

# AE 6761: Acoustics II

Offered Every Fall

- Credit Hours: 3-0-3
- Prerequisites: ME 6760 or AE 6760 or equivalent or with the consent of the instructor.
- Catalog Description: Radiation and scattering of sound waves in fluids, duct acoustics, dissipation phenomena. Crosslisted with AE 6761.
- Textbooks: David T. Blackstock, *Fundamentals of Physical Acoustics*, 1st Edition, John Wiley, 2000.  
Allan D. Pierce, *Introduction to Physical Principles and Applications*, 1st Edition, Springer-Verlag, 1989 (an Acoustical Society publication).
- Goals: The goal of this course is to expose students to an in-depth understanding of the fundamental principles governing the radiation and scattering of sound waves in fluids, the propagation of sound in ducts, and dissipation phenomena in acoustics.
- Topics:
- Rayleigh integral, Greens function, Kirchhoff-Helmholtz integral
  - Baffled piston
  - Radiation problems
  - Scattering problems
  - Duct acoustics, modes
  - Acoustics in a moving medium, Doppler shift.
  - Attenuation, Dispersion, relaxation