



# Satuan Acara Pengajaran

ENMT800102 - Manufaktur Lanjut

Pengajar

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## Tujuan Perkuliahan

Mahasiswa mampu menjelaskan prinsip, fenomena, mekanisme dasar, dan teknik pembentukan logam melalui fasa cair, padat dan serbuk, serta mampu menganalisis dan menentukan proses yang diperlukan untuk membuat suatu produk logam dengan kualitas baik

## Minggu 1

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<b>Materi</b>	Pendahuluan: Pembentukan Logam dalam Proses Manufaktur Deformasi Plastis Logam
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<b>Media</b>	LCD
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<b>Referensi</b>	
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<b>Aktivitas</b>	
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## Minggu 2

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<b>Materi</b>	Cetakan dan Dapur Peleburan Penempaan(Forging)
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<b>Media</b>	LCD
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<b>Referensi</b>	
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<b>Aktivitas</b>	
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### Minggu 3

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**Materi** Gating System & Casting Simulation  
Pencanaian(Rolling)

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**Media** LCD

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**Referensi**

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**Aktivitas**

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### Minggu 4

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**Materi** Pengecoran Aluminium (Aluminum Casting):  
Jenis Proses  
Ekstrusi (Extrusion)

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**Media** LCD

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**Referensi**

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**Aktivitas**

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### Minggu 5

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**Materi** Pengecoran Aluminium (Aluminum Casting):  
Perlakuan Peleburan & Perlakuan Panas (Melting and Heat Treatment)  
Penarikan (Drawing)

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**Media** LCD

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**Referensi**

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**Aktivitas**

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### Minggu 6

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**Materi** Pengecoran Aluminium (Aluminium Casting) Cacat Cor dan Pencegahannya  
Pembentukan Logam Lembaran (Sheet Metal Forming)

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**Media** LCD

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**Referensi**

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## Aktivitas

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### Minggu 7

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**Materi** Besi Cor (Cast Iron): BTK, BTN, ADI  
Pembentukan Logam Lembaran (Sheet Metal Forming)

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**Media** LCD

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**Referensi**

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**Aktivitas**

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### Minggu 8

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**Materi** Pengecoran Baja Paduan dan Paduan Super (Alloy Steel & Super Alloy Casting)  
Pemrosesan Termomekanis (Thermomechanical Processing)

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**Media** LCD

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**Referensi**

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**Aktivitas**

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### Minggu 9

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**Materi** Pengecoran Khusus dan Masa Depan Proses Pengecoran (Special Casting & Future Trend of Casting)  
Kuliah Umum Proses Pengubahan Bentuk Logam (Metal Forming)

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**Media** LCD

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**Referensi**

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**Aktivitas**

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### Minggu 10

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**Materi** Tugas dan Presentasi Proses Pengecoran Logam (Casting)  
Ujian Proses Pengubahan Bentuk Logam (Metal Forming)

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**Media** LCD

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## Referensi

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## Aktivitas

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### Minggu 11

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**Materi** Ujian Proses Pengecoran Logam (Casting)  
Karakterisasi Serbuk

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**Media** LCD

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## Referensi

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## Aktivitas

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### Minggu 12

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**Materi** Pra Kompaksi:  
Mixing, Blending, Alloying, Lubricating

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**Media** LCD

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## Referensi

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## Aktivitas

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### Minggu 13

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**Materi** Proses Kompaksi  
Proses Penyinteran (Sintering Process)

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**Media** LCD

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## Referensi

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## Aktivitas

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### Minggu 14

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**Materi** Proses Penyinteran (Sintering Process)  
Aplikasi Metalurgi Serbuk

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**Media** LCD

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**Referensi**

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**Aktivitas**

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Minggu 15

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**Materi** Tugas dan Presentasi Proses Metalurgi Serbuk (Powder Metallurgy)

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**Media** LCD

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**Referensi**

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**Aktivitas**

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Minggu 16

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**Materi** Ujian Proses Metalurgi Serbuk (Powder Metallurgy) (Sesuai Periode UAS)

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**Media**

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**Referensi**

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**Aktivitas**

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Minggu 17

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**Materi** Pengecoran Baja Paduan dan Paduan Super (Alloy Steel & Super Alloy Casting)  
Pengecoran Khusus dan Masa Depan Proses Pengecoran (Special Casting & Future Trend of Casting)

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**Media**

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**Referensi** 1. John Campbell, Castings, Second Edition, Elsevier Butterwoth-Heinemann, 2004  
2. John Campbell, Castings Practice: The Ten Rules of Castings, Elsevier Butterwoth-Heinemann, 2005

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**Aktivitas**

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Minggu 18

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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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## Minggu 19

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**Materi** Karakterisasi Serbuk

Pra Kompaksi:  
Mixing, Blending, Alloying, Lubricating

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**Media**

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**Referensi** 1. Lenel, Powder Metallurgy, Principles and Application, MPIF, 1980  
2. German R.M, Powder Metallurgy Science, 1987

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**Aktivitas**

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## Minggu 20

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**Materi** Proses Kompaksi

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**Media**

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**Referensi** 1. Lenel, Powder Metallurgy, Principles and Application, MPIF, 1980  
2. German R.M, Powder Metallurgy Science, 1987

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**Aktivitas**

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## Minggu 21

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**Materi** Proses Penyinteran (Sintering Process)

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**Media**

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**Referensi** 1. Lenel, Powder Metallurgy, Principles and Application, MPIF, 1980  
2. German R.M, Powder Metallurgy Science, 1987

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**Aktivitas**

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## Minggu 22

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**Materi** Aplikasi Metalurgi Serbuk

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**Media**

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**Referensi** 1. Lenel, Powder Metallurgy, Principles and Application, MPIF, 1980  
2. German R.M, Powder Metallurgy Science, 1987

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**Aktivitas**

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## Minggu 23

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**Materi** Tugas dan Presentasi Proses Metalurgi Serbuk (Powder Metallurgy)

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**Media**

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**Referensi** 1. Lenel, Powder Metallurgy, Principles and Application, MPIF, 1980  
2. German R.M, Powder Metallurgy Science, 1987

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**Aktivitas**

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## Minggu 24

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**Materi** Ujian Proses Metalurgi Serbuk (Powder Metallurgy)

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**Media**

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**Referensi** 1. Lenel, Powder Metallurgy, Principles and Application, MPIF, 1980  
7. German R.M, Powder Metallurgy Science, 1987

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**Aktivitas**

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