



# Satuan Acara Pengajaran

ENMT800009 - Baja Khusus & Paduan Super

Pengajar

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## Minggu 1

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**Materi**

- Penjelasan SAP
- Alasan menggunakan Baja Paduan
- Klasifikasi baja paduan dan Super Alloy
- Penggunaan umum

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**Media** LCD

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**Referensi**

- Stainless Steel, ASM Handbook, 1994
- Tool Steel Handbook, Fifth Edition, Geoge Roberts, ASM, 1998
- Heat Resistant Materilas Handbook, 1997
- Super Alloy, A Technical Guide, Elihu F. Bradley, ASM International 1989

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**Aktivitas** Tatap Muka, Diskusi

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## Minggu 2

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**Materi**

Pengaruh Unsur dalam Baja Paduan dan Super Alloy

- Unsur pembentuk karbida
- Unsur penstabil alpha dan gamma
- Unsur penguat (presipitat, grainrefiner)

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**Media** LCD

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- Tool Steel Handbook, Fifth Edition, Geoge Roberts, ASM, 1998
- Heat Resistant Materilas Handbook, 1997
- Super Alloy, A Technical Guide, Elihu F. Bradley, ASM International 1989

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**Aktivitas** Tatap Muka, Diskusi, Tugas

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### Minggu 3

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**Materi** HSLA (High Strength Low Alloy)  
-Komposisi dan struktur  
-Penggunaan

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**Media** LCD

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**Referensi** -Stainless Steel, ASM Handbook, 1994  
-Tool Steel Handbook, Fifth Edition, Geoge Roberts, ASM, 1998  
-Heat Resistant Materilas Handbook, 1997  
-Super Alloy, A Technical Guide, Elihu F. Bradley, ASM International 1989

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**Aktivitas** Tatap Muka, Diskusi

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### Minggu 4

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**Materi** Stainless Steel (Baja Tahan Karat)  
-Klasifikasi dan penggunaan umum  
-Pengaruh paduan  
- Wrought & Casting of SS

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**Media** LCD

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**Referensi** -Stainless Steel, ASM Handbook, 1994  
-Tool Steel Handbook, Fifth Edition, Geoge Roberts, ASM, 1998  
-Heat Resistant Materilas Handbook, 1997  
-Super Alloy, A Technical Guide, Elihu F. Bradley, ASM International 1989

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**Aktivitas** Tatap Muka, Diskusi

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### Minggu 5

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**Materi** Ferritic Stainless Steel  
- Karakteristik Ferritic SS  
- Generasi Ferritic SS  
- Sifat Mekanis dan Aplikasi  
Austenitic dan Stainless Steel  
- Sifat dan Karakteristik  
- Aplikasi

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**Media** LCD

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-Heat Resistant Materilas Handbook, 1997  
-Super Alloy, A Technical Guide, Elihu F. Bradley, ASM International 1989

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**Aktivitas** Tatap Muka, Diskusi, Tugas

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## Minggu 6

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**Materi** Duplex Stainless Steel  
Martensitic Stanless Steel dan Presipitation Hardening SS  
- Proses HT  
- Type Martensitic SS  
- Jenis PH SS dan Aplikasi

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**Media** LCD

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**Referensi** -Stainless Steel, ASM Handbook, 1994  
-Tool Steel Handbook, Fifth Edition, Geoge Roberts, ASM, 1998  
-Heat Resistant Materilas Handbook, 1997  
-Super Alloy, A Technical Guide, Elihu F. Bradley, ASM International 1989

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**Aktivitas** Tatap Muka, Diskusi

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## Minggu 7

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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 8

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**Materi** Cutting Tool Steel (Baja Perkakas)  
-Definisi dan pembagian  
-Persyaratan unsur paduan dan pengotor  
-Penggunaan temperatur rendah dan tinggi  
(non thermal, semi thermal dan thermal stability)

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**Media** LCD

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**Referensi** -Stainless Steel, ASM Handbook, 1994  
-Tool Steel Handbook, Fifth Edition, Geoge Roberts, ASM, 1998  
-Heat Resistant Materilas Handbook, 1997  
-Super Alloy, A Technical Guide, Elihu F. Bradley, ASM International 1989

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**Aktivitas** Tatap Muka, Diskusi, Tugas

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## Minggu 9

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**Materi** Forming Tool Steel (Baja Perkakas)  
-Baja untuk Die  
-Baja untuk Rolling and Forging  
-Baja untuk Ekstrusi

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**Media** LCD

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**Referensi** -Stainless Steel, ASM Handbook, 1994  
-Tool Steel Handbook, Fifth Edition, Geoge Roberts, ASM, 1998  
-Heat Resistant Materilas Handbook, 1997  
-Super Alloy, A Technical Guide, Elihu F. Bradley, ASM International 1989

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**Aktivitas** Tatap Muka, Diskusi

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## Minggu 10

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**Materi** Heat resistant Steel  
-Karakteristik material pada T tinggi  
-Aplikasi industri material baja tahan T tinggi  
-Pemilihan Material Temperatur Tinggi

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**Media** LCD

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**Referensi** -Stainless Steel, ASM Handbook, 1994  
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-Super Alloy, A Technical Guide, Elihu F. Bradley, ASM International 1989

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**Aktivitas** Tatap MUka, Diskusi, Tugas

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## Minggu 11

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**Materi** Heat resistant Steel  
- Korosi Temperatur Tinggi Pada Material  
- High alloy cast steel

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**Media** LCD

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**Referensi** -Stainless Steel, ASM Handbook, 1994  
-Tool Steel Handbook, Fifth Edition, Geoge Roberts, ASM, 1998  
-Heat Resistant Materilas Handbook, 1997  
-Super Alloy, A Technical Guide, Elihu F. Bradley, ASM International 1989

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**Aktivitas** Tatap Muka, Diskusi

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## Minggu 12

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**Materi** Wear/Abrasion resistant steel  
-Definisi, klasifikasi serta penggunaan  
-Austenitik manganese steel  
-High Alloy White Iron

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**Media** LCD

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**Referensi** -Stainless Steel, ASM Handbook, 1994  
-Tool Steel Handbook, Fifth Edition, Geoge Roberts, ASM, 1998  
-Heat Resistant Materilas Handbook, 1997  
-Super Alloy, A Technical Guide, Elihu F. Bradley, ASM International 1989

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**Aktivitas** Tatap Muka, Diskusi

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## Minggu 13

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**Materi** Metalurgi Super Alloy  
Dasar dan Aplikasi Nickel Base Alloy & Cobalt Base Alloy  
Presentasi Tugas serta Persiapan Materi Ujian

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**Media** LCD

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**Referensi** -Stainless Steel, ASM Handbook, 1994  
-Tool Steel Handbook, Fifth Edition, Geoge Roberts, ASM, 1998  
-Heat Resistant Materilas Handbook, 1997  
-Super Alloy, A Technical Guide, Elihu F. Bradley, ASM International 1989

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**Aktivitas** Tatap Muka, Diskusi, Tugas

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## Minggu 14

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**Materi** UJIAN AKHIR SEMESTER

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**Media**

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**Referensi**

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**Aktivitas**

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