



**Universitas Negeri Surabaya**  
**Fakultas Teknik**  
**Program Studi S1 Pendidikan Teknik Elektro**

Kode  
Dokumen

**RENCANA PEMBELAJARAN SEMESTER**

| MATA KULIAH (MK)                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | KODE                                                                                                                                                                                                                                                             | Rumpun MK                                                                        |   | BOBOT (sks)     |     |                                 | SEMESTER                  | Tgl Penyusunan  |           |       |       |        |        |    |    |  |        |  |  |   |        |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |        |   |   |   |  |  |  |   |  |  |  |  |  |  |   |   |  |        |  |  |  |   |   |   |  |   |   |   |   |   |   |  |  |   |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|---|-----------------|-----|---------------------------------|---------------------------|-----------------|-----------|-------|-------|--------|--------|----|----|--|--------|--|--|---|--------|--|--|--|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|--------|---|---|---|--|--|--|---|--|--|--|--|--|--|---|---|--|--------|--|--|--|---|---|---|--|---|---|---|---|---|---|--|--|---|--------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Pemrograman Komputer                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 8320102086                                                                                                                                                                                                                                                       | Mata Kuliah Wajib Program Studi                                                  |   | T=2             | P=0 | ECTS=3.18                       | 2                         | 25 Januari 2026 |           |       |       |        |        |    |    |  |        |  |  |   |        |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |        |   |   |   |  |  |  |   |  |  |  |  |  |  |   |   |  |        |  |  |  |   |   |   |  |   |   |   |   |   |   |  |  |   |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| OTORISASI                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Pengembang RPS                                                                                                                                                                                                                                                   |                                                                                  |   | Koordinator RMK |     |                                 | Koordinator Program Studi |                 |           |       |       |        |        |    |    |  |        |  |  |   |        |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |        |   |   |   |  |  |  |   |  |  |  |  |  |  |   |   |  |        |  |  |  |   |   |   |  |   |   |   |   |   |   |  |  |   |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | .....                                                                                                                                                                                                                                                            |                                                                                  |   | .....           |     |                                 | FENDI ACHMAD              |                 |           |       |       |        |        |    |    |  |        |  |  |   |        |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |        |   |   |   |  |  |  |   |  |  |  |  |  |  |   |   |  |        |  |  |  |   |   |   |  |   |   |   |   |   |   |  |  |   |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Model Pembelajaran                                               | Project Based Learning                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                  |                                                                                  |   |                 |     |                                 |                           |                 |           |       |       |        |        |    |    |  |        |  |  |   |        |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |        |   |   |   |  |  |  |   |  |  |  |  |  |  |   |   |  |        |  |  |  |   |   |   |  |   |   |   |   |   |   |  |  |   |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Capaian Pembelajaran (CP)                                        | CPL-PRODI yang dibebankan pada MK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                  |                                                                                  |   |                 |     |                                 |                           |                 |           |       |       |        |        |    |    |  |        |  |  |   |        |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |        |   |   |   |  |  |  |   |  |  |  |  |  |  |   |   |  |        |  |  |  |   |   |   |  |   |   |   |   |   |   |  |  |   |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                  | CPL-2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Menunjukkan karakter tangguh, kolaboratif, adaptif, inovatif, inklusif, belajar sepanjang hayat, dan berjiwa kewirausahaan                                                                                                                                       |                                                                                  |   |                 |     |                                 |                           |                 |           |       |       |        |        |    |    |  |        |  |  |   |        |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |        |   |   |   |  |  |  |   |  |  |  |  |  |  |   |   |  |        |  |  |  |   |   |   |  |   |   |   |   |   |   |  |  |   |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                  | CPL-3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Mengembangkan pemikiran logis, kritis, sistematis, dan kreatif dalam melakukan pekerjaan yang spesifik di bidang keahliannya serta sesuai dengan standar kompetensi kerja bidang yang bersangkutan                                                               |                                                                                  |   |                 |     |                                 |                           |                 |           |       |       |        |        |    |    |  |        |  |  |   |        |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |        |   |   |   |  |  |  |   |  |  |  |  |  |  |   |   |  |        |  |  |  |   |   |   |  |   |   |   |   |   |   |  |  |   |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                  | CPL-11                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Memiliki pengetahuan yang luas dibidang matematika, sains dan teknik elektro sehingga dapat menyelesaikan permasalahan kompleks yang khas di program keahlian teknik ketenagalistrikan dan teknik elektronika dengan mengikuti kaidah penulisan ilmiah (SSC2.2). |                                                                                  |   |                 |     |                                 |                           |                 |           |       |       |        |        |    |    |  |        |  |  |   |        |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |        |   |   |   |  |  |  |   |  |  |  |  |  |  |   |   |  |        |  |  |  |   |   |   |  |   |   |   |   |   |   |  |  |   |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                  | Capaian Pembelajaran Mata Kuliah (CPMK)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                  |                                                                                  |   |                 |     |                                 |                           |                 |           |       |       |        |        |    |    |  |        |  |  |   |        |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |        |   |   |   |  |  |  |   |  |  |  |  |  |  |   |   |  |        |  |  |  |   |   |   |  |   |   |   |   |   |   |  |  |   |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                  | CPMK - 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Mengembangkan pemikiran logis, kritis, sistematis, dan kreatif dalam melakukan pekerjaan yang spesifik menggunakan algoritma tertentu.                                                                                                                           |                                                                                  |   |                 |     |                                 |                           |                 |           |       |       |        |        |    |    |  |        |  |  |   |        |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |        |   |   |   |  |  |  |   |  |  |  |  |  |  |   |   |  |        |  |  |  |   |   |   |  |   |   |   |   |   |   |  |  |   |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                  | CPMK - 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Memiliki pengetahuan yang luas dibidang matematika, sains dan teknik elektro sehingga dapat menyelesaikan permasalahan kompleks dengan menggunakan algoritma tertentu.                                                                                           |                                                                                  |   |                 |     |                                 |                           |                 |           |       |       |        |        |    |    |  |        |  |  |   |        |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |        |   |   |   |  |  |  |   |  |  |  |  |  |  |   |   |  |        |  |  |  |   |   |   |  |   |   |   |   |   |   |  |  |   |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                  | CPMK - 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Menunjukkan karakter tangguh, kolaboratif, adaptif, dan inovatif dalam mengerjakan proyek.                                                                                                                                                                       |                                                                                  |   |                 |     |                                 |                           |                 |           |       |       |        |        |    |    |  |        |  |  |   |        |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |        |   |   |   |  |  |  |   |  |  |  |  |  |  |   |   |  |        |  |  |  |   |   |   |  |   |   |   |   |   |   |  |  |   |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                  | Matrik CPL - CPMK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                  |                                                                                  |   |                 |     |                                 |                           |                 |           |       |       |        |        |    |    |  |        |  |  |   |        |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |        |   |   |   |  |  |  |   |  |  |  |  |  |  |   |   |  |        |  |  |  |   |   |   |  |   |   |   |   |   |   |  |  |   |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <table><tr><td>CPMK</td><td>CPL-2</td><td>CPL-3</td><td>CPL-11</td></tr><tr><td>CPMK-1</td><td></td><td>✓</td><td></td></tr><tr><td>CPMK-2</td><td></td><td></td><td>✓</td></tr><tr><td>CPMK-3</td><td></td><td></td><td></td></tr></table>                      |                                                                                  |   |                 |     |                                 |                           |                 | CPMK      | CPL-2 | CPL-3 | CPL-11 | CPMK-1 |    | ✓  |  | CPMK-2 |  |  | ✓ | CPMK-3 |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |        |   |   |   |  |  |  |   |  |  |  |  |  |  |   |   |  |        |  |  |  |   |   |   |  |   |   |   |   |   |   |  |  |   |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CPMK                                                             | CPL-2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | CPL-3                                                                                                                                                                                                                                                            | CPL-11                                                                           |   |                 |     |                                 |                           |                 |           |       |       |        |        |    |    |  |        |  |  |   |        |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |        |   |   |   |  |  |  |   |  |  |  |  |  |  |   |   |  |        |  |  |  |   |   |   |  |   |   |   |   |   |   |  |  |   |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CPMK-1                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | ✓                                                                                                                                                                                                                                                                |                                                                                  |   |                 |     |                                 |                           |                 |           |       |       |        |        |    |    |  |        |  |  |   |        |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |        |   |   |   |  |  |  |   |  |  |  |  |  |  |   |   |  |        |  |  |  |   |   |   |  |   |   |   |   |   |   |  |  |   |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CPMK-2                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                  | ✓                                                                                |   |                 |     |                                 |                           |                 |           |       |       |        |        |    |    |  |        |  |  |   |        |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |        |   |   |   |  |  |  |   |  |  |  |  |  |  |   |   |  |        |  |  |  |   |   |   |  |   |   |   |   |   |   |  |  |   |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CPMK-3                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                  |                                                                                  |   |                 |     |                                 |                           |                 |           |       |       |        |        |    |    |  |        |  |  |   |        |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |        |   |   |   |  |  |  |   |  |  |  |  |  |  |   |   |  |        |  |  |  |   |   |   |  |   |   |   |   |   |   |  |  |   |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Matrik CPMK pada Kemampuan akhir tiap tahapan belajar (Sub-CPMK) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                  |                                                                                  |   |                 |     |                                 |                           |                 |           |       |       |        |        |    |    |  |        |  |  |   |        |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |        |   |   |   |  |  |  |   |  |  |  |  |  |  |   |   |  |        |  |  |  |   |   |   |  |   |   |   |   |   |   |  |  |   |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                  | <table><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><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></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                                                             | Minggu Ke                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                  |                                                                                  |   |                 |     |                                 |                           |                 |           |       |       |        |        |    |    |  |        |  |  |   |        |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |        |   |   |   |  |  |  |   |  |  |  |  |  |  |   |   |  |        |  |  |  |   |   |   |  |   |   |   |   |   |   |  |  |   |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                  | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 2                                                                                                                                                                                                                                                                | 3                                                                                | 4 | 5               | 6   | 7                               | 8                         | 9               | 10        | 11    | 12    | 13     | 14     | 15 | 16 |  |        |  |  |   |        |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |        |   |   |   |  |  |  |   |  |  |  |  |  |  |   |   |  |        |  |  |  |   |   |   |  |   |   |   |   |   |   |  |  |   |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CPMK-1                                                           | ✓                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | ✓                                                                                                                                                                                                                                                                | ✓                                                                                |   |                 |     | ✓                               |                           |                 |           |       |       |        | ✓      | ✓  |    |  |        |  |  |   |        |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |        |   |   |   |  |  |  |   |  |  |  |  |  |  |   |   |  |        |  |  |  |   |   |   |  |   |   |   |   |   |   |  |  |   |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CPMK-2                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                  |                                                                                  | ✓ | ✓               | ✓   |                                 | ✓                         | ✓               | ✓         | ✓     | ✓     | ✓      |        |    | ✓  |  |        |  |  |   |        |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |        |   |   |   |  |  |  |   |  |  |  |  |  |  |   |   |  |        |  |  |  |   |   |   |  |   |   |   |   |   |   |  |  |   |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CPMK-3                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                  |                                                                                  |   |                 |     |                                 |                           |                 |           |       |       |        |        |    |    |  |        |  |  |   |        |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |        |   |   |   |  |  |  |   |  |  |  |  |  |  |   |   |  |        |  |  |  |   |   |   |  |   |   |   |   |   |   |  |  |   |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Deskripsi Singkat MK                                             | Mata Kuliah ini membahas tentang pendahuluan dan pemahaman terkait bahasa pemrograman, dasar pemrograman, struktur program, tipe data, notasi algoritma, kontrol, pengulangan, fungsi, pemrosesan sekuensial, serta soal latihan permasalahan sederhana untuk dapat melakukan analisis suatu permasalahan yang berkaitan dengan logika atau cara berpikir yang kemudian diimplementasikan kedalam suatu bahasa pemrograman.                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                  |                                                                                  |   |                 |     |                                 |                           |                 |           |       |       |        |        |    |    |  |        |  |  |   |        |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |        |   |   |   |  |  |  |   |  |  |  |  |  |  |   |   |  |        |  |  |  |   |   |   |  |   |   |   |   |   |   |  |  |   |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Pustaka                                                          | Utama :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                  |                                                                                  |   |                 |     |                                 |                           |                 |           |       |       |        |        |    |    |  |        |  |  |   |        |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |        |   |   |   |  |  |  |   |  |  |  |  |  |  |   |   |  |        |  |  |  |   |   |   |  |   |   |   |   |   |   |  |  |   |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                  | 1. 1. Cormen. 2009. Introduction to Algorithms 3rd edition. Massachusetts Institute of Technology. 2. Rao. Introduction to Design & Analysis of Algorithms - In Simple Way3. Levitin. 2012. 3. Introduction to The Design and Analysis of Algorithms. 3rd edition. Pearson.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                  |                                                                                  |   |                 |     |                                 |                           |                 |           |       |       |        |        |    |    |  |        |  |  |   |        |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |        |   |   |   |  |  |  |   |  |  |  |  |  |  |   |   |  |        |  |  |  |   |   |   |  |   |   |   |   |   |   |  |  |   |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                  | Pendukung :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                  |                                                                                  |   |                 |     |                                 |                           |                 |           |       |       |        |        |    |    |  |        |  |  |   |        |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |        |   |   |   |  |  |  |   |  |  |  |  |  |  |   |   |  |        |  |  |  |   |   |   |  |   |   |   |   |   |   |  |  |   |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Dosen Pengampu                                                   | Prof. Dr. I Gusti Putu Asto Buditjahjanto, S.T., M.T.<br>Prof. Dr. Lilik Anifah, S.T., M.T.<br>Pradini Puspitaningayu, S.T., M.T., Ph.D.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                  |                                                                                  |   |                 |     |                                 |                           |                 |           |       |       |        |        |    |    |  |        |  |  |   |        |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |        |   |   |   |  |  |  |   |  |  |  |  |  |  |   |   |  |        |  |  |  |   |   |   |  |   |   |   |   |   |   |  |  |   |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Mg Ke-                                                           | Kemampuan akhir tiap tahapan belajar (Sub-CPMK)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Penilaian                                                                                                                                                                                                                                                        | Bantuk 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   | Mahasiswa mampu menjelaskan hubungan teknologi digital pada pemrograman komputer                      | ketepatan dalam menjelaskan hubungan komputer dengan teknologi digital             | <b>Kriteria:</b><br>A=sangat baik, B=baik, c=cukup<br><br><b>Bentuk Penilaian :</b><br>Aktifitas Partisipasif | Presentasi dan ceramah<br>2 X 50     |                 | <b>Materi:</b><br>Teknologi digital pada pemrograman komputer<br><b>Pustaka:</b> 1. Cormen. 2009. <i>Introduction to Algorithms 3rd edition</i> . Massachusetts Institute of Technology. 2. Rao. <i>Introduction to Design &amp; Analysis of Algorithms - In Simple Way</i> 3. Levitin. 2012. 3. <i>Introduction to The Design and Analysis of Algorithms. 3rd edition</i> . Pearson. | 4%  |
| 2   | Mahasiswa mampu menjelaskan hubungan teknologi digital pada pemrograman komputer                      | ketepatan dalam menjelaskan hubungan komputer dengan teknologi digital             | <b>Kriteria:</b><br>A=sangat baik, B=baik, c=cukup<br><br><b>Bentuk Penilaian :</b><br>Aktifitas Partisipasif | Presentasi dan ceramah<br>2 X 50     |                 | <b>Materi:</b><br>Teknologi digital pada pemrograman komputer<br><b>Pustaka:</b> 1. Cormen. 2009. <i>Introduction to Algorithms 3rd edition</i> . Massachusetts Institute of Technology. 2. Rao. <i>Introduction to Design &amp; Analysis of Algorithms - In Simple Way</i> 3. Levitin. 2012. 3. <i>Introduction to The Design and Analysis of Algorithms. 3rd edition</i> . Pearson. | 5%  |
| 3   | Mahasiswa mampu menjelaskan struktur dasar algoritma serta perbedaan antara algoritma dan pemrograman | memahami struktur dasar algoritma serta perbedaan antara algoritma dan pemrograman | <b>Kriteria:</b><br>A=sangat baik, B=baik, C=cukup<br><br><b>Bentuk Penilaian :</b><br>Aktifitas Partisipasif | Presentasi DiskusiRefleksi<br>2 X 50 |                 | <b>Materi:</b><br>Perbedaan antara algoritma dan pemrograman<br><b>Pustaka:</b> 1. Cormen. 2009. <i>Introduction to Algorithms 3rd edition</i> . Massachusetts Institute of Technology. 2. Rao. <i>Introduction to Design &amp; Analysis of Algorithms - In Simple Way</i> 3. Levitin. 2012. 3. <i>Introduction to The Design and Analysis of Algorithms. 3rd edition</i> . Pearson.  | 5%  |

|   |                                                                                           |                                                                            |                                                                                                                                   |                                       |  |                                                                                                                                                                                                                                                                                                                                                                                       |    |
|---|-------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| 4 | Mahasiswa mampu menuliskan notasi penulisan algoritma kalimat deskriptif dan pseudocode   | memahami tata cara penulisan algoritma dalam beberapa notasi               | <b>Kriteria:</b><br>A=sangat baik, B=baik, C=cukup<br><br><b>Bentuk Penilaian :</b><br>Aktifitas Partisipatif                     | PresentasiDiskusiRefleksi<br>2 X 50   |  | <b>Materi:</b><br>Algoritma kalimat deskriptif dan pseudocode<br><b>Pustaka:</b> 1. Cormen. 2009. <i>Introduction to Algorithms 3rd edition</i> . Massachusetts Institute of Technology. 2. Rao. <i>Introduction to Design &amp; Analysis of Algorithms - In Simple Way</i> 3. Levitin. 2012. 3. <i>Introduction to The Design and Analysis of Algorithms</i> . 3rd edition. Pearson. | 5% |
| 5 | Mahasiswa mampu menggambarkan notasi algoritma dengan menggunakan flowchart               | mahasiswa mampu menggambarkan skema flowchart suatu permasalahan sederhana | <b>Kriteria:</b><br>A=sangat baik, B=baik, C=cukup<br><br><b>Bentuk Penilaian :</b><br>Tes                                        | Presentasi,SimulasiRefleksi<br>2 X 50 |  | <b>Materi:</b> Notasi algoritma dengan menggunakan flowchart<br><b>Pustaka:</b> 1. Cormen. 2009. <i>Introduction to Algorithms 3rd edition</i> . Massachusetts Institute of Technology. 2. Rao. <i>Introduction to Design &amp; Analysis of Algorithms - In Simple Way</i> 3. Levitin. 2012. 3. <i>Introduction to The Design and Analysis of Algorithms</i> . 3rd edition. Pearson.  | 5% |
| 6 | Mahasiswa mampu menunjukkan bagian-bagian atau struktur yang terdapat pada sebuah program | mahasiswa mampu memahami struktur pada sebuah program                      | <b>Kriteria:</b><br>A=sangat baik, B=baik, C=cukup<br><br><b>Bentuk Penilaian :</b><br>Penilaian Hasil Project / Penilaian Produk | PresentasiSimulasiRefleksi<br>2 X 50  |  | <b>Materi:</b><br>Struktur pada sebuah program<br><b>Pustaka:</b> 1. Cormen. 2009. <i>Introduction to Algorithms 3rd edition</i> . Massachusetts Institute of Technology. 2. Rao. <i>Introduction to Design &amp; Analysis of Algorithms - In Simple Way</i> 3. Levitin. 2012. 3. <i>Introduction to The Design and Analysis of Algorithms</i> . 3rd edition. Pearson.                | 5% |

|   |                                                                                                                        |                                                                                            |                                                                                                                                       |                                      |  |                                                                                                                                                                                                                                                                                                                                                                                                                              |     |
|---|------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| 7 | Mahasiswa mampu menjelaskan fungsi, variabel, tipe data, konstanta, dan operator yang digunakan didalam sebuah program | mahasiswa mampu memahami fungsi, variabel, tipe data, konstanta, dan operator pada program | <b>Kriteria:</b><br>A=sangat baik, B=Baik, C=Cukup<br><br><b>Bentuk Penilaian :</b><br>Penilaian Hasil Project / Penilaian Produk     | PresentasiSimulasiRefleksi<br>2 X 50 |  | <b>Materi:</b> Fungsi, variabel, tipe data, konstanta, dan operator yang digunakan didalam sebuah program<br><b>Pustaka:</b> 1. Cormen. 2009. <i>Introduction to Algorithms 3rd edition. Massachusetts Institute of Technology.</i> 2. Rao. <i>Introduction to Design &amp; Analysis of Algorithms - In Simple Way</i> 3. Levitin. 2012. <i>Introduction to The Design and Analysis of Algorithms. 3rd edition. Pearson.</i> | 5%  |
| 8 | UTS                                                                                                                    | UTS                                                                                        | <b>Kriteria:</b><br>UTS<br><br><b>Bentuk Penilaian :</b><br>Penilaian Hasil Project / Penilaian Produk                                | UTS<br>2 X 50                        |  | <b>Materi:</b><br>Algoritma Pemrograman<br><b>Pustaka:</b> 1. Cormen. 2009. <i>Introduction to Algorithms 3rd edition. Massachusetts Institute of Technology.</i> 2. Rao. <i>Introduction to Design &amp; Analysis of Algorithms - In Simple Way</i> 3. Levitin. 2012. <i>Introduction to The Design and Analysis of Algorithms. 3rd edition. Pearson.</i>                                                                   | 15% |
| 9 | Mahasiswa mampu menunjukkan operasi dasar input output pada sebuah program sederhana                                   | memahami cara penggunaan input output pada sebuah program                                  | <b>Kriteria:</b><br>A=sangat baik, B=Baik, dan C=cukup<br><br><b>Bentuk Penilaian :</b><br>Penilaian Hasil Project / Penilaian Produk | PresentasiSimulasiRefleksi<br>2 X 50 |  | <b>Materi:</b><br>Operasi dasar input output pada sebuah program sederhana<br><b>Pustaka:</b> 1. Cormen. 2009. <i>Introduction to Algorithms 3rd edition. Massachusetts Institute of Technology.</i> 2. Rao. <i>Introduction to Design &amp; Analysis of Algorithms - In Simple Way</i> 3. Levitin. 2012. <i>Introduction to The Design and Analysis of Algorithms. 3rd edition. Pearson.</i>                                | 5%  |

|    |                                                                                         |                                                                                          |                                                                                                                                             |                                      |  |                                                                                                                                                                                                                                                                                                                                                                                                                 |    |
|----|-----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| 10 | Mahasiswa mampu menjelaskan konsep dasar elemen array                                   | memahami variabel dan konsep array                                                       | <b>Kriteria:</b><br>A=sangat baik,<br>B=Baik, dan<br>C=cukup<br><br><b>Bentuk Penilaian :</b><br>Penilaian Hasil Project / Penilaian Produk | SimulasiPresentasiRefleksi<br>2 X 50 |  | <b>Materi:</b><br>Konsep dasar elemen array<br><b>Pustaka:</b> 1. Cormen. 2009. <i>Introduction to Algorithms 3rd edition</i> . Massachusetts Institute of Technology. 2. Rao. <i>Introduction to Design &amp; Analysis of Algorithms - In Simple Way</i> 3. Levitin. 2012. <i>3. Introduction to The Design and Analysis of Algorithms</i> . 3rd edition. Pearson.                                             | 5% |
| 11 | Mahasiswa mampu menjelaskan konsep statement kontrol dan perulangan pada sebuah program | mahasiswa memahami konsep dasar penggunaan statement kontrol dan perulangan pada program | <b>Kriteria:</b><br>A=sangat baik,<br>B=Baik, dan<br>C=cukup<br><br><b>Bentuk Penilaian :</b><br>Penilaian Hasil Project / Penilaian Produk | PresentasiSimulasiRefleksi<br>2 X 50 |  | <b>Materi:</b><br>Konsep dasar penggunaan statement kontrol dan perulangan pada program<br><b>Pustaka:</b> 1. Cormen. 2009. <i>Introduction to Algorithms 3rd edition</i> . Massachusetts Institute of Technology. 2. Rao. <i>Introduction to Design &amp; Analysis of Algorithms - In Simple Way</i> 3. Levitin. 2012. <i>3. Introduction to The Design and Analysis of Algorithms</i> . 3rd edition. Pearson. | 5% |
| 12 | Mahasiswa mampu menganalisis konsep object oriented programming                         | mahasiswa mampu memahami konsep dasar object oriented programming                        | <b>Kriteria:</b><br>A=sangat baik,<br>B=Baik, dan<br>C=cukup<br><br><b>Bentuk Penilaian :</b><br>Penilaian Hasil Project / Penilaian Produk | PresentasiSimulasiRefleksi<br>2 X 50 |  | <b>Materi:</b><br>Konsep object oriented programming<br><b>Pustaka:</b> 1. Cormen. 2009. <i>Introduction to Algorithms 3rd edition</i> . Massachusetts Institute of Technology. 2. Rao. <i>Introduction to Design &amp; Analysis of Algorithms - In Simple Way</i> 3. Levitin. 2012. <i>3. Introduction to The Design and Analysis of Algorithms</i> . 3rd edition. Pearson.                                    | 5% |

|    |                                                                                                                                           |                                                                        |                                                                                                                                                                                                                                                                     |                                              |  |                                                                                                                                                                                                                                                                                                                                                                              |    |
|----|-------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| 13 | Studi Kasus 1 :<br>Menghitung Luas dan Keliling Lingkaran<br>Studi Kasus 2 : Konversi Suhu<br>Studi Kasus 3 : Menampilkan Bilangan Ganjil | mahasiswa mampu merancang algoritma tentang kasus yang telah diberikan | <b>Kriteria:</b><br>1. Tugas Terstruktur (TT): a. ketepatan teknik dan proses identifikasi, skor maks 20; ketepatan hasil identifikasi skor maks 30.<br>2. Partisipatif, skor min 50<br><br><b>Bentuk Penilaian :</b><br>Penilaian Hasil Project / Penilaian Produk | Presentasi<br>Simulasi<br>Refleksi<br>2 X 50 |  | <b>Materi:</b><br>Implementasi dan Presentasi Project<br><b>Pustaka:</b> 1. Cormen. 2009. <i>Introduction to Algorithms 3rd edition</i> . Massachusetts Institute of Technology. 2. Rao. <i>Introduction to Design &amp; Analysis of Algorithms - In Simple Way</i> . 3. Levitin. 2012. <i>Introduction to The Design and Analysis of Algorithms. 3rd edition</i> . Pearson. | 6% |
| 14 | Studi Kasus 1 :<br>Menghitung Luas dan Keliling Lingkaran<br>Studi Kasus 2 : Konversi Suhu<br>Studi Kasus 3 : Menampilkan Bilangan Ganjil | mahasiswa mampu merancang algoritma tentang kasus yang telah diberikan | <b>Kriteria:</b><br>1. Partisipatif, skor min 50<br>2. Tugas Terstruktur (TT): a. ketepatan teknik dan proses identifikasi, skor maks 20; ketepatan hasil identifikasi skor maks 30.<br><br><b>Bentuk Penilaian :</b><br>Penilaian Hasil Project / Penilaian Produk | Presentasi<br>Simulasi<br>Refleksi<br>2 X 50 |  | <b>Materi:</b><br>Implementasi dan Presentasi Project<br><b>Pustaka:</b> 1. Cormen. 2009. <i>Introduction to Algorithms 3rd edition</i> . Massachusetts Institute of Technology. 2. Rao. <i>Introduction to Design &amp; Analysis of Algorithms - In Simple Way</i> . 3. Levitin. 2012. <i>Introduction to The Design and Analysis of Algorithms. 3rd edition</i> . Pearson. | 5% |
| 15 | Studi Kasus 1 :<br>Menghitung Luas dan Keliling Lingkaran<br>Studi Kasus 2 : Konversi Suhu<br>Studi Kasus 3 : Menampilkan Bilangan Ganjil | mahasiswa mampu merancang algoritma tentang kasus yang telah diberikan | <b>Kriteria:</b><br>Skor penilaian skala 0-100 sesuai indikator penilaian<br><br><b>Bentuk Penilaian :</b><br>Penilaian Hasil Project / Penilaian Produk, Tes                                                                                                       | Presentasi<br>Simulasi<br>Refleksi<br>2 X 50 |  | <b>Materi:</b><br>Implementasi dan Presentasi Project<br><b>Pustaka:</b> 1. Cormen. 2009. <i>Introduction to Algorithms 3rd edition</i> . Massachusetts Institute of Technology. 2. Rao. <i>Introduction to Design &amp; Analysis of Algorithms - In Simple Way</i> . 3. Levitin. 2012. <i>Introduction to The Design and Analysis of Algorithms. 3rd edition</i> . Pearson. | 5% |

|    |                                                                                                                                                    |                                                                        |                                                                                                                                                               |                                              |  |                                                                                                                                                                                                                                                                                                                                                                              |     |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| 16 | Studi Kasus 1 :<br>Menghitung Luas dan Keliling<br>Lingkaran<br>Studi Kasus 2 : Konversi<br>Suhu<br>Studi Kasus 3 :<br>Menampilkan Bilangan Ganjil | mahasiswa mampu merancang algoritma tentang kasus yang telah diberikan | <b>Kriteria:</b><br>Skor penilaian skala 0-100 sesuai indikator penilaian<br><br><b>Bentuk Penilaian :</b><br>Penilaian Hasil Project / Penilaian Produk, Tes | Presentasi<br>Simulasi<br>Refleksi<br>2 X 50 |  | <b>Materi:</b><br>Implementasi dan Presentasi Project<br><b>Pustaka:</b> 1. Cormen. 2009. <i>Introduction to Algorithms 3rd edition</i> . Massachusetts Institute of Technology. 2. Rao. <i>Introduction to Design &amp; Analysis of Algorithms - In Simple Way</i> . 3. Levitin. 2012. <i>Introduction to The Design and Analysis of Algorithms. 3rd edition</i> . Pearson. | 15% |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|

#### Rekap Persentase Evaluasi : Project Based Learning

| No | Evaluasi                                   | Persentase |
|----|--------------------------------------------|------------|
| 1. | Aktifitas Partisipatif                     | 19%        |
| 2. | Penilaian Hasil Project / Penilaian Produk | 66%        |
| 3. | Tes                                        | 15%        |
|    |                                            | 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 studinya 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.
- Kriteria Penilaian** adalah patokan yang digunakan sebagai ukuran atau tolok ukur ketercapaian pembelajaran dalam penilaian berdasarkan indikator-indikator yang telah ditetapkan. Kriteria penilaian merupakan pedoman bagi penilai agar penilaian konsisten dan tidak bias. Kriteria 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.

RPS ini telah divalidasi pada tanggal 11 Maret 2025

Koordinator Program Studi S1  
Pendidikan Teknik Elektro

UPM Program Studi S1 Pendidikan  
Teknik Elektro



FENDI ACHMAD  
NIDN 0701129003



NIDN 0022039404



