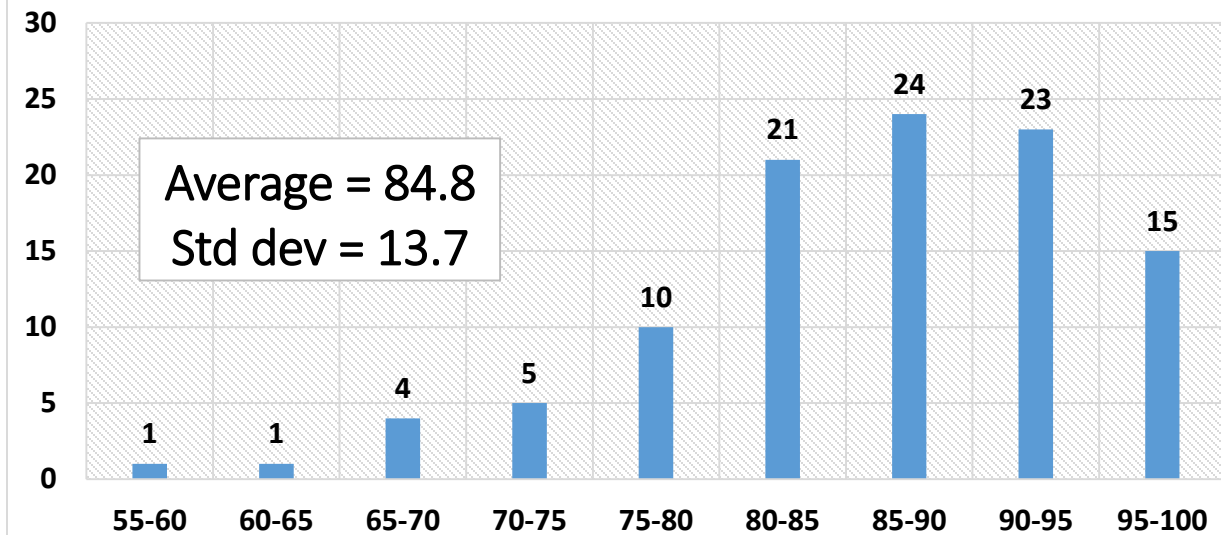


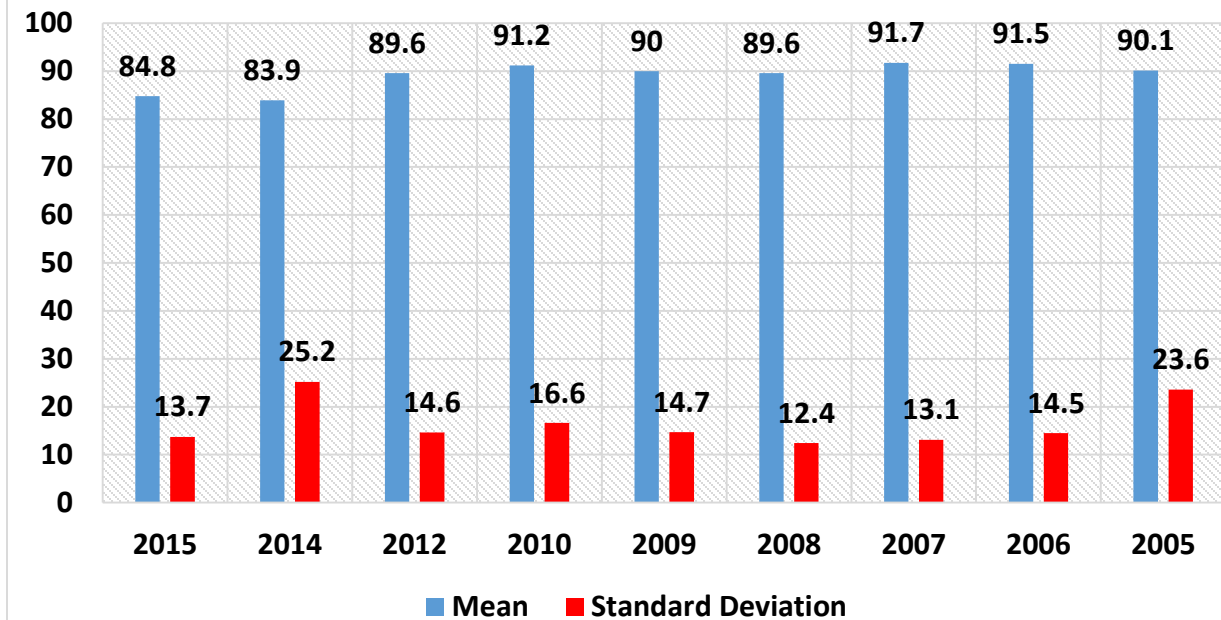
ENGR:2510 CFD Lab 1 Report

	Number of students
Total	106
Submitted reports	104
Submitted pre-lab questions	93

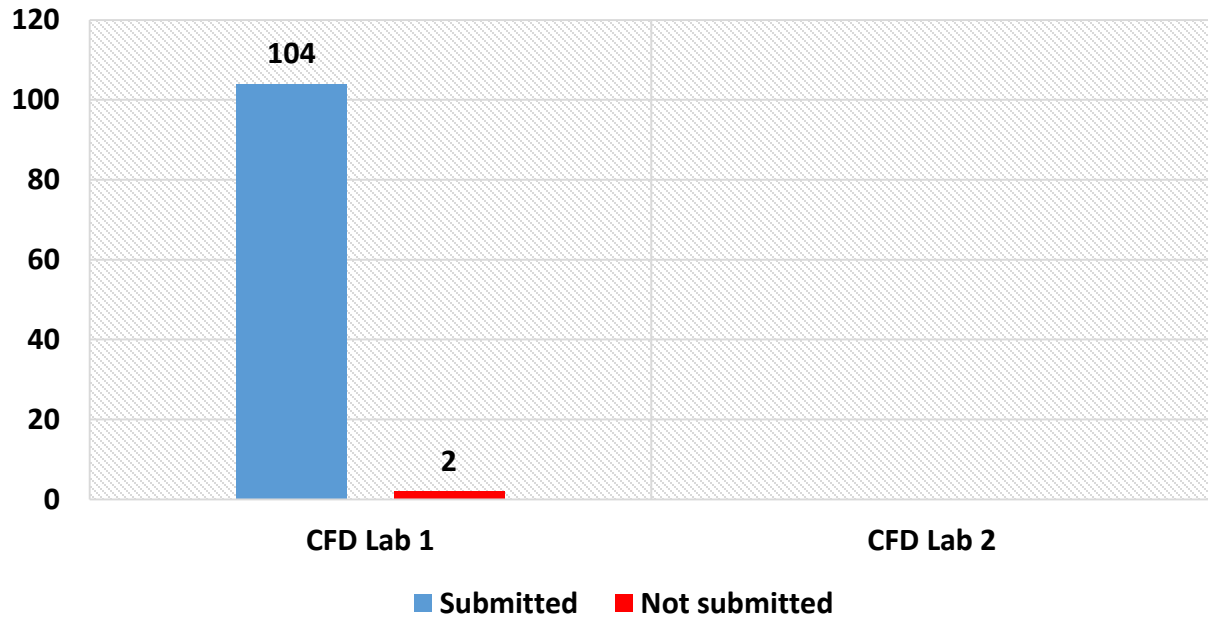
Grade Distribution



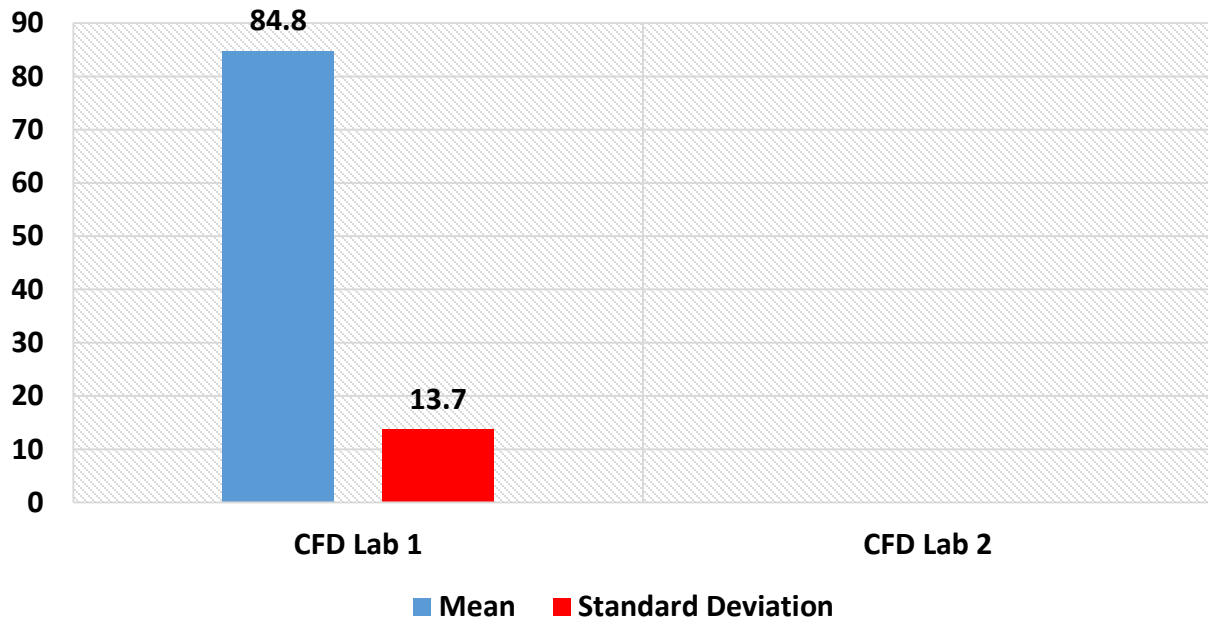
Comparison with Previous Years



Submission History (Fall 2015)



Comparison of CFD Lab (Fall 2015)



Common mistakes

- Pre-lab questions
 - 11 students did not submit and two were nameless
 - did not list the correct boundary conditions
 - did not include correct initial conditions
- Test and simulation design
 - no common mistakes were made
- CFD process
 - did not include the flow chart or did not explain the process if chart not included
 - missing important parameters and corresponding values
- Data analysis and discussion
 - Figures
 - many students did make mistakes on preparing figures
 - Normalized velocity profile @ $x=100d$
 - missing legend, axes labels, AFD data, or EFD data
 - figures were difficult to read, sizing and resolution issues
 - Pressure distribution
 - missing EFD data or used incorrect EFD data
 - Pre-lab questions
 - did not relate findings to lecture/textbook concepts
 - Lab questions
 - did not correctly explain the developing length
 - confused axial velocity profile and centerline velocity distribution
 - did not relate findings to lecture/textbook concepts
 - did not list the correct boundary conditions on the wall and axis
- Conclusion
 - no common mistakes were made

Suggestions and improvements

- go more in-depth to what prescribed parameters are, how they affect the solution, and how they are determined
- remove CFD lecture at start of lab and discuss concepts more in-depth during in-class lecture
- give a intro to ANSYS lab session to get a general introduction to the software including navigation techniques
- switch lab room to 1245 where PCs are oriented better for following along with projector
- give more explanation in manual to what each step is and how it fits in the big picture