

|                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                 |                  |                                            |                                  |                       |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------------------------------------------|----------------------------------|-----------------------|
|  |                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Universitas Negeri Surabaya</b><br><b>D4 Manajemen Informatika</b>                                                                                                                                                                                                                                                           |                  |                                            |                                  | <b>Kode Dokumen</b>   |
| <b>RENCANA PEMBELAJARAN SEMESTER</b>                                              |                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                 |                  |                                            |                                  |                       |
| <b>MATA KULIAH (MK)</b>                                                           |                                                                                                                                                                                                                                                                                                                                                                                                             | <b>KODE</b>                                                                                                                                                                                                                                                                                                                     | <b>Rumpun MK</b> | <b>BOBOT (sks)</b>                         | <b>SEMESTER</b>                  | <b>Tgl Penyusunan</b> |
| Prak. Pemrograman Game                                                            |                                                                                                                                                                                                                                                                                                                                                                                                             | 5730102216                                                                                                                                                                                                                                                                                                                      |                  | 2                                          |                                  | 25 Agustus 2026       |
| <b>OTORISASI</b>                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Pengembang RPS</b>                                                                                                                                                                                                                                                                                                           |                  | <b>Koordinator RMK</b>                     | <b>Koordinator Program Studi</b> |                       |
|                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                 |                  | Dodik Arwin Dermawan,<br>S.ST., S.T., M.T. | DODIK ARWIN DERMAWAN             |                       |
| <b>Deskripsi Singkat MK</b>                                                       | Mata kuliah ini membekali mahasiswa dengan pengetahuan dasar dan keterampilan praktis dalam desain aset 3D dan animasi menggunakan Blender, pemrograman, serta pengembangan game berbasis Unity. Mahasiswa akan belajar membuat game 3D dan menyelesaikan proyek akhir berupa game berbasis VR yang interaktif. Learning Path Unity akan digunakan sebagai panduan utama dalam materi praktikum dan proyek. |                                                                                                                                                                                                                                                                                                                                 |                  |                                            |                                  |                       |
| <b>Capaian Pembelajaran (CP)</b>                                                  | <b>CPL-PRODI yang dibebankan pada MK</b>                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                 |                  |                                            |                                  |                       |
|                                                                                   | <b>CPL</b>                                                                                                                                                                                                                                                                                                                                                                                                  | Mampu melakukan kerjasama dengan pembimbing, kolega, sejawat sebagai warga negara yang memiliki rasa nasionalisme, sportivitas serta menghargai keanekaragaman budaya, pandangan, agama dan kepercayaan.                                                                                                                        |                  |                                            |                                  |                       |
|                                                                                   | <b>CPL</b>                                                                                                                                                                                                                                                                                                                                                                                                  | Dapat mengkaji dan memanfaatkan ilmu pengetahuan dan teknologi dalam memberikan solusi serta bertanggung jawab terhadap hasil kerja kelompok maupun mandiri yang bermutu dan terukur dengan sifat dan konteks yang sesuai dengan bidang keahlian terapanannya.                                                                  |                  |                                            |                                  |                       |
|                                                                                   | <b>CPL</b>                                                                                                                                                                                                                                                                                                                                                                                                  | Mampu menerapkan pemikiran logis, kritis dan inovatif dalam melakukan pekerjaan dalam bidang teknologi informasi dengan menunjukkan kinerja yang bermutu dan terukur serta memanfaatkannya untuk menganalisa, mendokumentasikan dan menyusun deskripsi saintifik hasil kajian dalam bentuk laporan yang terjamin keshahihannya. |                  |                                            |                                  |                       |
|                                                                                   | <b>CPL</b>                                                                                                                                                                                                                                                                                                                                                                                                  | Mampu menerapkan matematika dan prinsip rekayasa dalam mengidentifikasi, memformulasikan, melakukan penelusuran referensi atau standar, menganalisis dan menyelesaikan masalah bidang rekayasa perangkat lunak menggunakan perangkat analisa pada bidang teknologi informasi.                                                   |                  |                                            |                                  |                       |
|                                                                                   | <b>Capaian Pembelajaran Mata Kuliah (CPMK)</b>                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                 |                  |                                            |                                  |                       |
|                                                                                   | <b>CPMK-1</b>                                                                                                                                                                                                                                                                                                                                                                                               | Mahasiswa mampu memahami konsep pemrograman game                                                                                                                                                                                                                                                                                |                  |                                            |                                  |                       |
|                                                                                   | <b>CPMK-2</b>                                                                                                                                                                                                                                                                                                                                                                                               | Menguasai teknik dasar pembuatan aset dan integrasi aset multimedia dalam Game Engine dan memilih tools yang tepat untuk pengembangan Game.                                                                                                                                                                                     |                  |                                            |                                  |                       |
|                                                                                   | <b>CPMK-3</b>                                                                                                                                                                                                                                                                                                                                                                                               | Mahasiswa mampu menerapkan mekanika permainan, pemrograman interaktif, dan animasi dalam Game Engine.                                                                                                                                                                                                                           |                  |                                            |                                  |                       |
|                                                                                   | <b>CPMK-4</b>                                                                                                                                                                                                                                                                                                                                                                                               | Mahasiswa mampu mengembangkan Game berdasarkan praktik terbaik dan menghasilkan produk game siap guna.                                                                                                                                                                                                                          |                  |                                            |                                  |                       |
|                                                                                   | <b>CPMK-5</b>                                                                                                                                                                                                                                                                                                                                                                                               | Menyusun laporan & mendemokan proyek game                                                                                                                                                                                                                                                                                       |                  |                                            |                                  |                       |
|                                                                                   | <b>Matrik CPL - CPMK</b>                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                 |                  |                                            |                                  |                       |

|                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                        |                    |                                                                                                                         |                 |                     |                     |        |   |    |    |    |        |    |    |    |  |        |   |   |   |   |        |   |   |   |   |        |    |    |    |    |    |    |        |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |        |  |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |        |  |  |  |  |   |   |   |   |  |  |  |  |  |  |  |  |        |  |  |  |  |  |  |  |  |   |   |   |   |  |  |  |  |        |  |  |  |  |  |  |  |  |  |  |  |  |   |   |   |   |  |  |  |
|------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------------------------------------------|-----------------|---------------------|---------------------|--------|---|----|----|----|--------|----|----|----|--|--------|---|---|---|---|--------|---|---|---|---|--------|----|----|----|----|----|----|--------|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--------|--|--|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--------|--|--|--|--|---|---|---|---|--|--|--|--|--|--|--|--|--------|--|--|--|--|--|--|--|--|---|---|---|---|--|--|--|--|--------|--|--|--|--|--|--|--|--|--|--|--|--|---|---|---|---|--|--|--|
|                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <table><tr><td>CPMK</td><td>CPL</td><td>CPL</td><td>CPL</td><td>CPL</td></tr><tr><td>CPMK-1</td><td>✓</td><td></td><td></td><td></td></tr><tr><td>CPMK-2</td><td></td><td>✓</td><td></td><td></td></tr><tr><td>CPMK-3</td><td></td><td></td><td>✓</td><td></td></tr><tr><td>CPMK-4</td><td></td><td></td><td></td><td>✓</td></tr><tr><td>CPMK-5</td><td></td><td></td><td></td><td>✓</td></tr></table> | CPMK               | CPL                                                                                                                     | CPL             | CPL                 | CPL                 | CPMK-1 | ✓ |    |    |    | CPMK-2 |    | ✓  |    |  | CPMK-3 |   |   | ✓ |   | CPMK-4 |   |   |   | ✓ | CPMK-5 |    |    |    | ✓  |    |    |        |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |        |  |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |        |  |  |  |  |   |   |   |   |  |  |  |  |  |  |  |  |        |  |  |  |  |  |  |  |  |   |   |   |   |  |  |  |  |        |  |  |  |  |  |  |  |  |  |  |  |  |   |   |   |   |  |  |  |
| CPMK                                                             | CPL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | CPL                                                                                                                                                                                                                                                                                                                                                                                                    | CPL                | CPL                                                                                                                     |                 |                     |                     |        |   |    |    |    |        |    |    |    |  |        |   |   |   |   |        |   |   |   |   |        |    |    |    |    |    |    |        |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |        |  |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |        |  |  |  |  |   |   |   |   |  |  |  |  |  |  |  |  |        |  |  |  |  |  |  |  |  |   |   |   |   |  |  |  |  |        |  |  |  |  |  |  |  |  |  |  |  |  |   |   |   |   |  |  |  |
| CPMK-1                                                           | ✓                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                        |                    |                                                                                                                         |                 |                     |                     |        |   |    |    |    |        |    |    |    |  |        |   |   |   |   |        |   |   |   |   |        |    |    |    |    |    |    |        |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |        |  |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |        |  |  |  |  |   |   |   |   |  |  |  |  |  |  |  |  |        |  |  |  |  |  |  |  |  |   |   |   |   |  |  |  |  |        |  |  |  |  |  |  |  |  |  |  |  |  |   |   |   |   |  |  |  |
| CPMK-2                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | ✓                                                                                                                                                                                                                                                                                                                                                                                                      |                    |                                                                                                                         |                 |                     |                     |        |   |    |    |    |        |    |    |    |  |        |   |   |   |   |        |   |   |   |   |        |    |    |    |    |    |    |        |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |        |  |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |        |  |  |  |  |   |   |   |   |  |  |  |  |  |  |  |  |        |  |  |  |  |  |  |  |  |   |   |   |   |  |  |  |  |        |  |  |  |  |  |  |  |  |  |  |  |  |   |   |   |   |  |  |  |
| CPMK-3                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                        | ✓                  |                                                                                                                         |                 |                     |                     |        |   |    |    |    |        |    |    |    |  |        |   |   |   |   |        |   |   |   |   |        |    |    |    |    |    |    |        |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |        |  |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |        |  |  |  |  |   |   |   |   |  |  |  |  |  |  |  |  |        |  |  |  |  |  |  |  |  |   |   |   |   |  |  |  |  |        |  |  |  |  |  |  |  |  |  |  |  |  |   |   |   |   |  |  |  |
| CPMK-4                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                        |                    | ✓                                                                                                                       |                 |                     |                     |        |   |    |    |    |        |    |    |    |  |        |   |   |   |   |        |   |   |   |   |        |    |    |    |    |    |    |        |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |        |  |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |        |  |  |  |  |   |   |   |   |  |  |  |  |  |  |  |  |        |  |  |  |  |  |  |  |  |   |   |   |   |  |  |  |  |        |  |  |  |  |  |  |  |  |  |  |  |  |   |   |   |   |  |  |  |
| CPMK-5                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                        |                    | ✓                                                                                                                       |                 |                     |                     |        |   |    |    |    |        |    |    |    |  |        |   |   |   |   |        |   |   |   |   |        |    |    |    |    |    |    |        |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |        |  |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |        |  |  |  |  |   |   |   |   |  |  |  |  |  |  |  |  |        |  |  |  |  |  |  |  |  |   |   |   |   |  |  |  |  |        |  |  |  |  |  |  |  |  |  |  |  |  |   |   |   |   |  |  |  |
| Matrik CPMK pada Kemampuan akhir tiap tahapan belajar (Sub-CPMK) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                        |                    |                                                                                                                         |                 |                     |                     |        |   |    |    |    |        |    |    |    |  |        |   |   |   |   |        |   |   |   |   |        |    |    |    |    |    |    |        |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |        |  |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |        |  |  |  |  |   |   |   |   |  |  |  |  |  |  |  |  |        |  |  |  |  |  |  |  |  |   |   |   |   |  |  |  |  |        |  |  |  |  |  |  |  |  |  |  |  |  |   |   |   |   |  |  |  |
|                                                                  | <table><tr><td rowspan="2">CPMK</td><td colspan="16">Minggu Ke</td></tr><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td></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><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></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                                                             | 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                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                        |                    |                                                                                                                         |                 |                     |                     |        |   |    |    |    | ✓      | ✓  | ✓  | ✓  |  |        |   |   |   |   |        |   |   |   |   |        |    |    |    |    |    |    |        |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |        |  |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |        |  |  |  |  |   |   |   |   |  |  |  |  |  |  |  |  |        |  |  |  |  |  |  |  |  |   |   |   |   |  |  |  |  |        |  |  |  |  |  |  |  |  |  |  |  |  |   |   |   |   |  |  |  |
| Pustaka                                                          | Utama :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                        |                    |                                                                                                                         |                 |                     |                     |        |   |    |    |    |        |    |    |    |  |        |   |   |   |   |        |   |   |   |   |        |    |    |    |    |    |    |        |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |        |  |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |        |  |  |  |  |   |   |   |   |  |  |  |  |  |  |  |  |        |  |  |  |  |  |  |  |  |   |   |   |   |  |  |  |  |        |  |  |  |  |  |  |  |  |  |  |  |  |   |   |   |   |  |  |  |
|                                                                  | 1. Novak, Jeannie. 2012. Game Development Essentials: An Introduction, Third Edition. Delmar, Cengage Learning. USA<br>2. Chronister, James. 2011. Blender Basics Classroom Tutorial Book 4th Edition<br>3. Blackman, Sue. Beginning 3D Game Development with Unity 4 Second Edition. Apress<br>4. www.blender.org<br>5. http://unity3d.com<br>6. www.youtube.com<br>7. SKKNI Nomor 172 Tahun 2024 Keahlian Pengembangan Video Game                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                        |                    |                                                                                                                         |                 |                     |                     |        |   |    |    |    |        |    |    |    |  |        |   |   |   |   |        |   |   |   |   |        |    |    |    |    |    |    |        |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |        |  |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |        |  |  |  |  |   |   |   |   |  |  |  |  |  |  |  |  |        |  |  |  |  |  |  |  |  |   |   |   |   |  |  |  |  |        |  |  |  |  |  |  |  |  |  |  |  |  |   |   |   |   |  |  |  |
|                                                                  | Pendukung :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                        |                    |                                                                                                                         |                 |                     |                     |        |   |    |    |    |        |    |    |    |  |        |   |   |   |   |        |   |   |   |   |        |    |    |    |    |    |    |        |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |        |  |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |        |  |  |  |  |   |   |   |   |  |  |  |  |  |  |  |  |        |  |  |  |  |  |  |  |  |   |   |   |   |  |  |  |  |        |  |  |  |  |  |  |  |  |  |  |  |  |   |   |   |   |  |  |  |
|                                                                  | 1. Unity Essentials Pathway: Memperkenalkan dasar penggunaan Unity, antarmuka, dan navigasi.<br>2. Unity Junior Programmer Pathway: Fokus pada dasar pemrograman dengan C# dan implementasi logika dalam game.<br>3. Unity Creative Core Pathway: Menyediakan keterampilan dalam desain aset 3D, visual effects, dan animasi.<br>4. Unity VR Development Pathway: Memfokuskan pada pengembangan game VR, mulai dari konfigurasi perangkat hingga optimisasi VR.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                        |                    |                                                                                                                         |                 |                     |                     |        |   |    |    |    |        |    |    |    |  |        |   |   |   |   |        |   |   |   |   |        |    |    |    |    |    |    |        |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |        |  |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |        |  |  |  |  |   |   |   |   |  |  |  |  |  |  |  |  |        |  |  |  |  |  |  |  |  |   |   |   |   |  |  |  |  |        |  |  |  |  |  |  |  |  |  |  |  |  |   |   |   |   |  |  |  |
| Mg Ke-                                                           | Kemampuan akhir tiap tahapan belajar (Sub-CPMK)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Penilaian                                                                                                                                                                                                                                                                                                                                                                                              |                    | Bentuk Pembelajaran, Metode Pembelajaran, Penugasan Mahasiswa, [ Estimasi Waktu]                                        |                 | Materi Pembelajaran | Bobot Penilaian (%) |        |   |    |    |    |        |    |    |    |  |        |   |   |   |   |        |   |   |   |   |        |    |    |    |    |    |    |        |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |        |  |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |        |  |  |  |  |   |   |   |   |  |  |  |  |  |  |  |  |        |  |  |  |  |  |  |  |  |   |   |   |   |  |  |  |  |        |  |  |  |  |  |  |  |  |  |  |  |  |   |   |   |   |  |  |  |
|                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Indikator                                                                                                                                                                                                                                                                                                                                                                                              | Kriteria & Bentuk  | Luring (offline)                                                                                                        | Daring (online) |                     |                     |        |   |    |    |    |        |    |    |    |  |        |   |   |   |   |        |   |   |   |   |        |    |    |    |    |    |    |        |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |        |  |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |        |  |  |  |  |   |   |   |   |  |  |  |  |  |  |  |  |        |  |  |  |  |  |  |  |  |   |   |   |   |  |  |  |  |        |  |  |  |  |  |  |  |  |  |  |  |  |   |   |   |   |  |  |  |
| (1)                                                              | (2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | (3)                                                                                                                                                                                                                                                                                                                                                                                                    | (4)                | (5)                                                                                                                     | (6)             | (7)                 | (8)                 |        |   |    |    |    |        |    |    |    |  |        |   |   |   |   |        |   |   |   |   |        |    |    |    |    |    |    |        |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |        |  |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |        |  |  |  |  |   |   |   |   |  |  |  |  |  |  |  |  |        |  |  |  |  |  |  |  |  |   |   |   |   |  |  |  |  |        |  |  |  |  |  |  |  |  |  |  |  |  |   |   |   |   |  |  |  |
| 1                                                                | Memahami dasar PjBL & SKKNI 172/2024 dalam konteks pengembangan game                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Mahasiswa mampu menjelaskan ruang lingkup standar kompetensi                                                                                                                                                                                                                                                                                                                                           | Tes awal & diskusi | Luring: briefing, diskusi kelompok<br>Daring: membaca modul & forum diskusi<br>Pembagian kelompok dan topik proyek game |                 |                     | 2%                  |        |   |    |    |    |        |    |    |    |  |        |   |   |   |   |        |   |   |   |   |        |    |    |    |    |    |    |        |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |        |  |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |        |  |  |  |  |   |   |   |   |  |  |  |  |  |  |  |  |        |  |  |  |  |  |  |  |  |   |   |   |   |  |  |  |  |        |  |  |  |  |  |  |  |  |  |  |  |  |   |   |   |   |  |  |  |

|   |                                                                   |                                              |                                      |                                                                                                                                       |  |  |    |
|---|-------------------------------------------------------------------|----------------------------------------------|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|--|--|----|
| 2 | Menyusun ide & alur game dalam bentuk Game Design Document (GDD)  | Mahasiswa mampu menyusun Draft GDD sederhana | Tinggi: Ide game orisinal dan jelas. | Kuliah, praktikum Project Based Learning<br>Tugas : Membuat konsep proyek yang akan dibuat berdasarkan topik yang telah dibagi        |  |  | 2% |
| 3 | Merancang requirement teknis & memilih game engine                | Dokumen requirement, pemilihan tools tepat   | Rubrik laporan teknis                | Kuliah, praktikum Project Based Learning<br>Tugas : Membuat aset model 3D sesuai dengan kebutuhan proyek game kelompok                |  |  | 3% |
| 4 | Merancang requirement teknis & memilih game engine                | Dokumen requirement, pemilihan tools tepat   | Rubrik laporan teknis                | Kuliah, praktikum Project Based Learning<br>Tugas : Membuat aset model 3D sesuai dengan kebutuhan proyek game kelompok                |  |  | 3% |
| 5 | Membangun prototipe gameplay dasar (movement, collision, scoring) | Mahasiswa Dapat Prototipe game sederhana     | Penilaian proyek (demo laporan)      | Kuliah, praktikum Project Based Learning<br>Tugas : Melakukan rigging pada aset model 3D sesuai dengan kebutuhan proyek game kelompok |  |  | 5% |
| 6 | Membangun prototipe gameplay dasar (movement, collision, scoring) | Mahasiswa Dapat Prototipe game sederhana     | Penilaian proyek (demo laporan)      | Kuliah, praktikum Project Based Learning<br>Tugas : Melakukan rigging pada aset model 3D sesuai dengan kebutuhan proyek game kelompok |  |  | 5% |

|    |                                                                      |                                                                  |                                 |                                                                                                                                       |  |  |     |
|----|----------------------------------------------------------------------|------------------------------------------------------------------|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|--|--|-----|
| 7  | Membangun prototipe gameplay dasar (movement, collision, scoring)    | Mahasiswa Dapat Prototipe game sederhana                         | Penilaian proyek (demo laporan) | Kuliah, praktikum Project Based Learning<br>Tugas : Melakukan rigging pada aset model 3D sesuai dengan kebutuhan proyek game kelompok |  |  | 5%  |
| 8  | UTS (Project Review 1): Demo prototipe tahap 1                       | 1. Prototipe bisa dijalankan<br>2. Kelengkapan dan kualitas game | Tinggi: Game lengkap.           | Presentasi Progress UTS                                                                                                               |  |  | 20% |
| 9  | Mengembangkan fitur lanjutan (AI, level design, database/networking) | Implementasi fitur tambahan sesuai GDD                           | Rubrik proyek & laporan         | Kuliah, praktikum Project Based Learning<br>Tugas : Memulai memberikan script sederhana pada proyek game kelompok                     |  |  | 5%  |
| 10 | Mengembangkan fitur lanjutan (AI, level design, database/networking) | Implementasi fitur tambahan sesuai GDD                           | Rubrik proyek & laporan         | Kuliah, praktikum Project Based Learning<br>Tugas : Memulai memberikan script sederhana pada proyek game kelompok                     |  |  | 5%  |
| 11 | Mengembangkan fitur lanjutan (AI, level design, database/networking) | Implementasi fitur tambahan sesuai GDD                           | Rubrik proyek & laporan         | Kuliah, praktikum Project Based Learning<br>Tugas : Memulai memberikan script sederhana pada proyek game kelompok                     |  |  | 5%  |
| 12 | Optimasi performa & debugging                                        | Hasil optimasi & dokumentasi bug fixing                          | Laporan teknis & demo           | Kuliah, praktikum Project Based Learning<br>Tugas : Memberikan elemen UI pada proyek game kelompok                                    |  |  | 5%  |

|    |                                                            |                                       |                                 |                                                                                                    |  |  |     |
|----|------------------------------------------------------------|---------------------------------------|---------------------------------|----------------------------------------------------------------------------------------------------|--|--|-----|
| 13 | Uji coba & evaluasi game project (beta testing)            | Feedback & hasil pengujian            | Laporan hasil uji coba          | Kuliah, praktikum Project Based Learning<br>Tugas : Memberikan elemen UI pada proyek game kelompok |  |  | 5%  |
| 14 | Uji coba & evaluasi game project (beta testing)            | Feedback & hasil pengujian            | Laporan hasil uji coba          | Kuliah, praktikum Project Based Learning<br>Tugas : Memberikan elemen UI pada proyek game kelompok |  |  | 5%  |
| 15 | Menyusun laporan & dokumentasi proyek sesuai standar SKKNI | Laporan teknis lengkap & rapi         | Rubrik laporan                  | Kuliah, praktikum Project Based Learning<br>Tugas : Menyelesaikan proyek game kelompok             |  |  | 5%  |
| 16 | UAS (Final Project Presentation & Demo Game)               | Game final sesuai GDD & standar SKKNI | Presentasi, demo, laporan akhir | Presentasi Final Game Project                                                                      |  |  | 20% |

#### SDGS (Sustainable Development Goals)



#### Catatan

1. **Capaian Pembelajaran Lulusan Program Studi (CPL-Prodi)** adalah rumusan kemampuan yang harus dimiliki oleh lulusan program studi yang mencakup sikap, penguasaan pengetahuan, keterampilan umum, dan keterampilan khusus sesuai dengan jenjang kualifikasi, yang diperoleh melalui proses pembelajaran.
2. **CPL-Prodi yang dibebankan pada Mata Kuliah** adalah bagian dari CPL-Prodi yang dipilih dan relevan untuk dikembangkan melalui suatu mata kuliah, sebagai dasar perumusan capaian pembelajaran mata kuliah.
3. **Capaian Pembelajaran Mata Kuliah (CPMK)** adalah kemampuan yang dirumuskan secara spesifik dan diturunkan dari CPL-Prodi yang dibebankan pada mata kuliah, serta menggambarkan kompetensi yang harus dicapai mahasiswa setelah menyelesaikan mata kuliah.
4. **Sub-CPMK** adalah kemampuan akhir yang direncanakan pada setiap tahap pembelajaran, sebagai penjabaran lebih rinci dari CPMK, bersifat terukur dan dapat diamati sesuai dengan materi pembelajaran.
5. **Indikator Penilaian** adalah pernyataan spesifik dan terukur yang digunakan untuk menilai ketercapaian Sub-CPMK, baik dari proses maupun hasil belajar mahasiswa, yang didukung dengan bukti penilaian.
6. **Kriteria Penilaian** adalah tolok ukur yang digunakan untuk menentukan tingkat ketercapaian hasil belajar mahasiswa berdasarkan indikator penilaian, guna menjamin penilaian yang objektif, konsisten, dan adil. Kriteria penilaian dapat bersifat kuantitatif dan/atau kualitatif.
7. **Bentuk Penilaian** meliputi penilaian tes dan non-tes sesuai dengan karakteristik capaian pembelajaran.
8. **Bentuk Pembelajaran** meliputi kuliah, responsi, tutorial, seminar atau bentuk lain yang setara, praktikum, praktik studio, praktik bengkel, praktik lapangan, penelitian, dan pengabdian kepada masyarakat.
9. **Metode Pembelajaran** merupakan cara penyampaian pembelajaran yang digunakan untuk mencapai capaian pembelajaran, antara lain Small Group Discussion, Project Based Learning, Case Based Learning, Collaborative Learning, Discovery Learning, Self-Directed Learning, serta metode lain yang relevan.
10. **Materi Pembelajaran** adalah bahan kajian yang disusun secara sistematis dalam bentuk pokok dan sub-pokok bahasan untuk mendukung pencapaian Sub-CPMK.
11. **Bobot Penilaian** adalah persentase kontribusi setiap komponen penilaian terhadap nilai akhir mata kuliah, yang ditetapkan secara proporsional sesuai tingkat kompleksitas dan ketercapaian Sub-CPMK, dengan total keseluruhan sebesar 100%.

12. TM = Tatap Muka, PT = Penugasan Terstruktur, BM = Belajar Mandiri.