

ME 625 Fracture Mechanics (3-0-0-6)

Fracture criteria, Introduction to linear elastic fracture mechanics, Analysis of simple crack problems, Nucleation and propagation of cracks, Correlation between microstructure and fracture behaviour in materials. Mechanisms of fracture, Mechanisms of fatigue crack initiation and propagation, Evaluation of fracture toughness, factors influencing fatigue strength, life prediction, prevention of fatigue failure

Textsbooks

- [1] S.T. Rolfe and J.M Barson, *Fracture and fatigue control in structures*, Prentice Hall
- [2] David and Bruck, *Elementary Engineering Fracture Mechanics*, Norelho
- [3] N.E. Fros, et al, *Metal fatigue*, Clarendon Press
- [4] American Society for Metals, *Case histories in failure analysis*, ASM.