

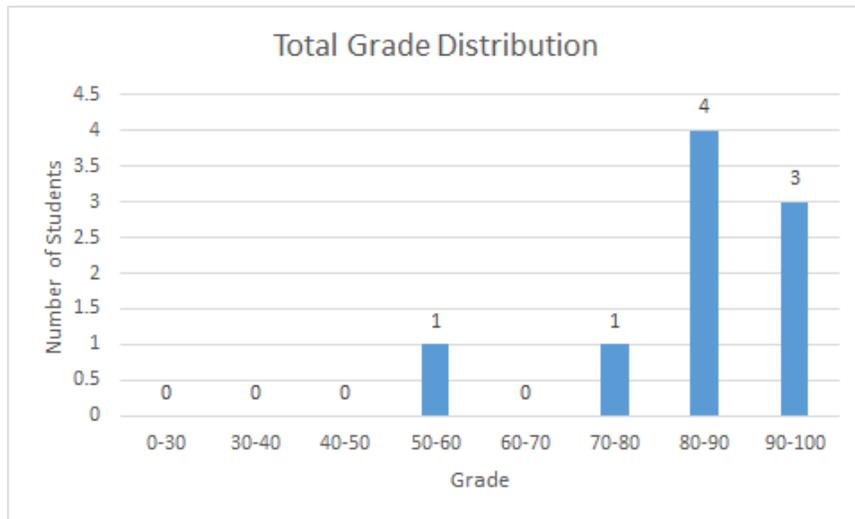
# Exam 1 Report

10/13/2021

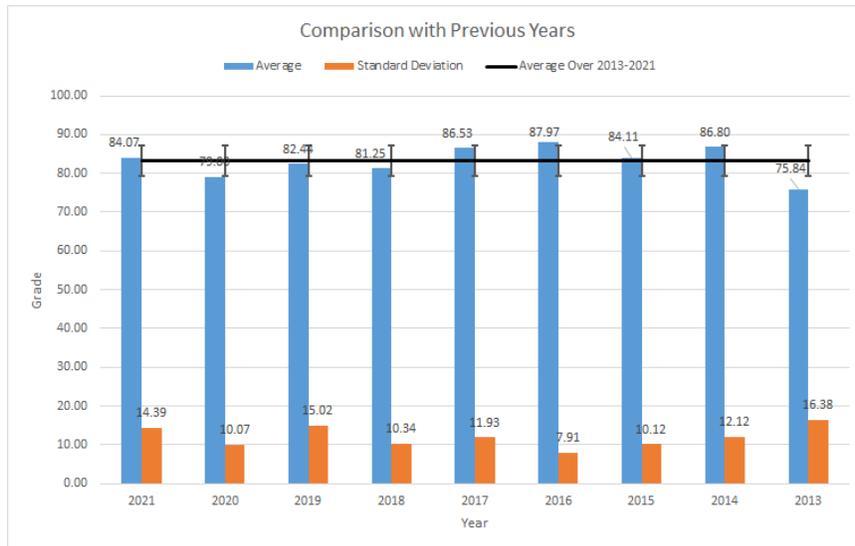
## 1. Summary

Total number of students	10
Attended	9
Missed	1
Number of problems	3
Average grade	84.07
Standard deviation of grades	14.39

## 2. Grade distribution



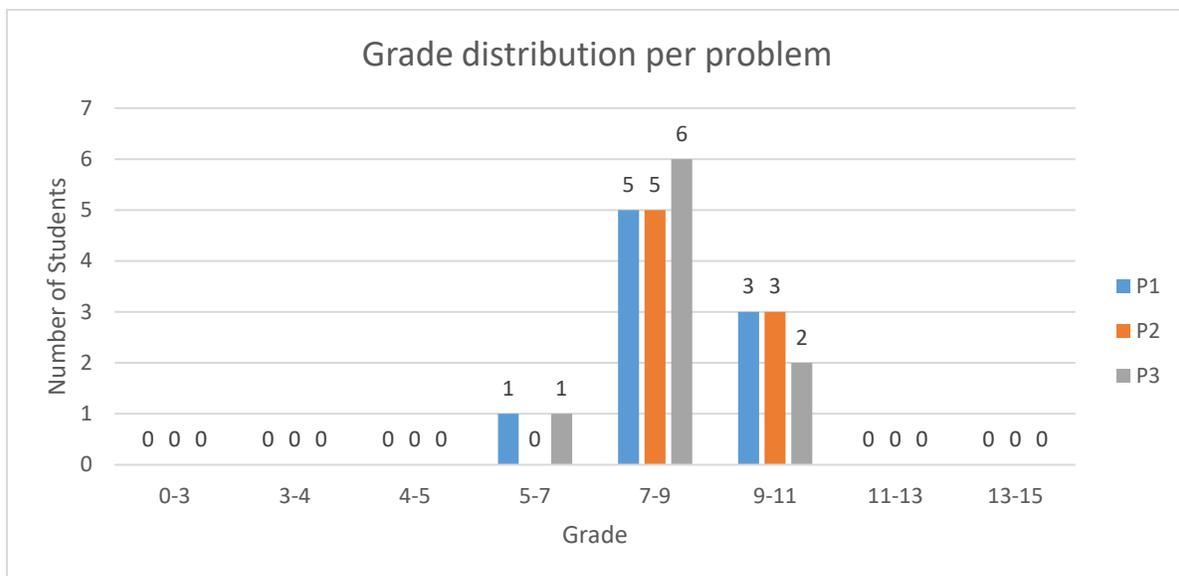
## 3. Comparison with past years



**4. Individual problem breakdown**



**5. Grade distribution per problem**



## 6. Comments

### PROBLEM 1

- Many students could not derived the  $V_1$
- Some of students confused the direction of  $V_2$  so they subtracted the  $\dot{m}V_2$  from  $\dot{m}V_1$  which is actually need to be summed due to the direction
- A few of students made a mistake when they consider the density
- Some of students could not use the 7inch height of manometer appropriately

### PROBLEM 2

- Most of the students calculated the  $\pi_1$  correctly
- Many students could not derived the  $\pi_0$  well and they made some mistakes when they calculate the index number of repeated variables
- A few of students made a mistake when they consider the unit of pressure
- One student didn't solve this problem

### PROBLEM 3

- Some of students made a mistake when they consider the boundary condition
- Also, a few of students could not derived the appropriate boundary condition at free surface
- Several students could not set up the correct equation to calculate the flow rate
- One student could not simplify the momentum equation correctly with given assumption