



# Department of Mechanical Engineering

One Credit Course

## ME1303 – Fatigue and Fracture Mechanics

02<sup>nd</sup> February 2016

The Department of Mechanical Engineering is organizing a one credit course “ME1303 – Fatigue and Fracture Mechanics”, as stated below.

- Period : 08<sup>th</sup> – 12<sup>th</sup> February, 2016
- Time : 01:30 – 04:30 PM
- Course Faculty : **Professor Mohan Ranganathan**,  
Head, Laboratory of Mechanics and Rheology,  
Polytechnics Engineering School,  
University of Tours, France.
- Target participants : **III & IV year B.Tech Mechanical / Automobile / Aerospace Engineering students**
- Batch size : **Maximum of 40 students**

*Upon successful completion, this will be added as an additional course in the student’s grade card, but not considered for CGPA calculation.*

### Course Syllabus

Fatigue and Fracture Mechanics	Total no. of hours			C
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	8	4	3	1

Introduction, Definitions, Endurance limit, Finite life fatigue, cyclic plasticity and Low cycle fatigue, Strain life relationships, effect of stress concentration, Local strain approach (Neuber), Cumulative damage and Miner’s rule, Introduction to Fracture mechanics, The Westergaard solution and definition of stress intensity factor, Fracture toughness, Fatigue crack propagation, Paris law and derivatives, conclusion and advanced problems.

### Head - Mechanical Engineering.

Dean / SME

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