

Department of Applied Mechanics, IIT Delhi
Second Semester, 2019-2020

Course Co-ordinator : Gaurav Singh (E: gsingh@am.iitd.ac.in, O: IV-255, P: 1184)

Applied Elasticity (AML 731) 3-1-0

Class Schedule: (IV 323) Mon: 1.30p-3.00p Tue: 1.45p-2.45p Thu 2.30p-4.00p

Outline :

S. No.	Topic
1	Theory of small strain & stress
2	Linear elasticity & thermo-elasticity
3	Problem formulation (stress and displacement), Boundary conditions, Principle of superposition, Saint-Venant's principle
4	Strain energy, Uniqueness of elasticity BVP, Principle of virtual work, Rayleigh-Ritz method
5	Plane strain and stress, Airy stress function
6	Polar co-ordinates – Contact & Fracture applications
7	Complex Variable methods
8	Anisotropic elasticity

Book:

Sadd M.H. Elasticity : Theory, Applications, and Numerics, Third Edition, Academic Press, 2014

Evaluation :

Minor - I	:	15%
Minor - II	:	15%
Assignment	:	40%
Major	:	30%