 6:30 PM | Briefing |
| Saturday November 12 | 12:00PM -1:15 | Lunch |
| 2:45-3:15 p.m. | Presentation/Demo+ Judging (Thornbrough Atrium—design room!) |

Volunteers will be giving out pizza to teams between 12:30 p.m. and 1:15 p.m. Please remind the competition coordinators and volunteers of any dietary restrictions and/or allergies.

There will be a question period after the Briefing. No questions will be answered during the design period.

# The Cannon scheduler:

After many, many years of not using technology, University of Guelph decides to hire you to write a software package to help organize the cannon painting! It would help student to utilize their time better and make sure it is fair to everyone.

The school decides to give different seniority points to student groups base on the year they are in. Also, it decides to set a group size based on the size of the groups who want to paint the cannon.

Your task is to design the system that best fit them, while it is not possible to make everyone happy, you should try to keep most of them happy.

You are expected to use engineering principle to design this and are expected to present your final program (and a pdf or power point presentation) to the judges. You need to keep in mind this is a problem solving as much as it is a programming challenge. You need to be able to “sell” your idea to the judges and be able to defend them.

OBJECTIVE, REQUIREMENTS AND CONSTRAINTS

* The More people you get to use the cannon, the higher your points will be.
* The seniority points are important.
* You have to organize the whole day and if you ended up having spare time, you would lose mark.
* Bonus marks will be given to teams whose program read the data from csv (plus the normal reading)
* A sample input file will be provided
* Any programming language can be used
* For more bonus marks, try to have a system to detect(prevents) misuse. (regulation)
* Prepare a presentation, either PDF or PowerPoint, that sell/show your algorithm and overall design
* The presentation/demo has more points than the testing phase