

# Design And Analysis of Algorithms - 344: Homework #1

Due on April 5, 2017 at 11:59pm

*Professor Bahman Kalantari Section #1*

Douglas Rudolph

**Bellman Ford Algorithm**

Graph  $G = (V, E)$  is directed  $w(u, v) \in \mathbb{R}$ .

The goal is to find the shortest path from  $s$  to all other reachable vertices. In order for Bellman Ford to work, there cannot be a *Negative Cycle*. A *Negative Cycle* is a cycle where the sum of the edge weights are less than zero.