



**Universitas Negeri Surabaya
Fakultas Teknik
Program Studi S1 Teknik Mesin**

Kode Dokumen

RENCANA PEMBELAJARAN SEMESTER

| MATA KULIAH (MK) | KODE | Rumpun MK | BOBOT (sks) | SEMESTER | Tgl Penyusunan | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Perencanaan Elemen Mesin | 2120102061 | Mata Kuliah Wajib Program Studi | T=2 P=0 ECTS=3.18 | 5 | 4 Januari 2021 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| OTORISASI | Pengembang RPS | | Koordinator RMK | Koordinator Program Studi | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Agung Prijo Budijono, S.T., M.T. ; Iskandar, S.T., M.T. ; Dany Iman Santoso, S.T., M.T. ; Akhmad Hafizh Ainur Rasyid, S.T., M.T., Priyo Heru Adiwibowo, S.T., M.T., Indra Hertamba Siregar, ST., MT., Dr. I Made Arsana S.Pd., MT, Prof. Dr. I Wayan Susila, MT., Prof. Dr. Drs. H. Muhaji, ST., MT., Aris Ansori S.Pd., MT | | Priyo Heru Adiwibowo, S.T., M.T. | Ir. Priyo Heru Adiwibowo, S.T., M.T. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Model Pembelajaran | Project Based Learning | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Capaian Pembelajaran (CP) | CPL-PRODI yang dibebankan pada MK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CPL-5 | Kerja secara mandiri dan kelompok | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CPL-8 | Komunikasi | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Capaian Pembelajaran Mata Kuliah (CPMK) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CPMK - 1 | • Mampu mengidentifikasi konteks global, ekonomi, lingkungan, dan sosial dari masalah teknik | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CPMK - 2 | Mampu mengidentifikasi teknik yang diperlukan, keterampilan dan alat praktik rekayasa modern untuk situasi tertentu | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CPMK - 3 | Mampu menjelaskan dampak keputusan teknik dalam konteks global, ekonomi, lingkungan dan sosial | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CPMK - 4 | Mampu merencanakan project yang berkaitan dengan Permasalahan Industri dibidang Teknik Mesin | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CPMK - 5 | Mampu menerapkan teknik yang dipilih, keterampilan dan alat praktik rekayasa modern untuk situasi yang diberikan | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CPMK - 6 | Mampu menyelesaikan dan mengevaluasi proyek dalam bentuk hasil penelitian atau berupa prototipe | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CPMK - 7 | Mampu menyampaikan presentasi secara lisan | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Matrik CPL - CPMK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>CPMK</th> <th>CPL-5</th> <th>CPL-8</th> </tr> </thead> <tbody> <tr><td>CPMK-1</td><td>✓</td><td></td></tr> <tr><td>CPMK-2</td><td>✓</td><td></td></tr> <tr><td>CPMK-3</td><td>✓</td><td>✓</td></tr> <tr><td>CPMK-4</td><td>✓</td><td></td></tr> <tr><td>CPMK-5</td><td>✓</td><td></td></tr> <tr><td>CPMK-6</td><td>✓</td><td></td></tr> <tr><td>CPMK-7</td><td></td><td>✓</td></tr> </tbody> </table> | | | | CPMK | CPL-5 | CPL-8 | CPMK-1 | ✓ | | CPMK-2 | ✓ | | CPMK-3 | ✓ | ✓ | CPMK-4 | ✓ | | CPMK-5 | ✓ | | CPMK-6 | ✓ | | CPMK-7 | | ✓ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Matrik CPMK pada Kemampuan akhir tiap tahapan belajar (Sub-CPMK) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th rowspan="2">CPMK</th> <th colspan="16">Minggu Ke</th> </tr> <tr> <th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th><th>8</th><th>9</th><th>10</th><th>11</th><th>12</th><th>13</th><th>14</th><th>15</th><th>16</th> </tr> </thead> <tbody> <tr><td>CPMK-1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>CPMK-2</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>CPMK-3</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>CPMK-4</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>CPMK-5</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>CPMK-6</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>CPMK-7</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </tbody> </table> | | | | | | | | | | | | | | | | CPMK | Minggu Ke | | | | | | | | | | | | | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | CPMK-1 | | | | | | | | | | | | | | | | | CPMK-2 | | | | | | | | | | | | | | | | | CPMK-3 | | | | | | | | | | | | | | | | | CPMK-4 | | | | | | | | | | | | | | | | | CPMK-5 | | | | | | | | | | | | | | | | | CPMK-6 | | | | | | | | | | | | | | | | | CPMK-7 | | | | | | | | | | | | | | | | |
| CPMK | Minggu Ke | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| CPMK-3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CPMK-4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CPMK-5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CPMK-6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CPMK-7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deskripsi Singkat MK | Mata kuliah PEM merupakan matakuliah yang memberikan pengalaman belajar dan kompetensi untuk mengerjakan sebuah proyek khususnya pada sebuah mesin bantu (Teknologi Tepat Guna) dan menghasilkan luaran berupa prototipe dalam bentuk skala atau simulasi | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pustaka | Utama : | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

1. Mott Robert L. 2009. Elemen-Elemen Mesin dalam Perancangan Mekanis Edition 2nd. Yogyakarta: ANDI.
2. Mott Robert L. 2004. Machine Elements in Mechanical Design Edition 4th. United State of America: Pearson Prentice Hall.

Pendukung :

1. <https://www.teachengineering.org/populartopics/designprocess>
2. Mesin Pengolah Sari Kedelai (PKM FT 2023)
3. Mesin Pres Topi Boni Dengan Sistem Pneumatic (PKM FT 2023)
4. Mesin Pematong Ring Gelas (PKM FT 2023)

Dosen Pengampu

I WAYAN SUSILA
 Prof. Dr. Muhaji, S.T., M.T.
 Agung Prijo Budijono, S.T., M.T.
 Ir. Priyo Heru Adiwibowo, S.T., M.T.
 Dr. Aris Ansoi, S.Pd., M.T.
 Dr. Mochamad Arif Irfai, S.Pd., M.T.
 Akhmad Hafizh Ainur Rasyid, S.T., M.T.

| Mg Ke- | Kemampuan akhir tiap tahapan belajar (Sub-CPMK) | Penilaian | | Bentuk Pembelajaran, Metode Pembelajaran, Penugasan Mahasiswa, [Estimasi Waktu] | | Materi Pembelajaran [Pustaka] | Bobot Penilaian (%) |
|--------|--|--|--|---|---------------------------------------|--|---------------------|
| | | Indikator | Kriteria & Bentuk | Luring (offline) | Daring (online) | | |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| 1 | 1. Memahami cara menggali ide atau gagasan 2. Memahami cara membuat pertanyaan kritis dalam perancangan | 1. Mampu menggali ide atau gagasan 2. Mampu membuat pertanyaan kritis dalam perancangan | Kriteria: sesuai pedoman rubrik penilaian Bentuk Penilaian : Aktifitas Partisipasif | Ceramah, diskusi dan penugasan 2 X 50 | Ceramah, diskusi dan penugasan 2 X 50 | Materi: Tahapan ask Pustaka: https://www.teachengineering.org/... | 5% |
| 2 | 1. Memahami cara menggali ide atau gagasan 2. Memahami cara membuat pertanyaan kritis dalam perancangan | 1. Kedalaman ide atau gagasan 2. Kesesuaian pertanyaan kritis dalam perancangan | Kriteria: sesuai pedoman rubrik penilaian Bentuk Penilaian : Aktifitas Partisipasif | Ceramah, diskusi dan penugasan 2 X 50 | Ceramah, diskusi dan penugasan 2 X 50 | Materi: Tahapan ask Pustaka: https://www.teachengineering.org/... | 5% |
| 3 | Mampu menggali informasi mengenai solusi dan teknologi sesuai kebutuhan | Kemampuan menggali informasi mengenai solusi dan teknologi sesuai kebutuhan | Kriteria: sesuai pedoman rubrik penilaian Bentuk Penilaian : Praktik / Unjuk Kerja | Ceramah, diskusi dan penugasan 2 X 50 | Ceramah, diskusi dan penugasan 2 X 50 | Materi: Research the problems Pustaka: https://www.teachengineering.org/... | 5% |
| 4 | Mampu menggali informasi mengenai solusi dan teknologi sesuai kebutuhan | Kemampuan menggali informasi mengenai solusi dan teknologi sesuai kebutuhan | Kriteria: sesuai pedoman rubrik penilaian Bentuk Penilaian : Praktik / Unjuk Kerja | Ceramah, diskusi dan penugasan 2 X 50 | Ceramah, diskusi dan penugasan 2 X 50 | Materi: Research the problems Pustaka: https://www.teachengineering.org/..... Materi: informasi mengenai solusi dan teknologi sesuai kebutuhan Pustaka: <i>Mesin Pengolah Sari Kedelai (PKM FT 2023)</i> Materi: informasi mengenai solusi dan teknologi sesuai kebutuhan Pustaka: <i>Mesin Pres Topi Boni Dengan Sistem Pneumatic (PKM FT 2023)</i> Materi: informasi mengenai solusi dan teknologi sesuai kebutuhan Pustaka: <i>Mesin Pematong Ring Gelas (PKM FT 2023)</i> | 5% |
| 5 | Mengembangkan solusi permasalahan | 1. Dapat bertukar pikiran tentang ide 2. Menghasilkan solusi permasalahan | Kriteria: sesuai rubrik penilaian Bentuk Penilaian : Praktik / Unjuk Kerja | Ceramah, diskusi dan penugasan 2 X 50 | Ceramah, diskusi dan penugasan 2 X 50 | Materi: Develop Possible Solutions Pustaka: https://www.teachengineering.org/... | 5% |
| 6 | 1. Mampu memilih solusi permasalahan 2. Mampu melakukan perancangan | Menentukan solusi permasalahan | Kriteria: sesuai pedoman penskoran dan rubrik presentasi, nilai penuh diperoleh apabila mengerjakan semua soal dengan baik dan benar Bentuk Penilaian : Praktik / Unjuk Kerja | Ceramah, diskusi dan penugasan 2 X 50 | Ceramah, diskusi dan penugasan 2 X 50 | Materi: Select a Promising Solution Pustaka: https://www.teachengineering.org/..... | 10% |

| | | | | | | | |
|----|---|--|---|--|--|---|-----|
| 7 | 1.Mampu memilih solusi permasalahan 2.Mampu melakukan perancangan | 1.Menghasilkan jadwal kegiatan tahapan perancangan 2.Membuat gambar skema | Kriteria: sesuai pedoman penskoran dan rubrik presentasi, nilai penuh diperoleh apabila mengerjakan semua soal dengan baik dan benar Bentuk Penilaian : Penilaian Hasil Project / Penilaian Produk | Ceramah, diskusi dan penugasan 2 X 50 | Ceramah, diskusi dan penugasan 2 X 50 | Materi: perencanaan elemen mesin Pustaka: <i>Mott Robert L. 2009. Elemen-Element Mesin dalam Perancangan Mekanis Edition 2nd. Yogyakarta: ANDI.</i> Materi: Select a Promising Solution Pustaka: https://www.teachengineering.org/... | 10% |
| 8 | 1.Mampu memilih solusi permasalahan 2.Mampu melakukan perancangan | 1.Menentukan komponen mesin 2.Menghitung spesifikasi komponen mesin 3.Menghasilkan gambar kerja | Kriteria: sesuai pedoman penskoran dan rubrik presentasi, nilai penuh diperoleh apabila mengerjakan semua soal dengan baik dan benar Bentuk Penilaian : Penilaian Hasil Project / Penilaian Produk | Ceramah, diskusi dan penugasan 2 X 50 | Ceramah, diskusi dan penugasan 2 X 50 | Materi: perencanaan elemen mesin Pustaka: <i>Mott Robert L. 2009. Elemen-Element Mesin dalam Perancangan Mekanis Edition 2nd. Yogyakarta: ANDI.</i> Materi: Select a Promising Solution Pustaka: https://www.teachengineering.org/... | 10% |
| 9 | Membuat prototipe | 1.Membuat hasil perancangan menjadi nyata dengan simulasi 2.Membuat hasil perancangan menjadi nyata dalam skala | Kriteria: sesuai rubrik penilaian Bentuk Penilaian : Penilaian Hasil Project / Penilaian Produk | Ceramah, diskusi dan penugasan 2 X 50 | Ceramah, diskusi dan penugasan 2 X 50 | Materi: perencanaan elemen mesin Pustaka: <i>Mott Robert L. 2009. Elemen-Element Mesin dalam Perancangan Mekanis Edition 2nd. Yogyakarta: ANDI.</i> | 5% |
| 10 | Membuat prototipe | 1.Membuat hasil perancangan menjadi nyata dengan simulasi 2.Membuat hasil perancangan menjadi nyata dalam skala | Kriteria: sesuai rubrik penilaian Bentuk Penilaian : Penilaian Hasil Project / Penilaian Produk | Ceramah, diskusi dan penugasan 2 X 50 | Ceramah, diskusi dan penugasan 2 X 50 | Materi: perencanaan elemen mesin Pustaka: <i>Mott Robert L. 2009. Elemen-Element Mesin dalam Perancangan Mekanis Edition 2nd. Yogyakarta: ANDI.</i> | 5% |
| 11 | Membuat prototipe | 1.Membuat hasil perancangan menjadi nyata dengan simulasi 2.Membuat hasil perancangan menjadi nyata dalam skala | Kriteria: sesuai rubrik penilaian Bentuk Penilaian : Penilaian Hasil Project / Penilaian Produk | Ceramah, diskusi dan penugasan 2 X 50 | Ceramah, diskusi dan penugasan 2 X 50 | Materi: perencanaan elemen mesin Pustaka: <i>Mott Robert L. 2009. Elemen-Element Mesin dalam Perancangan Mekanis Edition 2nd. Yogyakarta: ANDI.</i> | 5% |
| 12 | Membuat prototipe | 1.Membuat hasil perancangan menjadi nyata dengan simulasi 2.Membuat hasil perancangan menjadi nyata dalam skala | Kriteria: sesuai rubrik penilaian Bentuk Penilaian : Penilaian Hasil Project / Penilaian Produk | Ceramah, diskusi dan penugasan 2 X 50 | Ceramah, diskusi dan penugasan 2 X 50 | Materi: perencanaan elemen mesin Pustaka: <i>Mott Robert L. 2009. Elemen-Element Mesin dalam Perancangan Mekanis Edition 2nd. Yogyakarta: ANDI.</i> | 5% |
| 13 | Membuat prototipe | 1.Membuat hasil perancangan menjadi nyata dengan simulasi 2.Membuat hasil perancangan menjadi nyata dalam skala | Kriteria: sesuai rubrik penilaian Bentuk Penilaian : Penilaian Hasil Project / Penilaian Produk | Ceramah, diskusi dan penugasan 2 X 50 | Ceramah, diskusi dan penugasan 2 X 50 | Materi: perencanaan elemen mesin Pustaka: <i>Mott Robert L. 2009. Elemen-Element Mesin dalam Perancangan Mekanis Edition 2nd. Yogyakarta: ANDI.</i> | 5% |
| 14 | 1.Mampu melakukan uji kinerja protipe 2.Mampu melakukan evaluasi hasil uji kinerja prototipe | Mampu melakukan uji kinerja protipe dengan alat yang sesuai | Kriteria: sesuai rubrik penilaian Bentuk Penilaian : Penilaian Hasil Project / Penilaian Produk, Praktik / Unjuk Kerja | Ceramah, diskusi dan penugasan 2 X 50 | Ceramah, diskusi dan penugasan 2 X 50 | Materi: perancangan elemen mesin Pustaka: <i>Mott Robert L. 2009. Elemen-Element Mesin dalam Perancangan Mekanis Edition 2nd. Yogyakarta: ANDI.</i> | 10% |
| 15 | 1.Mampu melakukan uji kinerja protipe 2.Mampu melakukan evaluasi hasil uji kinerja prototipe | Mampu melakukan evaluasi hasil uji kinerja prototipe yang terukur | Kriteria: sesuai rubrik penilaian Bentuk Penilaian : Penilaian Hasil Project / Penilaian Produk | Ceramah, diskusi dan penugasan 2 X 50 | Ceramah, diskusi dan penugasan 2 X 50 | Materi: perancangan elemen mesin Pustaka: <i>Mott Robert L. 2009. Elemen-Element Mesin dalam Perancangan Mekanis Edition 2nd. Yogyakarta: ANDI.</i> | 5% |

| | | | | | | | |
|----|------------------------------|---|---|----------------------|----------------------|--|----|
| 16 | Menyajikan hasil perancangan | Mempresentasikan hasil dari Perancangan dengan baik | Kriteria: sesuai rubrik penilaian Bentuk Penilaian : Penilaian Hasil Project / Penilaian Produk, Tes | Presentasi 2 X 50 | Presentasi 2 X 50 | Materi: Final asseement Pustaka: <i>Mott Robert L. 2009. Elemen-Elemen Mesin dalam Perancangan Mekanis Edition 2nd. Yogyakarta: ANDI.</i> | 5% |
|----|------------------------------|---|---|----------------------|----------------------|--|----|

Rekap Persentase Evaluasi : Project Based Learning

| No | Evaluasi | Persentase |
|----|--|------------|
| 1. | Aktifitas Partisipasif | 10% |
| 2. | Penilaian Hasil Project / Penilaian Produk | 57.5% |
| 3. | Praktik / Unjuk Kerja | 30% |
| 4. | Tes | 2.5% |
| | | 100% |

Catatan

- Capaian Pembelajaran Lulusan Prodi (CPL - Prodi)** adalah kemampuan yang dimiliki oleh setiap lulusan prodi yang merupakan internalisasi dari sikap, penguasaan pengetahuan dan ketrampilan sesuai dengan jenjang prodinya yang diperoleh melalui proses pembelajaran.
- CPL yang dibebankan pada mata kuliah** adalah beberapa capaian pembelajaran lulusan program studi (CPL-Prodi) yang digunakan untuk pembentukan/pengembangan sebuah mata kuliah yang terdiri dari aspek sikap, ketrampilan umum, ketrampilan khusus dan pengetahuan.
- CP Mata kuliah (CPMK)** adalah kemampuan yang dijabarkan secara spesifik dari CPL yang dibebankan pada mata kuliah, dan bersifat spesifik terhadap bahan kajian atau materi pembelajaran mata kuliah tersebut.
- Sub-CPMK Mata kuliah (Sub-CPMK)** adalah kemampuan yang dijabarkan secara spesifik dari CPMK yang dapat diukur atau diamati dan merupakan kemampuan akhir yang direncanakan pada tiap tahap pembelajaran, dan bersifat spesifik terhadap materi pembelajaran mata kuliah tersebut.
- Indikator penilaian** kemampuan dalam proses maupun hasil belajar mahasiswa adalah pernyataan spesifik dan terukur yang mengidentifikasi kemampuan atau kinerja hasil belajar mahasiswa yang disertai bukti-bukti.
- Kreteria Penilaian** adalah patokan yang digunakan sebagai ukuran atau tolok ukur ketercapaian pembelajaran dalam penilaian berdasarkan indikator-indikator yang telah ditetapkan. Kreteria penilaian merupakan pedoman bagi penilai agar penilaian konsisten dan tidak bias. Kreteria dapat berupa kuantitatif ataupun kualitatif.
- Bentuk penilaian:** tes dan non-tes.
- Bentuk pembelajaran:** Kuliah, Responsi, Tutorial, Seminar atau yang setara, Praktikum, Praktik Studio, Praktik Bengkel, Praktik Lapangan, Penelitian, Pengabdian Kepada Masyarakat dan/atau bentuk pembelajaran lain yang setara.
- Metode Pembelajaran:** Small Group Discussion, Role-Play & Simulation, Discovery Learning, Self-Directed Learning, Cooperative Learning, Collaborative Learning, Contextual Learning, Project Based Learning, dan metode lainnya yg setara.
- Materi Pembelajaran** adalah rincian atau uraian dari bahan kajian yg dapat disajikan dalam bentuk beberapa pokok dan sub-pokok bahasan.
- Bobot penilaian** adalah prosentasi penilaian terhadap setiap pencapaian sub-CPMK yang besarnya proposional dengan tingkat kesulitan pencapaian sub-CPMK tsb., dan totalnya 100%.
- TM=Tatap Muka, PT=Penugasan terstruktur, BM=Belajar mandiri.

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Koordinator Program Studi S1 Teknik
Mesin



Ir. Priyo Heru Adiwibowo, S.T., M.T.
NIDN 0002047602

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