**GUI Project, CPSC131 11/10/2015**

Simulation means to demonstrate a concept of practical problem. The concept should be supported mathematically and it should provide tutoring to others on a comprehensive basis. You are going to use GUI objects and animation to demonstrate your idea.

**Electrical engineering:**

Simulation of series and parallel circuits

Simulation of switching Capacitors.

Simulation of MOSFET transistor.

Simulation of the logic behavior of elevators.

Simulation of logic sequence of trafficlights.

**Mechanical engineering:**

Pneumatic valves and cylinders.

Simulation of flow, level or temperature control system.

Combustion Engines with respect to elevation.

Damper system with mass and spring.

**Civil Engineering**

Simulation of Cantilever Beam Test.

Crash test for bricks.

Stress test for concrete.

**Physics**

### [Newton's Laws of Motion, Friction](https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=4&cad=rja&uact=8&ved=0CD8QtwIwA2oVChMIqOzWl7uHyQIVAtVjCh07awB2&url=https%3A%2F%2Fwww.youtube.com%2Fwatch%3Fv%3DYoxbplnG2FQ&usg=AFQjCNHnMkpbMBqH-9enGa35FqD0rW0aLg&bvm=bv.106923889,d.cGc)

# Kinematic Equations and Problem-Solving

Dynamic problems: one or two blocks are connected by a rope that passes over a set of pulleys