

Mechanics of Materials / Strength of Materials

- An Introduction to Stress and Strain

https://www.youtube.com/watch?v=aQf6Q8t1FQE&ab_channel=TheEfficientEngineer

- Understanding Plane Stress

https://www.youtube.com/watch?v=78K0pbvHzjM&ab_channel=TheEfficientEngineer

- Understanding Stress Transformation and Mohr's Circle

https://www.youtube.com/watch?v=DH3546mSCM&ab_channel=TheEfficientEngineer

- Understanding True Stress and True Strain

https://www.youtube.com/watch?v=AkX6JqIWRqc&ab_channel=TheEfficientEngineer

- Understanding the Area Moment of Inertia

https://www.youtube.com/watch?v=BlS5KnQOWkY&ab_channel=TheEfficientEngineer

- Understanding Torsion

https://www.youtube.com/watch?v=1YTKedLQOa0&ab_channel=TheEfficientEngineer

- Understanding Shear Force and Bending Moment Diagrams

https://www.youtube.com/watch?v=C-FEVzI8oe8&ab_channel=TheEfficientEngineer

- Understanding Stresses in Beams

https://www.youtube.com/watch?v=f08Y39UiC-o&t=80s&ab_channel=TheEfficientEngineer

- Understanding the Deflection of Beams

https://www.youtube.com/watch?v=MvBqCeZllpQ&t=4s&ab_channel=TheEfficientEngineer

- Understanding Fatigue Failure and S-N Curves

https://www.youtube.com/watch?v=o-6V_JoRX1g&ab_channel=TheEfficientEngineer

- Understanding and Analysing Trusses

https://www.youtube.com/watch?v=Hn_iozUo9m4&ab_channel=TheEfficientEngineer

- Understanding Failure Theories (Tresca, von Mises etc...)

https://www.youtube.com/watch?v=xkbQnBAOFeg&t=475s&ab_channel=TheEfficientEngineer

- Understanding the Finite Element Method

https://www.youtube.com/watch?v=GHjopp47vvQ&ab_channel=TheEfficientEngineer

- Understanding Buckling

https://www.youtube.com/watch?v=21G7LA2DcGQ&ab_channel=TheEfficientEngineer

- The Incredible Strength of Bolted Joints

https://www.youtube.com/watch?v=XLzTB4KLCxU&ab_channel=TheEfficientEngineer

Understanding Material Properties

- Understanding Material Strength, Ductility and Toughness:

<https://www.youtube.com/watch?v=WSRqJdT2COE>

- Understanding Young's Modulus

https://www.youtube.com/watch?v=DLE-ieOVfjI&ab_channel=TheEfficientEngineer

- Understanding Poisson's Ratio

https://www.youtube.com/watch?v=tuOIM3P7ygA&t=264s&ab_channel=TheEfficientEngineer

Fluid Mechanics

- Understanding Laminar and Turbulent Flow

https://www.youtube.com/watch?v=9A-uUGOWR0w&ab_channel=TheEfficientEngineer

- Understanding Bernoulli's Equation

https://www.youtube.com/watch?v=DW4ritB20h4&ab_channel=TheEfficientEngineer

- Understanding Aerodynamic Drag

https://www.youtube.com/watch?v=GMmNKUIXXDs&ab_channel=TheEfficientEngineer

- Understanding Aerodynamic Lift

https://www.youtube.com/watch?v=E3i_XHIVCeU&ab_channel=TheEfficientEngineer

- Understanding Viscosity

https://www.youtube.com/watch?v=VvDJyhYSJv8&ab_channel=TheEfficientEngineer