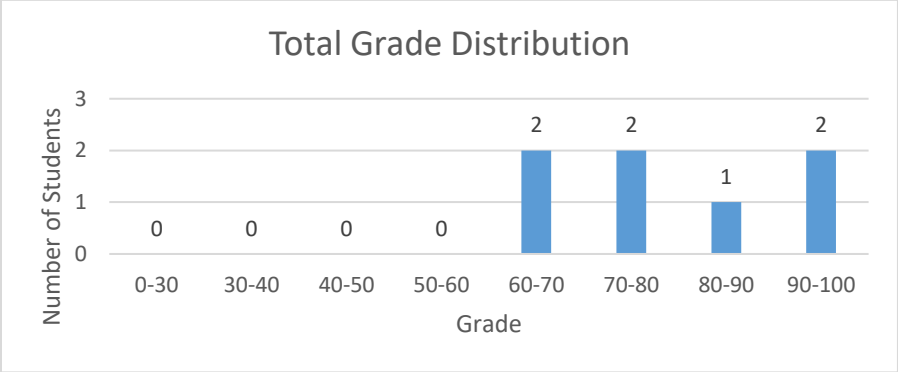
Exam 2 Report

11/09/2022

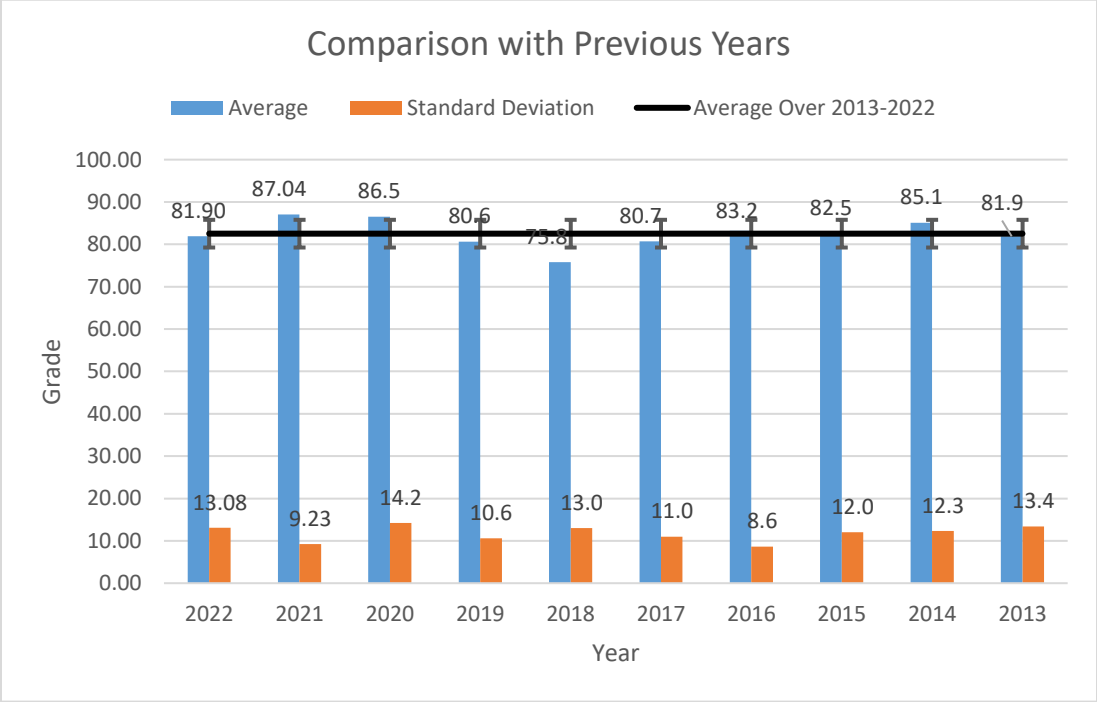
1. Summary

Total number of students	7
Attended	7
Missed	0
Number of problems	3
Average grade	81.90
Standard deviation of grades	13.08

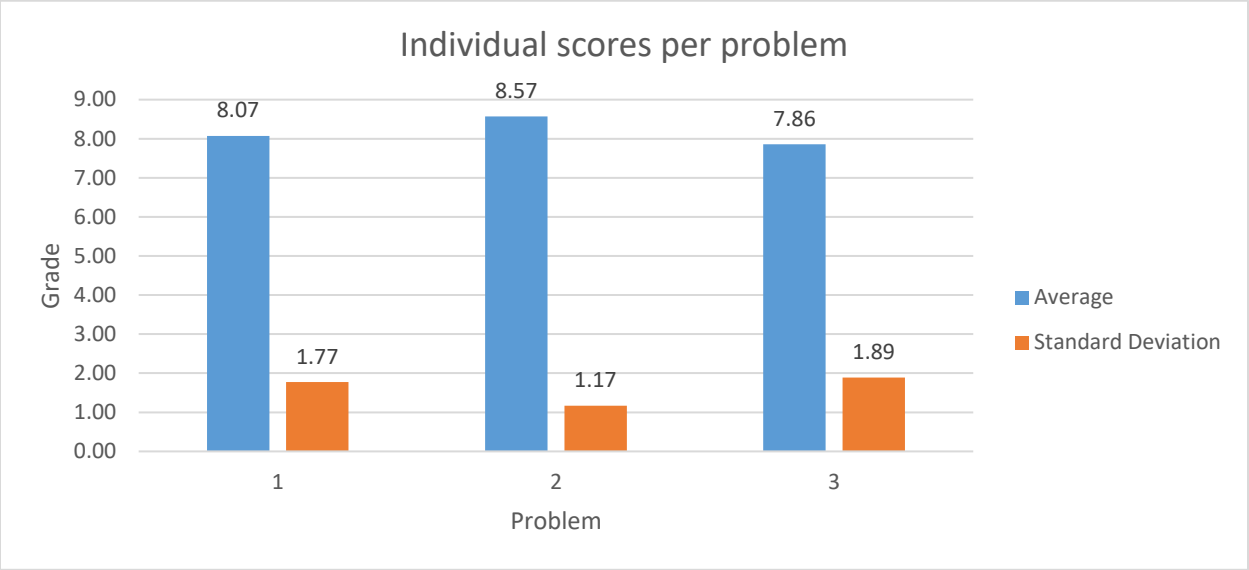
2. Grade distribution



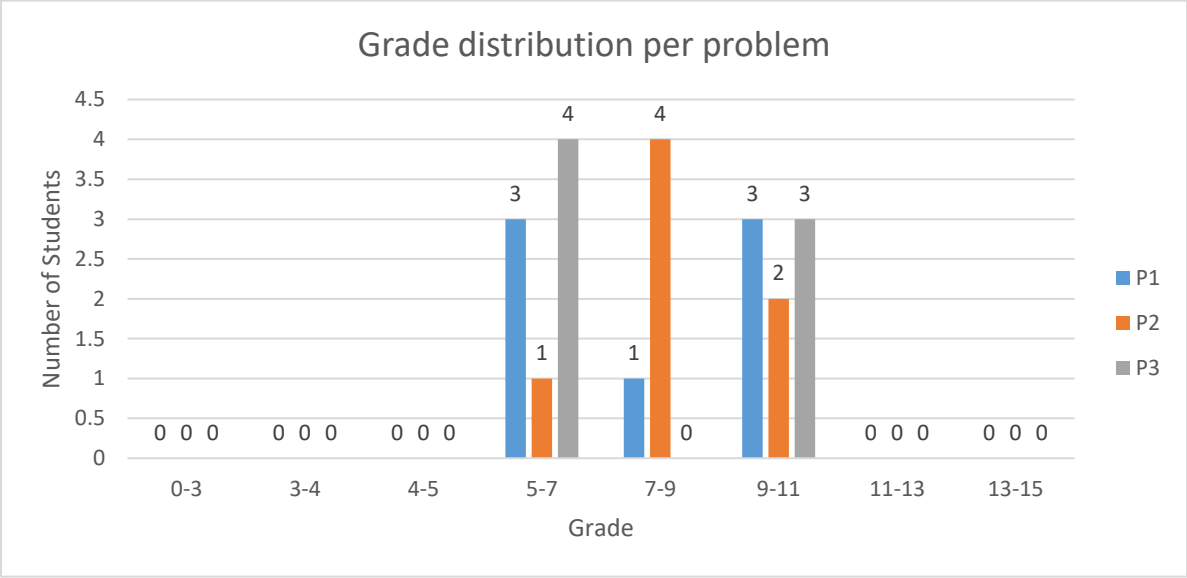
3. Comparison with past years



4. Individual problem breakdown



5. Grade distribution per problem



6. Comments

PROBLEM 1

- Three students simplified the Navier-Stokes equation correctly with the given assumptions then set up the correct boundary condition. They derived the velocity profile appropriately.
- Three students derived the Navier-Stokes equation correctly but could not apply the boundary condition at the film interface correctly.
- Two students could not obtain the correct values of C_1 and C_2 .

PROBLEM 2

- Most of the students obtained Re number correctly.
- One student used hydraulic diameter for the calculations obtaining different results.
- Four students obtained the angular frequency ω, but did not calculate *f.*
- Two students did not multiply the force by the velocity to obtain power, converting directly to *hp.*

PROBLEM 3

- All students simplified the energy equation between the tanks correctly.
- Two students did not express the head loss and Re as function of the flowrate, and were unable to get correct results for the diameter.
- Two students derived the expression for the diameter as function of the flowrate, but they made derivation errors leading to the wrong expression.
- One student did not use f=0.03 as initial guess, as suggested in the exam text.