# Notes for lecture 11

1. Date: June 23$^{rd}$.
2. The lecture (see SampleProblems11.pdf files) introduces potential energy in relation to work done by potential (conservative) forces. The key points are as follows.
   a. Definition and calculation of potential energy.
      i  The work done by a conservative force is does not depend on the specific path, it depends on potential energy at the start and end-point on the path.
      ii Potential energy for certain types of forces (constant force, gravity force, and spring force is calculated and illustrated by examples.
   b. Conservation of energy.
      i  For systems featuring conservative forces, we can define full mechanical energy as the sum of kinetic and potential energies. If there are only conservative forces, the total energy of the system is constant (is conserved).
3. Additional Internet resources
   a. Khan Academy.
      https://www.khanacademy.org/science/physics/work-and-energy
   b. Work as a line integral
      https://www.khanacademy.org/math/multivariable-calculus/integrating-multivariable-functions/line-integrals-vectors/v/using-a-line-integral-to-find-the-work-done-by-a-vector-field-example
4. The deadline for submitting assignment (see Assignment11.pdf) is June 30.