**SE-441 Continuous Delivery and DevOps**
Winter 2017-2018
Homework 2
Due On: January 24, 2019
25 points

Please answer each of the following questions as completely as you can. Be as specific as you can; vague answers will not earn you full credit. Please submit your response in an MS Word document or PDF.

Submit your answers to D2L by January 24, 2019. Late homework will not be accepted.

1. [10 points] Consider the following value stream map:
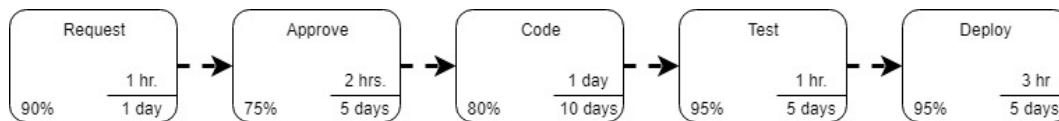
   The typical work day is 8 hours per employee and they generally work 5 days per week. They release updates to their software every 2 business weeks.

   a. What is the total lead time in hours?

   b. What is the total process time in hours?

   c. What is the process cycle efficiency?

   d. What is the %C&A for the process?

   e. If the development team typically completes 100 story points per 2-week iteration, what is the average takt time of each story point per hour?

2. [15 points] Using the provided Excel spreadsheet, perform the same simulation that we did in class.

   a. Run the simulation using the spreadsheet by filling in the values in the 'roll' row. You can use a 6-sided die or some other random number generator that gives you reasonably random numbers between 1 and 6. Save a copy of the worksheet as a PDF.

   b. Experiment by changing the %C&A values for the various workstations. What is the impact on workstation 'E' of changing the %C&A values of the earlier workstations?

   c. Plug in the %C&A values from problem 1 of this assignment into your simulation and save a copy of the worksheet as a PDF. How do the deviations from the 3.5 mean differ from that of the baseline you established in part a of this question?