

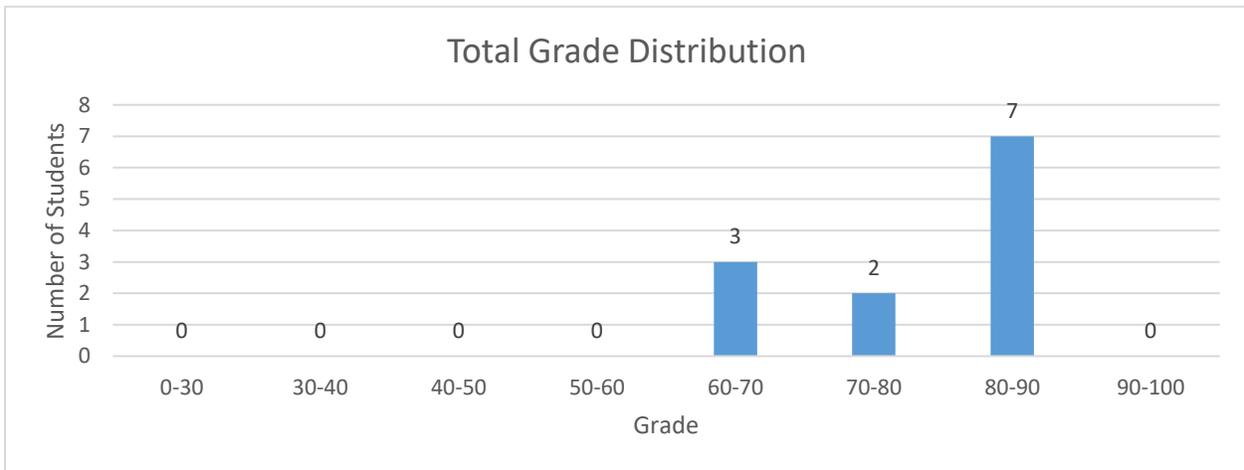
Final Exam Report

12/20/2019

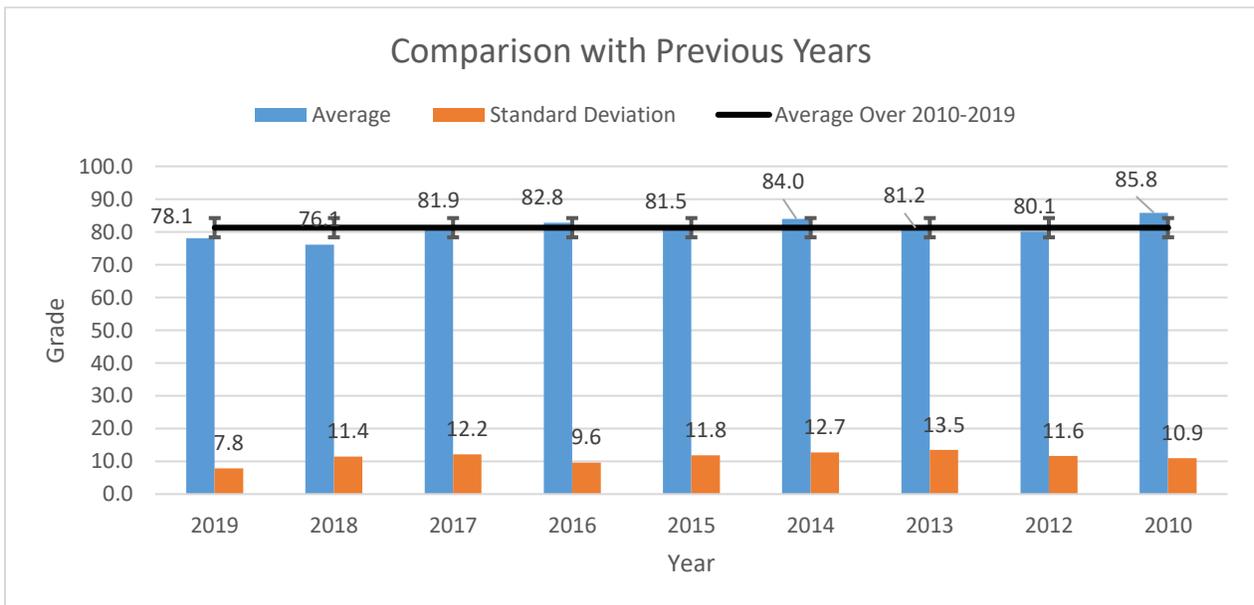
1. Summary

Total number of students	12
Attended	12
Missed	0
Number of problems	6
Average grade	78.06
Standard deviation of grades	7.84

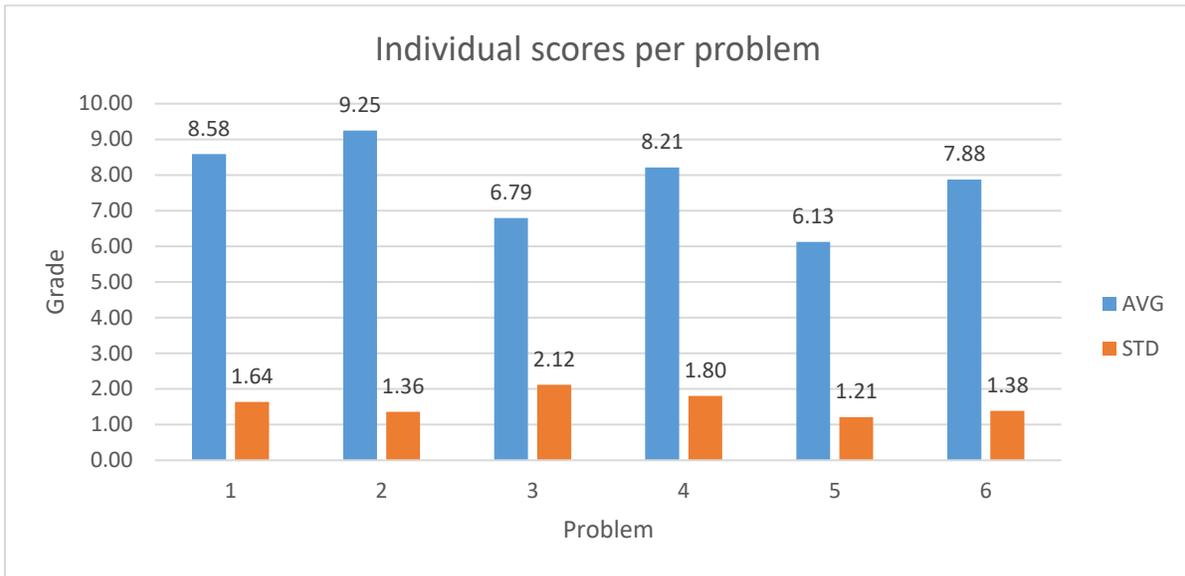
2. Grade distribution



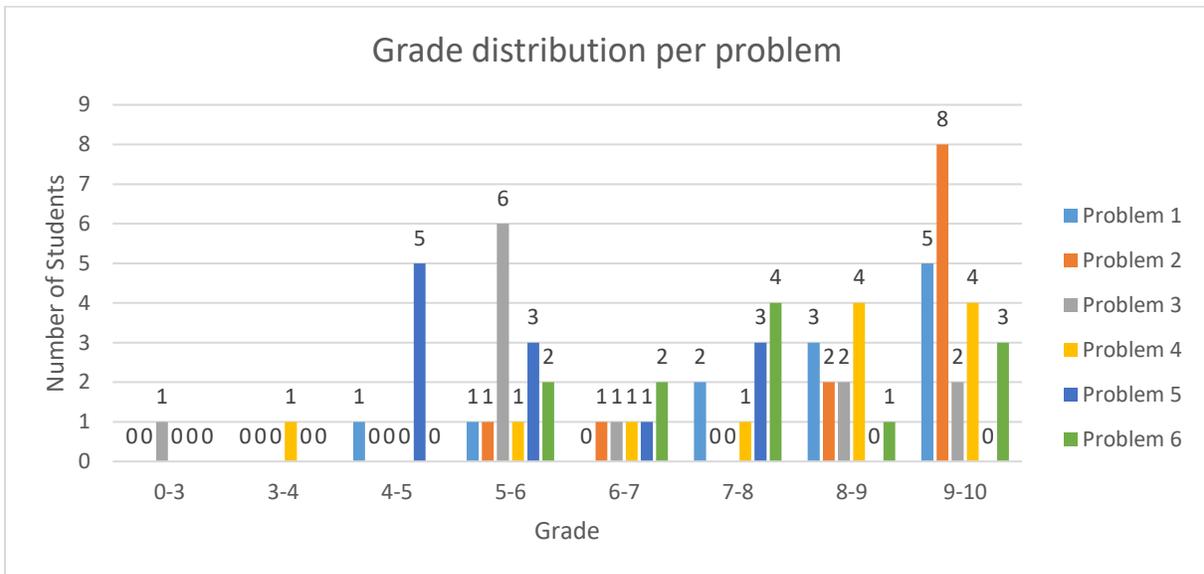
3. Comparison with past years



4. Individual problem breakdown



5. Grade distribution per problem



6. Comments

PROBLEM 1

- Several students confused Chord length with Span length for calculating Reynolds number.
- Some of students made small mistake when they calculate the boundary layer thickness.

PROBLEM 2

- Some of students could not consider the prototype and model scale ratio correctly.
- A few of students could not think about the condition of terminal velocity which is [Weight = Drag Force], so they used wrong Drag coefficient.
- Several students could not transformed the model scale velocity to prototype velocity correctly so they derived wrong answer.

PROBLEM 3

- One of student multiplied '2' when he consider potential source term.
- Several students could not derive v_r, v_θ correctly in terms of ψ .
- Some of students made mistake when they superimposed two source terms.

PROBLEM 4

- Several students used wrong Boundary Condition.
- Some of student missed gravity term in NS equation
- It seems like that one of student do not know how to approach to solve this problem yet

PROBLEM 5

- Some of students considered that the flow is in Cylinder pipe.
- Many students did wrong when they integrate the velocity gradient.
- Although some of students solved the continuity equation well, but they couldn't solve the momentum equation correctly.

PROBLEM 6

- Some of students could not find the relation between V_1 and V_2 correctly.
- Several students could not derive the answer iteratively.
- Several students could not consider the two equation {continuity and energy equation} simultaneously and only used the energy equation.