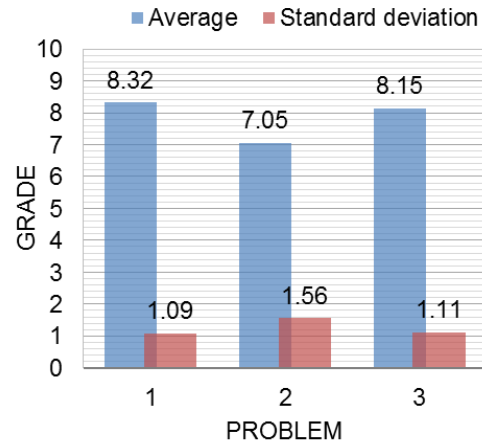


2016 Exam 2 – Report

General

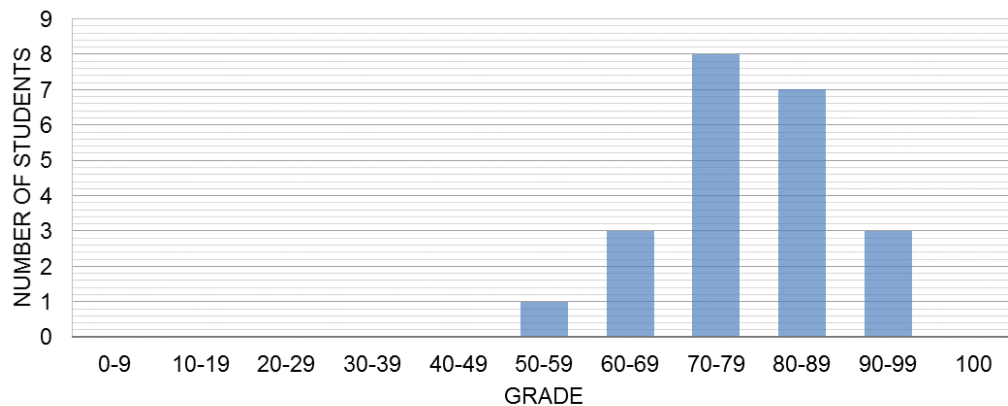
Total number of students	23
Attended	22
Missed (make-up)	1
Number of problems	3
Average grade	78.37
Standard deviation of grades	9.26



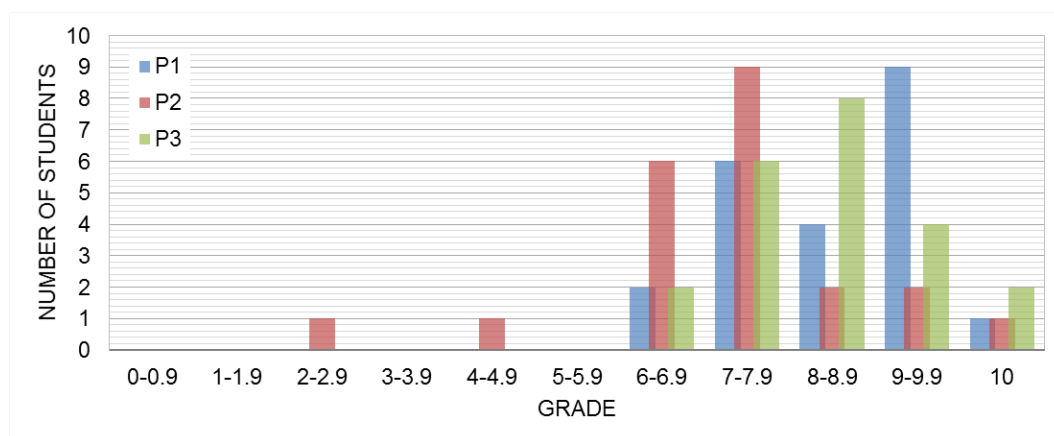
Individual problem breakdown

Problem	1	2	3
Average grade	8.32	7.05	8.15
Standard deviation of grades	1.09	1.56	1.11

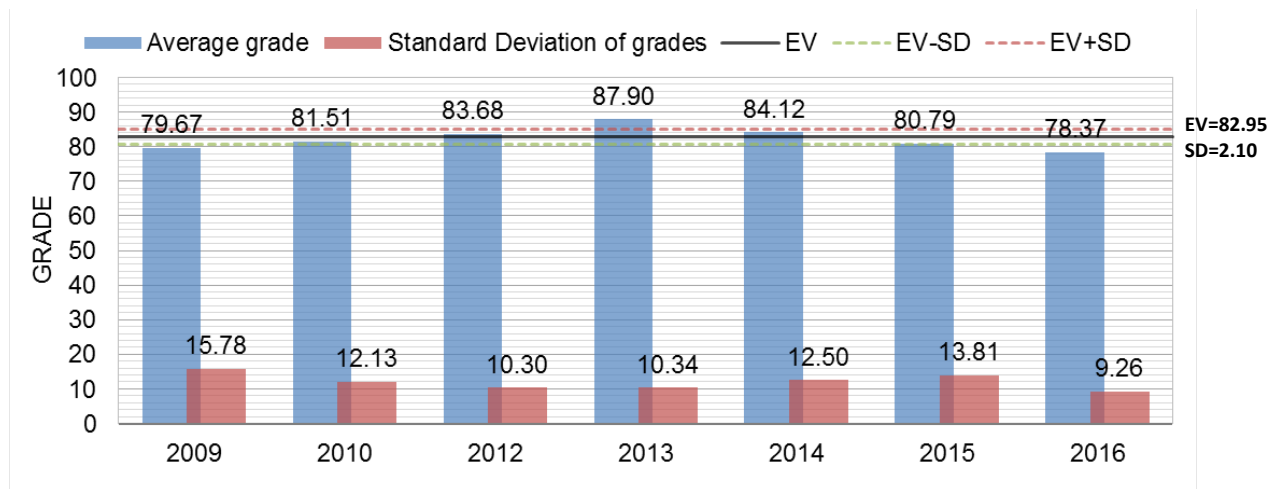
Grade distribution



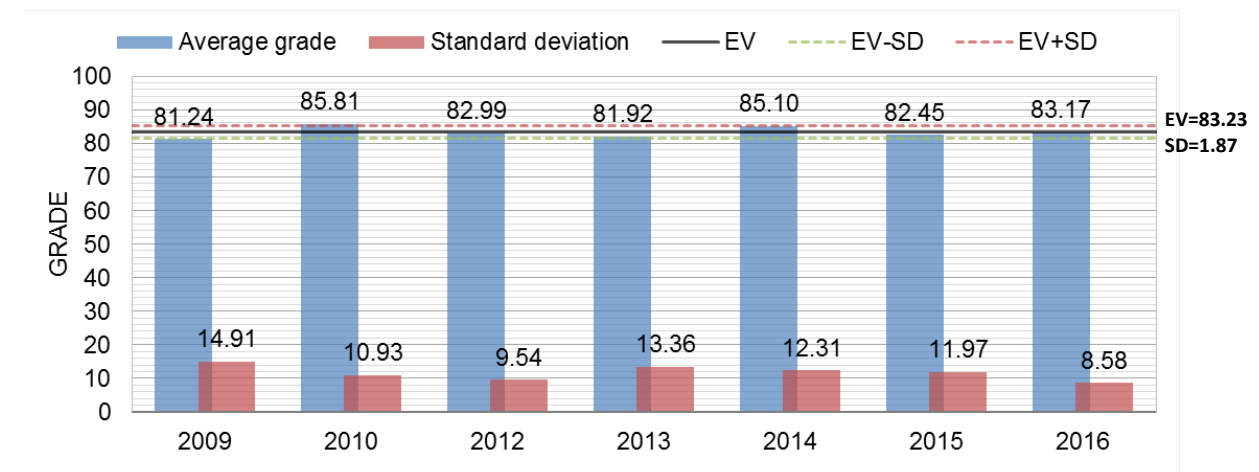
Grade distribution per problem



Comparison with past years (Exam2)



Comparison with past years (Exam1 & 2 average)



Comments

OVERALL

- All students followed the rules for the formula sheet.

PROBLEM 1

- Some students did not show the correct sign/direction for the torque.
- Some students did not use Bernoulli to find p_1 .

PROBLEM 2

- Many students could not show that $r v_r$ is a function of z only.
- Most students made mistake simplifying NS equation.
- Many students did not replace v_r with $r f(z)$.
- Some students did not use BCs to find $C1$ and $C2$.

PROBLEM 3

- Some students did not consider the friction losses h_f at all in part (a).
- Few students did not use the friction factor for smooth pipe.
- Few students did not use the turbine efficiency in part (b).
- Some students did not perform the iterations for finding correct friction factor, velocity, and flow rate.