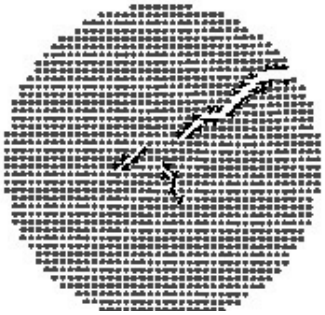

ME 4733: Deformation and Fracture of Engineering Materials

Spring 2002

Course Outline

I. Deformation

(1) Material responses to stresses (Hertzberg, Ch 1)

(2) Plastic deformation in crystalline solids (Hertzberg, Chs, 2,3)

(3) Strengthening mechanisms in metals (Hertzberg, Ch 4)

(4) High temperature deformation of crystalline solids (Hertzberg, Ch 5)

II. Fracture

(5) Overview of fracture (Hertzberg, Ch 7)

(6) Elements of fracture mechanics (Hertzberg, Ch 8)

(7) Microstructures and fracture (Hertzberg, Ch 10)

(8) Fatigue of Engineering Materials (Hertzberg, Ch 12)

(9) Fatigue crack propagation (Hertzberg, Ch 13)

(10) Environment-assisted failure (Hertzberg, Ch 11)

(11) Material failure case studies (Hertzberg, Ch 14)