



Satuan Acara Pengajaran

ENMT800102 - Manufaktur Lanjut

Pengajar

Prof. Dr.-Ing. Ir. Bambang Suharno

Prof. Dr. Ir. Dedi Priadi DEA.

Dr. Badrul Munir ST., M.Eng.Sc.

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

Materi Pendahuluan: Pembentukan Logam dalam Proses Manufaktur

Media

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
3. Hosford W.F and Robert M. Caddel., Metal Forming: Mechanic and Metallurgy, Prentice Hall Inc, 1983
4. Harris, J.N., Mechanical Working of Metals. Theory and Practice, Pergamon Press, 1983
5. Dieter, G.F., Mechanical Metallurgy, Mc- Graw-Hill, 1976
6. Lenel, Powder Metallurgy, Principles and Application, MPIF, 1980
7. German R.M, Powder Metallurgy Science, 1987

Aktivitas

Minggu 2

Materi Deformasi Plastis Logam

Media

Referensi

1. Hosford W.F and Robert M. Caddel., Metal Forming: Mechanic and Metallurgy, Prentice Hall Inc, 1983
2. Harris, J.N., Mechanical Working of Metals. Theory and Practice, Pergamon Press, 1983
3. Dieter, G.F., Mechanical Metallurgy, Mc- Graw-Hill, 1976

Aktivitas

Minggu 3

Materi Cetakan dan Dapur Peleburan

Media

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

Aktivitas

Minggu 4

Materi Penempaan (Forging)

Media

Referensi

1. Hosford W.F and Robert M. Caddel., Metal Forming: Mechanic and Metallurgy, Prentice Hall Inc, 1983
2. Harris, J.N., Mechanical Working of Metals. Theory and Practice, Pergamon Press, 1983
3. Dieter, G.F., Mechanical Metallurgy, Mc- Graw-Hill, 1976

Aktivitas

Minggu 5

Materi Gating System & Casting Simulation

Media

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

Aktivitas

Minggu 6

Materi Pencanaian(Rolling)

Media

Referensi 1. Hosford W.F and Robert M. Caddel., Metal Forming: Mechanic and Metallurgy, Prentice Hall Inc, 1983
2. Harris, J.N., Mechanical Working of Metals. Theory and Practice, Pergamon Press, 1983
3. Dieter, G.F., Mechanical Metallurgy, Mc- Graw-Hill, 1976

Aktivitas

Minggu 7

Materi Pengecoran Aluminium (Aluminum Casting):
Jenis Proses

Media

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

Aktivitas

Minggu 8

Materi Ekstrusi (Extrusion)

Media

- Referensi**
1. Hosford W.F and Robert M. Caddel., Metal Forming: Mechanic and Metallurgy, Prentice Hall Inc, 1983
 2. Harris, J.N., Mechanical Working of Metals. Theory and Practice, Pergamon Press, 1983
 3. Dieter, G.F., Mechanical Metallurgy, Mc- Graw-Hill, 1976
-

Aktivitas

Minggu 9

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

- 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

Minggu 10

- Materi**
- Penarikan (Drawing)
-

Media

- Referensi**
1. Hosford W.F and Robert M. Caddel., Metal Forming: Mechanic and Metallurgy, Prentice Hall Inc, 1983
 2. Harris, J.N., Mechanical Working of Metals. Theory and Practice, Pergamon Press, 1983
 3. Dieter, G.F., Mechanical Metallurgy, Mc- Graw-Hill, 1976
-

Aktivitas

Minggu 11

- Materi**
- Pengecoran Aluminium (Alumnium Casting) Cacat Cor dan Pencegahannya
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Media

- 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
-

Aktivitas

Minggu 12

Materi Pembentukan Logam Lembaran (Sheet Metal Forming)

Media

- Referensi**
1. Hosford W.F and Robert M. Caddel., Metal Forming: Mechanic and Metallurgy, Prentice Hall Inc, 1983
 2. Harris, J.N., Mechanical Working of Metals. Theory and Practice, Pergamon Press, 1983
 3. Dieter, G.F., Mechanical Metallurgy, Mc- Graw-Hill, 1976
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Aktivitas

Minggu 13

Materi Besi Cor (Cast Iron): BTK, BTN, ADI

Media

- 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

Minggu 14

Materi Pembentukan Logam Lembaran (Sheet Metal Forming)

Media

- Referensi**
1. Hosford W.F and Robert M. Caddel., Metal Forming: Mechanic and Metallurgy, Prentice Hall Inc, 1983
 2. Harris, J.N., Mechanical Working of Metals. Theory and Practice, Pergamon Press, 1983
 3. Dieter, G.F., Mechanical Metallurgy, Mc- Graw-Hill, 1976
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Aktivitas

Minggu 15

Materi Pemrosesan Thermomekanis(Thermomechanical Processing)

Media

- Referensi**
1. Hosford W.F and Robert M. Caddel., Metal Forming: Mechanic and Metallurgy, Prentice Hall Inc, 1983
 2. Harris, J.N., Mechanical Working of Metals. Theory and Practice, Pergamon Press, 1983
 3. Dieter, G.F., Mechanical Metallurgy, Mc- Graw-Hill, 1976
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Aktivitas

Minggu 16

Materi Ujian Tengah Semester

Pengecoran Baja Paduan dan Paduan Super (Alloy Steel & Super Alloy Casting)

Media

Referensi

Aktivitas

Minggu 17

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)

Media

- 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

Minggu 18

Materi Ujian tengah Semester

Media

Referensi

Aktivitas

Minggu 19

Materi Karakterisasi Serbuk

Pra Kompaksi:
Mixing, Blending, Alloying, Lubricating

Media

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

Minggu 20

Materi Proses Kompaksi

Media

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

Aktivitas

Minggu 21

Materi Proses Penyinteran (Sintering Process)

Media

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

Aktivitas

Minggu 22

Materi Aplikasi Metalurgi Serbuk

Media

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

Aktivitas

Minggu 23

Materi Tugas dan Presentasi Proses Metalurgi Serbuk (Powder Metallurgy)

Media

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

Aktivitas

Minggu 24

Materi Ujian Proses Metalurgi Serbuk (Powder Metallurgy)

Media

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

Aktivitas
