

## COSC 440 – Presentations Fall 2020

For this assignment, you and your team will create a 40-minute presentation on a topic chosen during class. Each team will choose (in a random order) timeslots and topics. Each topic may only be chosen once.

Quantum Computing – a new computation model?  
P vs NP – the work to prove (or disprove)  $P = NP$   
Randomized Algorithms – why Monte Carlo isn't just a casino  
Dynamic Programming Algorithms – fun with work ahead  
Lambda Calculus – the precursor to all modern programming languages  
Circuit Complexity – is there an easier proof for Cook-Levin?  
Probabilistic Complexity – does probability encompass more than P or NP?  
Strange Turing Machines – are all TM variants equivalent?  
Approximation Algorithms – can we get to optimal for an NP-complete problem?

Your presentation should cover a general introduction to the topic, how it relates to theoretical computer science, current results, how it could be applied to real life, and what is possible with this topic. Keep in mind the descriptions above when doing your research, they will have to be discussed as part of your presentation. Appropriate citations and work cited slide are required. Presentation time should be distributed equally amongst the members of the team. I am expecting a practiced, professional presentation.

**During the presentation:** Each other group will be required to ask at least one pertinent question each day as well as fill out a short evaluation of the presentation. Attendance at all the presentations is factored into your grade. Presentations will not be recorded.

**Presentations:** Presentations will occur during the last two weeks of the semester. Presentations start November 12<sup>th</sup>.

### **Example Presentation Evaluation:**

On a scale from 1 to 5 (1 poor, 5 so awesome it hurts) rate the group on the following:

Clarity \_\_\_\_ Addressing the Topic \_\_\_\_

Ability to Answer Questions \_\_\_\_

Presentation Ability \_\_\_\_ Appearance \_\_\_\_