

MECH6376 - Experimental Thermal and Fluid Dynamics

[MECH 6376](#) Experimental Thermal and Fluid Dynamics (3 semester credit hours) This course presents an introduction to experiments in thermo-fluid dynamics. Similarity theory and basic concepts to perform experiments are discussed. A description of different types of wind tunnels is given, with emphasis on the design process of a general-purpose subsonic wind tunnel. A review of the most common measurement techniques is provided, such as for fluid pressure, forces, velocity, temperature, and density. The second part of the course focuses on signal processing through statistical, spectral analysis, and modal decomposition techniques. The final part of the course is devoted to the design and execution of an experiment. (3-0) R