



# Satuan Acara Pengajaran

MTA81201 - Teknik Penyambungan Material

Pengajar

*Prof. Dr. Ir. Muhammad Anis M.Met.*

## Minggu 1

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**Materi**      INTRODUKSI:  
                 -Tujuan MK  
                 -Definisi Penyambungan Logam  
                 -Klasifikasi Penyambungan Logam.

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**Media**        Laptop and LCD

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**Referensi**    M. Anis, Teknologi Pengelasan Logam, Diktat Kuliah, 2000

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**Aktivitas**

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## Minggu 2

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**Materi**        DASAR PENGELASAN BUSUR LISTRIK  
                 -Karakteristik Busur Listrik  
                 -Peralatan Las Busur Listrik  
                 -Parameter Las Busur Listrik  
                 -Kawat Las elektroda terbungkus

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**Media**        Laptop and LCD

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**Referensi**    O'Brien, R.L. (ed.), Welding Handbook, 8th Ed. Vol. 1 / Vol. 2, AWS, 1991

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**Aktivitas**

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## Minggu 3

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**Materi** LAS BUSUR LISTRIK (Fusion Welding)  
-Uraian SMAW, FCAW, SAW, ESW  
-Uraian GMAW (TIG / MIG)  
-Uraian Plasma Arc Welding (PAW)

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**Media** Laptop and LCD

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**Referensi** O'Brien, R.L. (ed.), Welding Handbook, 8th Ed. Vol. 1 / Vol. 2, AWS, 1991

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**Aktivitas**

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## Minggu 4

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**Materi** LAS RESISTANSI LISTRIK (ERW)  
-Karakteristik ERW  
-Uraian Spot Welding  
-Uraian Seam Welding  
-Uraian Projection Welding  
-Uraian Flash Welding

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**Media** Laptop and LCD

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**Referensi** O'Brien, R.L. (ed.), Welding Handbook, 8th Ed. Vol. 1 / Vol. 2, AWS, 1991

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**Aktivitas**

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## Minggu 5

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**Materi** LAS TEKAN (PRESSURE WELDING)  
-Karakteristik Las Tekan  
-Uraian Cold Butt Welding  
-Uraian Explosive Welding  
-Uraian Diffusion Welding  
-Uraian Forge Welding  
-Uraian Ultrasonic Welding  
-Uraian Friction Welding

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**Media** Laptop and LCD

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**Referensi** O'Brien, R.L. (ed.), Welding Handbook, 8th Ed. Vol. 1 / Vol. 2, AWS, 1991

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**Aktivitas**

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## Minggu 6

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**Materi** PROSES PENGELASAN LAINNYA

- Uraian Oxy-Acetylene Welding
  - Uraian Thermit Welding
  - Uraian Electron Beam Welding
  - Uraian Laser Beam Welding
  - Uraian Under Water Welding
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**Media** Laptop and LCD

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**Referensi** O'Brien, R.L. (ed.), Welding Handbook, 8th Ed. Vol. 1 / Vol. 2, AWS, 1991

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**Aktivitas**

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## Minggu 7

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**Materi** SOLDERING / BRAZING

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**Media** Laptop and LCD

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**Referensi** O'Brien, R.L. (ed.), Welding Handbook, 8th Ed. Vol. 1 / Vol. 2, AWS, 1991

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**Aktivitas**

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## Minggu 8

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**Materi** UTS

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**Media** Kertas Ujian

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**Referensi**

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**Aktivitas**

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## Minggu 9

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**Materi** DESAIN LAS & SIMBOL PENGELASAN

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**Media** Laptop and LCD

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**Referensi** M. Anis, Teknologi Pengelasan Logam, Diktat Kuliah, 2000

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**Aktivitas**

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## Minggu 10

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**Materi** METALURGI LAS BAJA KARBON & BAJA PADUAN (ALLOY STEEL)

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**Media** Laptop and LCD

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**Referensi** Kou, Welding Metallurgy, John Wiley / Sons Inc., 1987

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**Aktivitas**

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## Minggu 11

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**Materi** METALURGI LAS BESI TUANG & BAJA TAHAN KARAT

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**Media** Laptop and LCD

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**Referensi** Kou, Welding Metallurgy, John Wiley / Sons Inc., 1987

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**Aktivitas**

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## Minggu 12

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**Materi** METALURGI NONFERROUS (Al, Cu, Ni)

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**Media** Laptop and LCD

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**Referensi** Kou, Welding Metallurgy, John Wiley / Sons Inc., 1987

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**Aktivitas**

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## Minggu 13

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**Materi** CACAT PENGELASAN & PENCEGAHAN

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**Media** Laptop and LCD

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**Referensi** M. Anis, Teknologi Pengelasan Logam, Diktat Kuliah, 2000

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**Aktivitas**

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## Minggu 14

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**Materi**      PENGELASAN NON-LOGAM

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**Media**      LCD and Laptop

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**Referensi**

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**Aktivitas**

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## Minggu 15

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**Materi**      UAS

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**Media**      Kertas Ujian

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**Referensi**

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**Aktivitas**

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