MECH5376 - Introduction to Computational Thermal Fluid Science

MECH 5376 Introduction to Computational Thermal Fluid Science (3 semester credit hours) An introduction to the study of the numerical techniques used to simulate fluid flow and heat transfer. Coverage includes the classification and numerical solution of linear and non-linear partial differential equations and the application of these techniques to the governing equations of fluid mechanics and heat transfer. Discussion of the numerical techniques used to solve the elliptic and parabolic equations required to simulate steady-state and transient heat conduction. Introduction to the fundamentals of computational fluid dynamics. Prerequisites: MECH 3320 and MECH 3351 and MECH 4310. (3-0) R