

AE 6280 WAVE PROPAGATION AND AEROSPACE STRUCTURAL ANALYSIS

1. INTRODUCTION

One-dimensional wave propagation in elastic rods and reflections at boundaries	5 hours
2. 3-dimensional wave propagation theory in isotropic and anisotropic solids. Reflection and refraction of waves, waves in semi-infinite solids.	10 hours
3. Waves in layered media	5 hours
4. Wave propagation and NDC experimental methods	3 hours
5. Finite deformations, elastic and inelastic waves, shocks in solids	5 hours
6. Identification of constitutive equations from structures in waves, phase transition, stress relaxation	4 hours
7. Introduction to numerical methods for solution of linear and non-linear waves (shocks)	6 hours
8. Wave sensing and control of vibrations and noise	5 hours
Quizzes	2 hours