

MECHENG 523 (AEROSP 523). Computational Fluid Dynamics I

Advisory Prerequisite: AEROSP 325 or preceded or accompanied by MECHENG 520. Enforced Prerequisite: None. (3 credits)

Physical and mathematical foundations of computational fluid mechanics with emphasis on applications. Solution methods for model equations and the Euler and the Navier-Stokes equations. The finite volume formulation of the equations. Classification of partial differential equations and solution techniques. Truncation errors, stability, conservation and monotonicity. [CourseProfile \(ATLAS\)](#)