

Course Name:

Micromechanics of defects in solids

Course Number:

20140

Credit:

3

Course Content (outline):**1. General theory of eigenstrains:**

Definition of eigenstrains, periodic solutions, method of Fourier series and integrals, method of Green's function, static Green's function, inclusions and inhomogeneities

2. Isotropic inclusions:

Eshelby's solution, interior points, thermal expansion, exterior points, ellipsoidal inclusions with polynomial eigenstrains

3. Ellipsoidal inhomogeneities:

Equivalent inclusion method