

# 材料力學

## Mechanics of Materials

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應用力學研究所

Schedule: Tuesday (34、應 113)、Friday (2、應 113)

材料力學乃探討非剛性結構體受力作用與變形之關係。本課程首先將引入應力與應變之概念，之後探討桿件受軸向力與扭力作用下之應力與應變關係、壓力容器之應力分佈、撓曲元件之彎矩分析與軸向元件之挫曲分析等。

### COURSE OUTLINE:

1. Introduction and Review of Statics
2. Analysis of Stress: Concepts and Definitions
3. Analysis of Strain: Concepts and Definitions
4. Material Properties and Stress-Strain Relationships
5. Axial Loading Applications and Pressure Vessels
6. Torsional Loading of Shafts
7. Flexural Loading: Stresses in Beams
8. Flexural Loading: Beam Deflections
9. Bucking of Columns

### Textbook:

W. F. Riley, L. D. Sturges, and D. H. Morris, *Mechanics of Materials*, 6th Ed., John Wiley & Sons, 2007.

### Reference:

J. M. Gere and B. J. Goodno, *Mechanics of Materials*, 8th Ed., CENGAGE Learning, 2014.

### Grading:

Homework: 10%

Midterm examination: 45%

Final examination: 45%

### Contact Telephone Number:

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### Note:

1. NTU COOL for HWs
2. <https://us02web.zoom.us/j/2404612531?pwd=QWFhU1dWTGdIVmNIZGdRMjY9VejU3Zz09> (前三週)