AE598 CAA—Aeroacoustics :: Spring 2013

Website `http://acoustics.ae.uiuc.edu`, click on 'AE598 CAA'

Instructor Prof. Daniel J. Bodony (AE)

Office	313 Talbot	Credit	Four hours (CRN: 49926)
E-mail	bodony@illinois.edu	Time	10:30–12:20 am TTh
Office hours	By appointment	Location	104 Talbot Labs

Teaching assistant Qi Zhang (AE)

E-mail	qizhang1@illinois.edu
Office	326 Talbot
Office hours	TBD

Description (From course catalog) Physical mechanisms and mathematical modeling of sound generation and flow-sound interaction; An overview of aeroacoustics theories and computational approaches; Advanced turbulence simulation techniques (DNS, LES, unsteady RANS) for evaluation nonlinear sound sources; Accurate numerical methods and boundary conditions for direct computation of sound generation and propagation. Both engineering and biological systems (*e.g.*, the human voice) will be discussed.

Prerequisites Intermediate level courses in fluid mechanics and CFD (or numerical methods), or consent of instructor.

Necessary background Vector calculus, differential equations through partial differential equations (theory of distributions helpful), thermodynamics, basic programming skills, some numerical analysis.

Textbook None required.

Recommended texts See handout #2.

Grading	Homework (assigned semi-regularly)	50%
	Project	50%

Honor code It is assumed that the UIUC Student Code will be followed at all times.