



**MATERIALS SCIENCE
& ENGINEERING**
TEXAS A&M UNIVERSITY

Introduction to Materials Science & Engineering

Macroscopic Elastic and Plastic Deformation

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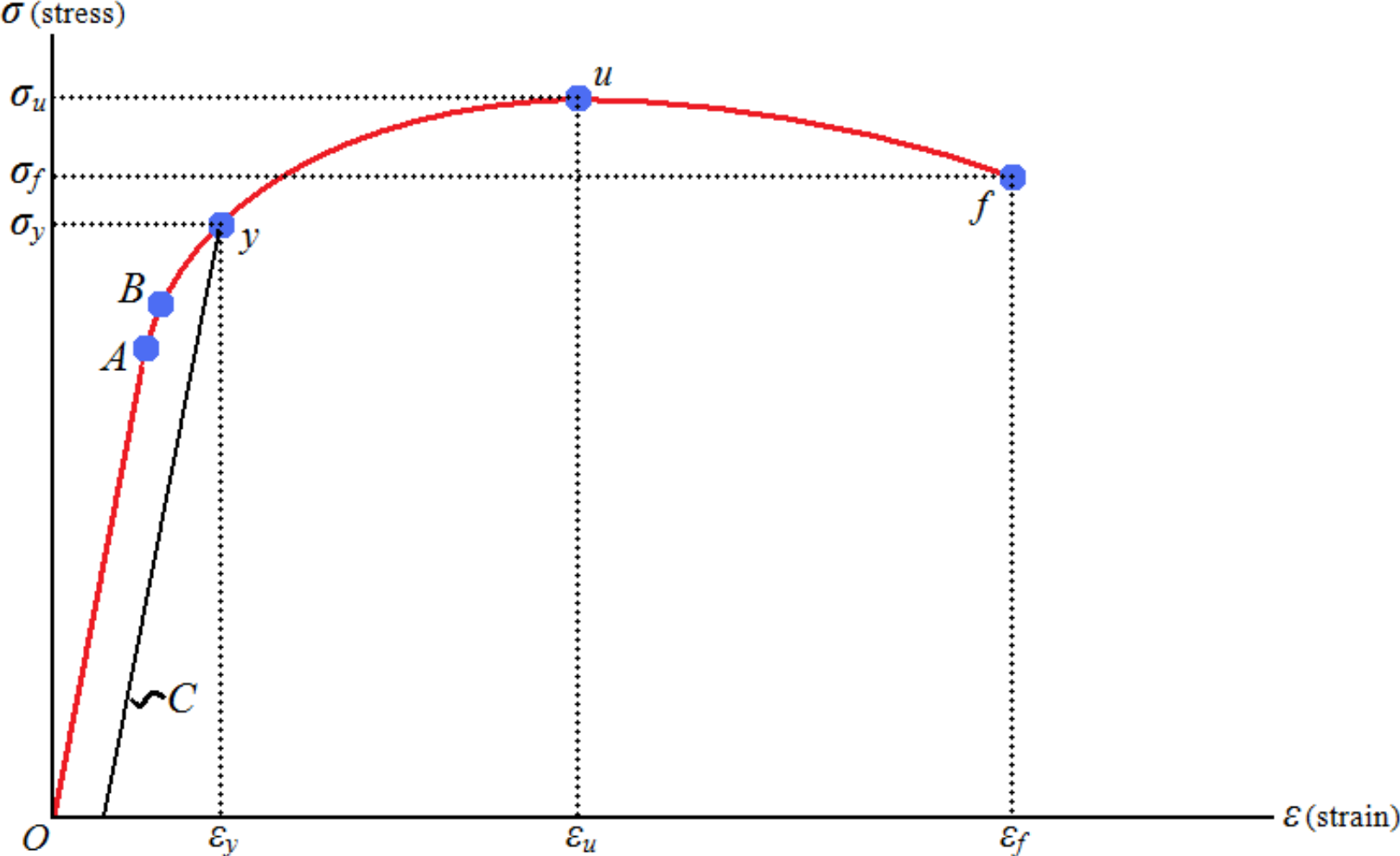
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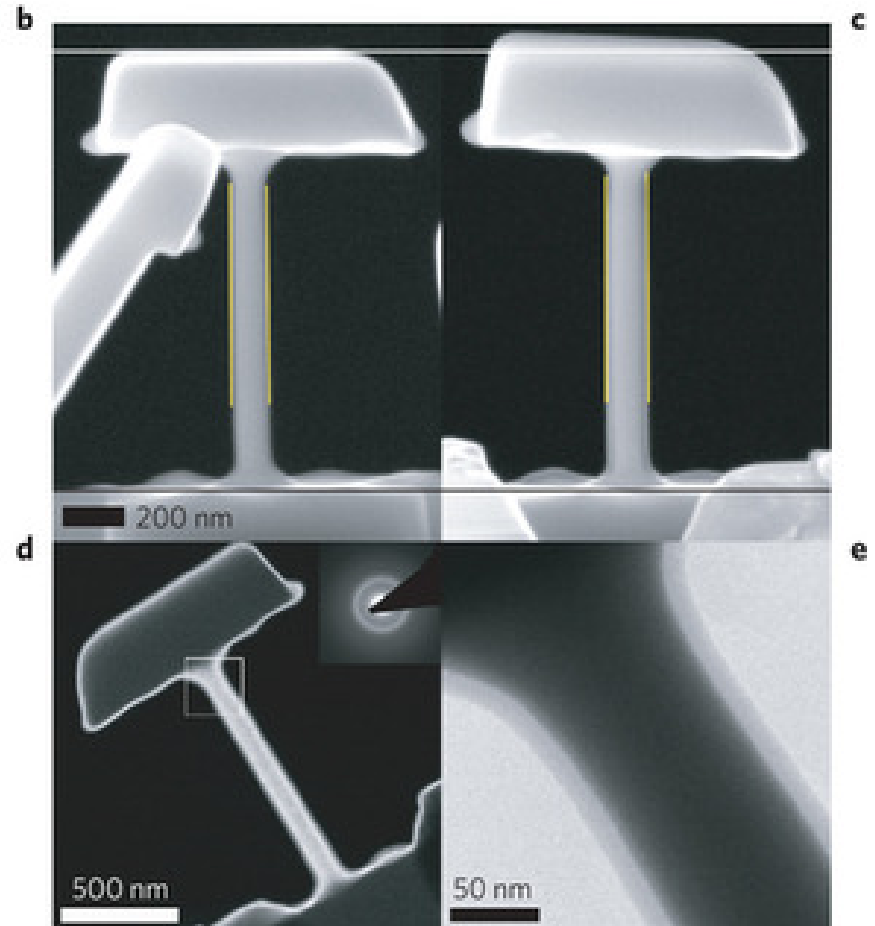
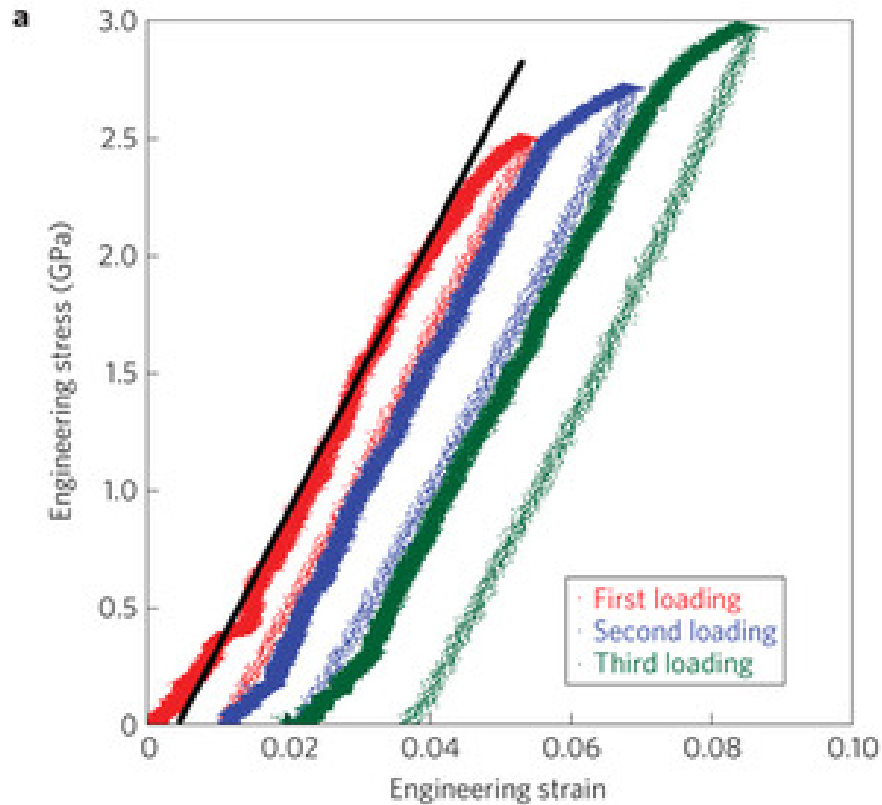
Elastic & Plastic



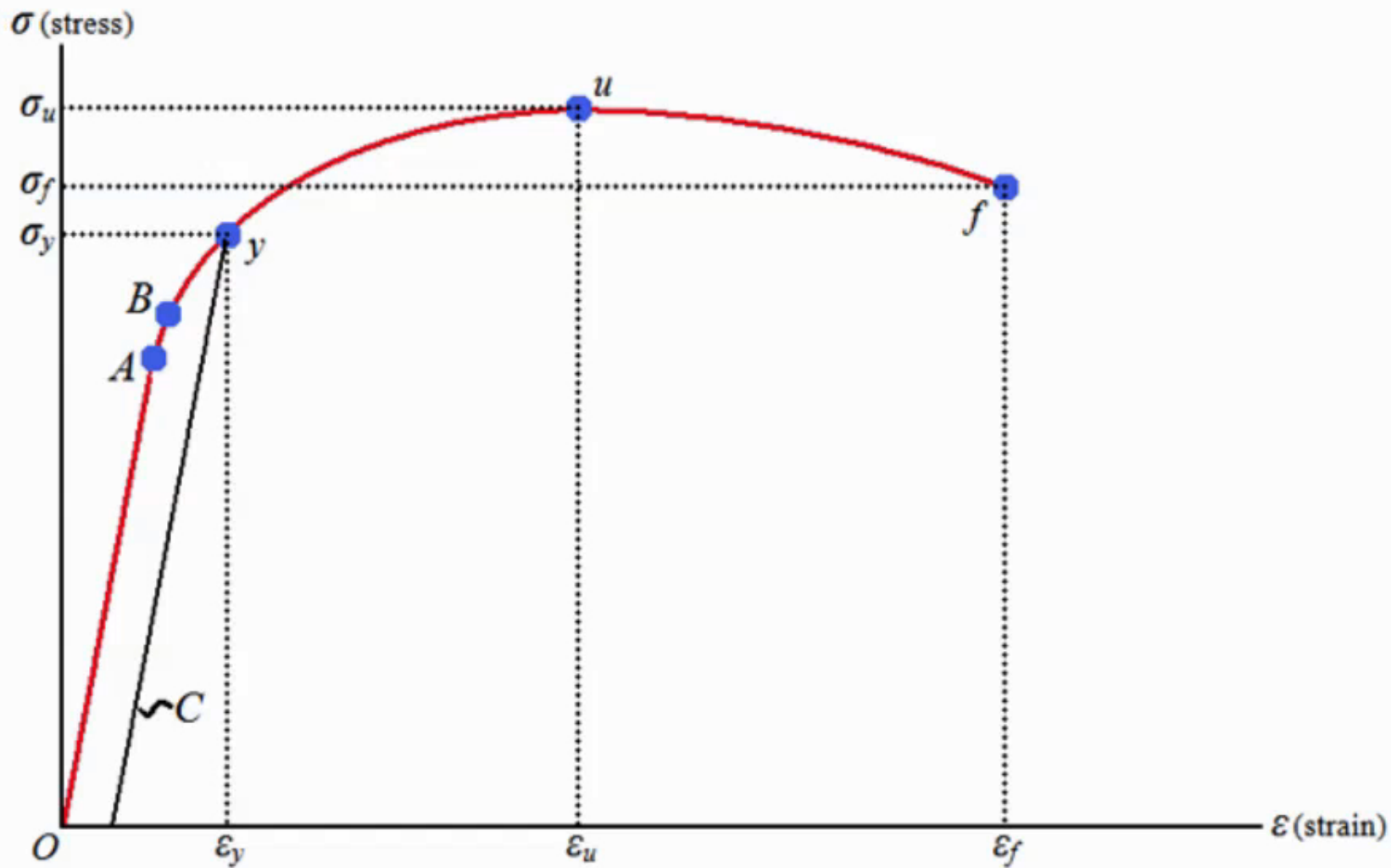
Stress & Strain



Cumulative Loading/Unloading



Plastic & Elastic



Stress vs. Strain

- Define Plastic/Elastic Behavior
- Follow deformation history on a stress-strain diagram