

SYLLABUS

Course: Advanced Engineering Mathematics II

Instructor: Professor Monson H. Hayes

Course Time: Tuesday and Thursday from 10:30 – 11:45

Office Hours: Tuesday and Thursday from 13:00 – 15:00 in Room 1002, Bldg. 305

Textbook: None

Software: Matlab or Octave (See course web pages)

Prerequisites:

Engineering Mathematics 1 - familiarity with integrals and differentiation.
A desire to learn, a willingness to work hard, and the commitment to think independently.

Course Objectives:

To understand concepts of complex analysis, including functions of a complex variable, differentiation, the Cauchy-Reiman relations, branch points and branch cuts, mappings, Taylor and Laurant series, singularities, and integration.

To understand the concepts of Fourier analysis, including Fourier expansions, Fourier series and Fourier transforms, generalized functions and the impulse, the Laplace transform, and the Fourier analysis of signals.

To understand the concepts of probabilities and random variables, including important distribution s, conditional probabilities, independence, and Monte Carlo simulations.

Course Requirements:

Weekly Homework Assignments.
Midterm exam plus a Final Exam.