



# Satuan Acara Pengajaran

MMS8110803 - Karakterisasi Material + Lab

Pengajar

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## Minggu 1

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**Materi** Pengenalan SAP  
INTRODUKSI:  
- Penjelasan SAP, Sistem Perkuliahan & penilaian  
- Pengantar Pengujian Material

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**Media** LCD

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**Referensi** ? Davis, H.E, Troxell, G.E, Hauck, GFW. ?The Testing of Engineering Materials?, 1982

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**Aktivitas** Kuliah dan diskusi

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## Minggu 2

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**Materi** - Peranan Pengujian  
- Klasifikasi Sifat Material Teknik  
- Pengujian dan Inspeksi Material

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**Media** LCD

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**Referensi** ? Davis, H.E, Troxell, G.E, Hauck, GFW. ?The Testing of Engineering Materials?, 1982

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**Aktivitas** Kuliah dan Diskusi

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## Minggu 3

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**Materi** - Signifikansi Pengujian Material  
- Spesifikasi Material Teknik  
- Badan-badan Standarisasi Pengujian  
- Prosedur Pengujian & Penyajian Hasil Uji

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**Media** LCD

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**Referensi** ? Davis, H.E, Troxell, G.E, Hauck, GFW. ?The Testing of Engineering Materials?, 1982

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**Aktivitas** Kuliah dan diskusi

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#### Minggu 4

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**Materi** Advanced Metalography,  
Optical Microscope dan microstructural nalysis  
SEM

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**Media** LCD

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**Referensi** ? Hearle, JWS, Sparrow, JT, Cross PM, ?The Use of SEM?, Pergamon, 1972

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**Aktivitas** Kuliah dan diskusi

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#### Minggu 5

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**Materi** Electron microscopy:  
Transmission electron microscopy (TEM)

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**Media** LCD

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**Referensi**

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**Aktivitas** case study, diskusi dan seminar

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#### Minggu 6

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**Materi** Surface Analysis  
Scanning probe microscopy (SPM)  
Scanning tunneling microscopy (STM)  
Atomic force microscopy (AFM)

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**Media** LCD

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## Referensi

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**Aktivitas**      Kuliah, diskusi dan presentasi

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## Minggu 7

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**Materi**            Review Sifat-sifat Mekanik Material

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**Media**             LCD

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**Referensi**        1. Davis, H.E, Troxell, G.E, Hauck, GFW. ?The Testing of Engineering Materials?, 1982  
2. John, V.B, Engineering Materials, Macmillan, 1990  
3. G.E. Dieter, Mechanical Metallurgy, 3rd edition, McGraw-Hill, 1986

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**Aktivitas**        Kuliah dan diskusi

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## Minggu 8

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**Materi**            Uji tarik, Kekerasan dan Impak

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**Media**             LCD

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**Referensi**        1. Davis, H.E, Troxell, G.E, Hauck, GFW. ?The Testing of Engineering Materials?, 1982  
2. John, V.B, Engineering Materials, Macmillan, 1990  
3. G.E. Dieter, Mechanical Metallurgy, 3rd edition, McGraw-Hill, 1986

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**Aktivitas**        Diskusi dan presentasi

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## Minggu 9

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**Materi**            Uji fatik dan Creep

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**Media**             LCD

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**Referensi**        1. Davis, H.E, Troxell, G.E, Hauck, GFW. ?The Testing of Engineering Materials?, 1982  
2. John, V.B, Engineering Materials, Macmillan, 1990  
3. G.E. Dieter, Mechanical Metallurgy, 3rd edition, McGraw-Hill, 1986

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**Aktivitas**        Kuliah dan Diskusi

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## Minggu 10

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**Materi** Materials Failure Analysis, Cause of Failure

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**Media** LCD

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**Referensi** Journal dan problem cases

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**Aktivitas** Kuliah dan diskusi

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## Minggu 11

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**Materi** Review NDT

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**Media** LCD

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**Referensi** ? Louis Cart, ?Non Destructive Testing?, ASM, 1995

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**Aktivitas** Kuliah dan diskusi

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## Minggu 12

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**Materi** Case study

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**Media** LCD

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**Referensi** Journal, paper

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**Aktivitas** Presentasi

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