



# Satuan Acara Pengajaran

ENMT801104 - Mekanika Material

Pengajar

*Prof. Dr. Ir. Dedi Priadi DEA.*

## Minggu 1

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**Materi** 1. Introduction Explanation of the system, goals and objectives of the course.  
2. Material failure type, design and selection of materials

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**Media** OHP

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**Referensi** 1. Norman E. Dowling, Mechanical Behavior of Materials, Engineering methods for deformation, fracture and fatigue., Prentice Hall Intl.Editions.,1993.  
2. E.J Hearn, Mechanics of Materials, Pergamon Press, 1985

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**Aktivitas**

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## Minggu 2

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**Materi** 1. Stress and Strain Concept:  
- Rheology Model  
- Strain elastic-plastic  
- Creep deformation  
2. Exercises: Stress-Strain

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**Media** PPT presentation

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**Referensi** 1. Norman E. Dowling, Mechanical Behavior of Materials, Engineering methods for deformation, fracture and fatigue., Prentice Hall Intl.Editions.,1993.  
2. E.J Hearn, Mechanics of Materials, Pergamon Press, 1985

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**Aktivitas**

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## Minggu 3

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- Materi**
1. Stress and Strain mixture Concept
    - a. Stress field
    - b. Stress 3 Dimensions
    - c. The state of tension 2D and 3D
  2. Exercises Stress-Strain mixture
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**Media** PPT Presentation

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- Referensi**
1. Norman E. Dowling, Mechanical Behavior of Materials, Engineering methods for deformation, fracture and fatigue., Prentice Hall Intl.Editions.,1993.
  2. E.J Hearn, Mechanics of Materials, Pergamon Press, 1985
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**Aktivitas** Kuliah tatap muka dilanjutkan tanya jawan dan diskusi

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## Minggu 4

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- Materi**
1. Mechanical Testing: Tensile, Compression, torsion, hardness, impact
  2. Exercises
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**Media**

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- Referensi**
1. Norman E. Dowling, Mechanical Behavior of Materials, Engineering methods for deformation, fracture and fatigue., Prentice Hall Intl.Editions.,1993.
  2. E.J Hearn, Mechanics of Materials, Pergamon Press, 1985
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**Aktivitas**

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## Minggu 5

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- Materi**
1. Yielding and fracture under combined stresses
    - Geneal fracture criteria
    - Criterion Tresca and Von mises
  2. Criteria yield anisotropic material
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**Media**

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- Referensi**
1. Norman E. Dowling, Mechanical Behavior of Materials, Engineering methods for deformation, fracture and fatigue., Prentice Hall Intl.Editions.,1993.
  2. E.J Hearn, Mechanics of Materials, Pergamon Press, 1985
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**Aktivitas**

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## Minggu 6

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**Materi** 1. Exercises: Yielding and fracture under combined stresses

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**Media**

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**Referensi** 1. Norman E. Dowling, Mechanical Behavior of Materials, Engineering methods for deformation, fracture and fatigue., Prentice Hall Intl.Editions.,1993.  
2. E.J Hearn, Mechanics of Materials, Pergamon Press, 1985

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**Aktivitas**

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## Minggu 7

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**Materi** ? Fracture of cracked members  
- Brittle and ductile fracture  
- Mathematical concepts  
- Fracture toughness testing

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**Media**

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**Referensi** 1. Norman E. Dowling, Mechanical Behavior of Materials, Engineering methods for deformation, fracture and fatigue., Prentice Hall Intl.Editions.,1993.  
2. E.J Hearn, Mechanics of Materials, Pergamon Press, 1985

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**Aktivitas**

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## Minggu 8

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**Materi** Ujian Tengah Semester

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**Media**

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**Referensi**

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**Aktivitas**

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