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|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <p align="center"><b>Universitas Negeri Surabaya</b><br/> <b>Fakultas Matematika dan Ilmu Pengetahuan Alam</b><br/> <b>Program Studi S2 Pendidikan Sains</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                              |                                                                                           |                        |                                        |                            |   |                 |                                      |                       | <b>Kode Dokumen</b> |    |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |    |  |  |  |  |  |  |  |  |  |  |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |
| <p align="center"><b>RENCANA PEMBELAJARAN SEMESTER</b></p>                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                              |                                                                                           |                        |                                        |                            |   |                 |                                      |                       |                     |    |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |    |  |  |  |  |  |  |  |  |  |  |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |
| <b>MATA KULIAH (MK)</b>                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>KODE</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                              | <b>Rumpun MK</b>                                                                          |                        | <b>BOBOT (sks)</b>                     |                            |   | <b>SEMESTER</b> |                                      | <b>Tgl Penyusunan</b> |                     |    |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |    |  |  |  |  |  |  |  |  |  |  |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |
| Pengembangan Bahan Pembelajaran (PBP)                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 8410104194                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                              |                                                                                           |                        | T=3 P=0 ECTS=6.72                      |                            |   | 2               |                                      | 6 Februari 2023       |                     |    |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |    |  |  |  |  |  |  |  |  |  |  |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |
| <b>OTORISASI</b>                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>Pengembang RPS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                              |                                                                                           |                        | <b>Koordinator RMK</b>                 |                            |   |                 | <b>Koordinator Program Studi</b>     |                       |                     |    |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |    |  |  |  |  |  |  |  |  |  |  |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |
|                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Prof. Dr. Erman, M.Pd. dan Dr. Sifak Indana                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                              |                                                                                           |                        | Dr. Sifak Indana, M.Pd.                |                            |   |                 | Prof. Dr. Eko Hariyono, S.Pd., M.Pd. |                       |                     |    |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |    |  |  |  |  |  |  |  |  |  |  |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |
| <b>Model Pembelajaran</b>                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Project Based Learning                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                              |                                                                                           |                        |                                        |                            |   |                 |                                      |                       |                     |    |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |    |  |  |  |  |  |  |  |  |  |  |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |
| <b>Capaian Pembelajaran (CP)</b>                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | CPL-PRODI yang dibebankan pada MK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                              |                                                                                           |                        |                                        |                            |   |                 |                                      |                       |                     |    |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |    |  |  |  |  |  |  |  |  |  |  |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |
|                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Capaian Pembelajaran Mata Kuliah (CPMK)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                              |                                                                                           |                        |                                        |                            |   |                 |                                      |                       |                     |    |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |    |  |  |  |  |  |  |  |  |  |  |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |
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| <b>Deskripsi Singkat MK</b>                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Deskripsi Mata kuliah ini mengkaji dan memberikan pemahaman secara komprehensif kepada mahasiswa tentang pengembangan bahan pembelajaran IPA yang sesuai dengan karakteristik peserta didik serta memberikan keterampilan mengembangkan bahan ajar sesuai latar belakang bidang studi mahasiswa. Kajian meliputi asumsi desain instruksional, prinsip belajar dan kondisi belajar, rasional desain instruksional dan desain sistem instruksional. Termasuk dalam kajian ini adalah proses-proses pembelajaran, sasaran pembelajaran, macam-macam proses belajar. Desain pembelajaran: merumuskan tujuan pembelajaran, analisis tugas, mendesain urutan pembelajaran, pemilihan strategi, metode pembelajaran, media pembelajaran, mengembangkan instrument evaluasi, sumber-sumber pembelajaran. Pada akhir perkuliahan dilakukan analisis terhadap bahan pelajaran yang telah dikembangkan dalam bentuk seminar hasil                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                              |                                                                                           |                        |                                        |                            |   |                 |                                      |                       |                     |    |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |    |  |  |  |  |  |  |  |  |  |  |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |
| <b>Pustaka</b>                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <table border="1"> <tr> <td><b>Utama :</b></td> <td colspan="12">           1. 1. Arends, R.I. (2012). Learning to teach. Boston: McGraw-Hill.<br/>           2. 2. Bell, R.I. (2008). Teaching the nature of science through process skill. New York: Allyn and Bacon.<br/>           3. 3. Bernstein, D. et al. (2006). Making teaching and learning visible: course portfolio and the peer review of teaching. San Francisco: Angker Publishing Company.<br/>           4. 4. Cbism, N. (2007). Peer review of teaching: a sourcebook. Bolton, Massachusetts: Angker Publishing Co.<br/>           5. 5. Erman et al. (2018). Scientific thinking skills: Why junior high school science teachers cannot use discovery and inquiry models in classroom. ICST, Atlantis Press.         </td> </tr> <tr> <td><b>Pendukung :</b></td> <td colspan="12">           1. Coference book of Educational of science, technology, engineering, and mathematics International Conference (ESTEMIC) 2021. Bandung: UIN GJ.<br/>           2. Erman et al. (2018). Model Discovery. PPT Presentasi PKM Prodi S2/S3 Pendidikan Sains di Lombok.<br/>           3. Erman (2023). Project-based learning implementation in science class: Challenges for Indonesian educational system. Surabaya: Paper in Agreement implementation between Science Education Department Unesa and PG Chemistry Vykrum University Ujjain Indoa<br/>           4. Erman (2021). STEM-based learning in science classes: Challenges for Indonesian educational system. Bandung ESTEMIC 2021<br/>           5. Wahyuni, Sanjaya, Erman, dan Jatmiko (2019). Edmodo-Based Blended Learning Model as an Alternative of Science Learning to Motivate and Improve Junior High School Students' Scientific Critical Thinking Skills. Ijet, 14(7)         </td> </tr> </table> |                              |                                                                                           |                        |                                        |                            |   |                 |                                      |                       |                     |    | <b>Utama :</b> | 1. 1. Arends, R.I. (2012). Learning to teach. Boston: McGraw-Hill.<br>2. 2. Bell, R.I. (2008). Teaching the nature of science through process skill. New York: Allyn and Bacon.<br>3. 3. Bernstein, D. et al. (2006). Making teaching and learning visible: course portfolio and the peer review of teaching. San Francisco: Angker Publishing Company.<br>4. 4. Cbism, N. (2007). Peer review of teaching: a sourcebook. Bolton, Massachusetts: Angker Publishing Co.<br>5. 5. Erman et al. (2018). Scientific thinking skills: Why junior high school science teachers cannot use discovery and inquiry models in classroom. ICST, Atlantis Press. |    |  |  |  |  |  |  |  |  |  |  | <b>Pendukung :</b> | 1. Coference book of Educational of science, technology, engineering, and mathematics International Conference (ESTEMIC) 2021. Bandung: UIN GJ.<br>2. Erman et al. (2018). Model Discovery. PPT Presentasi PKM Prodi S2/S3 Pendidikan Sains di Lombok.<br>3. Erman (2023). Project-based learning implementation in science class: Challenges for Indonesian educational system. Surabaya: Paper in Agreement implementation between Science Education Department Unesa and PG Chemistry Vykrum University Ujjain Indoa<br>4. Erman (2021). STEM-based learning in science classes: Challenges for Indonesian educational system. Bandung ESTEMIC 2021<br>5. Wahyuni, Sanjaya, Erman, dan Jatmiko (2019). Edmodo-Based Blended Learning Model as an Alternative of Science Learning to Motivate and Improve Junior High School Students' Scientific Critical Thinking Skills. Ijet, 14(7) |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |
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| <b>Pendukung :</b>                                                                | 1. Coference book of Educational of science, technology, engineering, and mathematics International Conference (ESTEMIC) 2021. Bandung: UIN GJ.<br>2. Erman et al. (2018). Model Discovery. PPT Presentasi PKM Prodi S2/S3 Pendidikan Sains di Lombok.<br>3. Erman (2023). Project-based learning implementation in science class: Challenges for Indonesian educational system. Surabaya: Paper in Agreement implementation between Science Education Department Unesa and PG Chemistry Vykrum University Ujjain Indoa<br>4. Erman (2021). STEM-based learning in science classes: Challenges for Indonesian educational system. Bandung ESTEMIC 2021<br>5. Wahyuni, Sanjaya, Erman, dan Jatmiko (2019). Edmodo-Based Blended Learning Model as an Alternative of Science Learning to Motivate and Improve Junior High School Students' Scientific Critical Thinking Skills. Ijet, 14(7) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                              |                                                                                           |                        |                                        |                            |   |                 |                                      |                       |                     |    |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |    |  |  |  |  |  |  |  |  |  |  |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |
| <b>Dosen Pengampu</b>                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Dr. Sifak Indana, M.Pd.<br>Prof. Dr. Erman, M.Pd.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                              |                                                                                           |                        |                                        |                            |   |                 |                                      |                       |                     |    |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |    |  |  |  |  |  |  |  |  |  |  |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |
| <b>Mg Ke-</b>                                                                     | <b>Kemampuan akhir tiap tahapan belajar (Sub-CPMK)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>Penilaian</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                              | <b>Bantuan Pembelajaran, Metode Pembelajaran, Penugasan Mahasiswa, [ Estimasi Waktu ]</b> |                        | <b>Materi Pembelajaran [ Pustaka ]</b> | <b>Bobot Penilaian (%)</b> |   |                 |                                      |                       |                     |    |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |    |  |  |  |  |  |  |  |  |  |  |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |
|                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>Indikator</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Kriteria &amp; Bentuk</b> | <b>Luring (offline)</b>                                                                   | <b>Daring (online)</b> |                                        |                            |   |                 |                                      |                       |                     |    |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |    |  |  |  |  |  |  |  |  |  |  |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |
| (1)                                                                               | (2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | (3)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | (4)                          | (5)                                                                                       | (6)                    | (7)                                    | (8)                        |   |                 |                                      |                       |                     |    |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |    |  |  |  |  |  |  |  |  |  |  |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |

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|---|----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| 1 | Menjelaskan karakteristik model, pendekatan, dan metode pembelajaran       | <p>1.1. Aktif mendengarkan dan mencatat informasi dan tugas, bertanya, dan menanggapi informasi/tugas</p> <p>2.2. Memahami informasi dan tugas belajar dalam LKM</p> | <p><b>Kriteria:</b></p> <p>Nilai 4 jika aktif mendengarkan dan mencatat informasi dan tugas, serta bertanya dan atau menanggapi informasi atau tugas, nilai 3 jika aktif mendengarkan dan mencatat informasi dan tugas, tetapi bertanya atau menanggapi informasi atau tugas, nilai 2 jika aktif mendengarkan tetapi tidak mencatat informasi dan tugas yang disampaikan, dan nilai 1 jika tidak mendengarkan dan mencatat informasi dan tugas</p> <p><b>Bentuk Penilaian :</b><br/>Aktifitas Partisipatif</p>                                                                                                                                                                                                                                                       | Menyajikan informasi, pembagian tugas, dan tanya jawab<br>150 menit |                               | <p><b>Materi:</b> Model-model pembelajaran</p> <p><b>Pustaka:</b> 1. Arends, R.I. (2012). <i>Learning to teach</i>. Boston: McGraw-Hill.</p> <hr/> <p><b>Materi:</b> The nature of science</p> <p><b>Pustaka:</b> Bell, R.I. (2008). <i>Teaching the nature of science through process skill</i>. New York: Allyn and Bacon.</p> <hr/> <p><b>Materi:</b> Teaching and learning</p> <p><b>Pustaka:</b> Cbism, N. (2007). <i>Peer review of teaching: a sourcebook</i>. Bolton, Massachussetts: Angker Publishing Co.</p>                                                                           | 0%  |
| 2 | Menjelaskan model-model TCT: Inquiry-based learning dan discovery learning |                                                                                                                                                                      | <p><b>Kriteria:</b></p> <p>1. Skor 4 jika presentasi dilengkapi dengan slide PPT yang menarik, dipaparkan secara eksplisit, logis, dan jelas, dan menjawab pertanyaan peserta dengan tepat dan detail</p> <p>2. Skor 3 jika presentasi dilengkapi dengan slide PPT yang menarik, dipaparkan secara eksplisit dan logis, tetapi belum menjawab pertanyaan peserta dengan tepat dan detail.</p> <p>3. Skor 2 jika presentasi dilengkapi dengan slide PPT yang menarik, dipaparkan secara jelas tetapi tidak eksplisit dan tidak dapat menjawab pertanyaan peserta dengan tepat dan detail</p> <p>4. Skor 1 jika presentasi dilengkapi dengan PPT tetapi dipaparkan dengan tidak jelas dan eksplisit Skor</p> <p><b>Bentuk Penilaian :</b><br/>Penilaian Portofolio</p> |                                                                     | Presentasi dan diskusi<br>150 | <p><b>Materi:</b> Model-model pembelajaran</p> <p><b>Pustaka:</b> Arends, R.I. (2012). <i>Learning to teach</i>. Boston: McGraw-Hill.</p> <hr/> <p><b>Materi:</b> Model inquiry dan discovery learning</p> <p><b>Pustaka:</b> Erman et al. (2018). <i>Scientific thinking skills: Why junior high school science teachers cannot use discovery and inquiry models in classroom</i>. ICST, Atlantis Press.</p> <hr/> <p><b>Materi:</b> Model discovery learning</p> <p><b>Pustaka:</b> Erman et al. (2018). <i>Model Discovery. PPT Presentasi PKM Prodi S2/S3 Pendidikan Sains di Lombok</i>.</p> | 10% |

|   |                                                                |                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                     |                                                                                                                                                                                                                                                                                                                                                     |    |
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| 3 | Menjelaskan model-model cooperative dan collaborative learning | 1. Mendeskripsikan karakteristik model cooperative learning dan collaborative learning | <p><b>Kriteria:</b></p> <p>1. Skor 4 jika presentasi dilengkapi dengan slide PPT yang menarik, dipaparkan secara eksplisit, logis, dan menjawab pertanyaan peserta dengan tepat dan detail</p> <p>2. Skor 3 jika presentasi dilengkapi dengan slide PPT yang menarik, dipaparkan secara eksplisit dan logis, tetapi belum menjawab pertanyaan peserta dengan tepat dan detail.</p> <p>3. Skor 2 jika presentasi dilengkapi dengan slide PPT yang menarik, dipaparkan secara jelas tetapi tidak eksplisit dan tidak dapat menjawab pertanyaan peserta dengan tepat dan detail</p> <p>4. Skor 1 jika presentasi dilengkapi dengan PPT tetapi dipaparkan dengan tidak jelas dan eksplisit</p> <p><b>Bentuk Penilaian :</b><br/>Praktik / Unjuk Kerja</p> | Presentasi dan diskusi<br>150 menit | <p><b>Materi:</b> Model-model pembelajaran</p> <p><b>Pustaka:</b> <i>Arends, R.I. (2012). Learning to teach. Boston: McGraw-Hill.</i></p> <hr/> <p><b>Materi:</b> Collaborative learning</p> <p><b>Pustaka:</b> <i>Erman (2021). STEM-based learning in science classes: Challenges for Indonesian educational system. Bandung ESTEMIC 2021</i></p> | 0% |
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|---|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| 4 |  | <p>1.1. Mendeskripsikan karakteristik model project-based learning dan problem-based learning</p> <p>2.2. Menganalisis kurikulum untuk implementasi model project-based learning dan problem based learning</p> | <p><b>Kriteria:</b></p> <p>1. Skor 4 jika presentasi dilengkapi dengan slide PPT yang menarik, dipaparkan secara eksplisit, logis, dan jelas, dan menjawab pertanyaan peserta dengan tepat dan detail</p> <p>2. Skor 3 jika presentasi dilengkapi dengan slide PPT yang menarik, dipaparkan secara eksplisit dan logis, tetapi belum menjawab pertanyaan peserta dengan tepat dan detail.</p> <p>3. Skor 2 jika presentasi dilengkapi dengan slide PPT yang menarik, dipaparkan secara jelas tetapi tidak eksplisit dan tidak dapat menjawab pertanyaan peserta dengan tepat dan detail</p> <p>4. Skor 1 jika presentasi dilengkapi dengan PPT tetapi dipaparkan dengan tidak jelas dan eksplisit</p> <p><b>Bentuk Penilaian :</b><br/>Praktik / Unjuk Kerja</p> |  | Presentasi dan diskusi<br>150 | <p><b>Materi:</b> Model-model pembelajaran</p> <p><b>Pustaka:</b> Arends, R.I. (2012). <i>Learning to teach</i>. Boston: McGraw-Hill.</p> <hr/> <p><b>Materi:</b> Project-based learning</p> <p><b>Pustaka:</b> Erman (2023). <i>Project-based learning implementation in science class: Challenges for Indonesian educational system</i>. Surabaya: Paper in Agreement implementation between Science Education Department Unesa and PG Chemistry Vykrum University Ujjain India</p> | 0% |
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| 5 | Menjelaskan pendekatan pembelajaran: STEAM dan Blended learning. | <p>1.Mendeskrripsikan karakteristik model project-based learning</p> <p>2.Mendeskrripsikan karakteristik model problem-based learning</p> | <p><b>Kriteria:</b></p> <p>1.Skor 4 jika presentasi dilengkapi dengan slide PPT yang menarik, dipaparkan secara eksplisit, logis, dan jelas, dan menjawab pertanyaan peserta dengan tepat dan detail</p> <p>2.Skor 3 jika presentasi dilengkapi dengan slide PPT yang menarik, dipaparkan secara eksplisit dan logis, tetapi belum menjawab pertanyaan peserta dengan tepat dan detail.</p> <p>3.Skor 2 jika presentasi dilengkapi dengan slide PPT yang menarik, dipaparkan secara jelas tetapi tidak eksplisit dan tidak dapat menjawab pertanyaan peserta dengan tepat dan detail</p> <p>4.Skor 1 jika presentasi dilengkapi dengan PPT tetapi dipaparkan dengan tidak jelas dan eksplisit</p> <p><b>Bentuk Penilaian :</b><br/>Praktik / Unjuk Kerja</p> |                       | Presentasi dan diskusi<br>150 | <p><b>Materi:</b> STEAM</p> <p><b>Pustaka:</b> Erman (2021). <i>STEM-based learning in science classes: Challenges for Indonesian educational system</i>. Bandung ESTEMIC 2021</p> <p><b>Materi:</b> Blended learning</p> <p><b>Pustaka:</b> Wahyuni, Sanjaya, Erman, dan Jatmiko (2019). <i>Edmodo-Based Blended Learning Model as an Alternative of Science Learning to Motivate and Improve Junior High School Students' Scientific Critical Thinking Skills</i>. Ijjet, 14(7)</p> <p><b>Materi:</b> STEM</p> <p><b>Pustaka:</b> <i>Coference book of Educational of science, technology, engineering, and mathematics International Conference (ESTEMIC) 2021</i>. Bandung: UIN GJ.</p> | 10% |
| 6 | Menyusun rencana proyek pengembangan bahan ajar/buku ajar        | Merancang project pengembangan bahan ajar/buku ajar                                                                                       | <p><b>Kriteria:</b></p> <p>1.Skor 4 jika proposal disusun secara lengkap sesuai format, realistis dan logis, dan dilengkapi dengan tim, jadwal, dan biaya.</p> <p>2.Skor 3 jika proposal disusun secara lengkap sesuai format, realistis dan logis, dilengkapi dengan tim, tetapi jadwal dan biaya kurang realistis</p> <p>3.Skor 2 jika proposal disusun sesuai format, tetapi kurang realistif dan logis, dan dilengkapi dengan tim, jadwal, dan biaya</p> <p><b>Bentuk Penilaian :</b><br/>Penilaian Hasil Project / Penilaian Produk</p>                                                                                                                                                                                                                 | Workshop<br>150 menit |                               | <p><b>Materi:</b> Model-model pembelajaran</p> <p><b>Pustaka:</b> Arends, R.I. (2012). <i>Learning to teach</i>. Boston: McGraw-Hill.</p> <p><b>Materi:</b> STEM/STEAM, Collaborative learning</p> <p><b>Pustaka:</b> <i>Coference book of Educational of science, technology, engineering, and mathematics International Conference (ESTEMIC) 2021</i>. Bandung: UIN GJ.</p>                                                                                                                                                                                                                                                                                                               | 20% |

|   |                                                                                  |                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                         |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |     |
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| 7 | Mempresentasikan rancangan project pengembangan bahan ajar: bahan ajar/buku ajar | Menjelaskan rancangan project pengembangan bahan ajar sesuai model dan pendekatan yang dikembangkan. | <b>Kriteria:</b><br>1.Skor 4 jika presentasi dilengkapi dengan slide PPT yang menarik, dipaparkan secara eksplisit, logis, dan menjawab pertanyaan peserta dengan tepat dan detail<br>2.Skor 3 jika presentasi dilengkapi dengan slide PPT yang menarik, dipaparkan secara eksplisit dan logis, tetapi belum menjawab pertanyaan peserta dengan tepat dan detail.<br>3.Skor 2 jika presentasi dilengkapi dengan slide PPT yang menarik, dipaparkan secara jelas tetapi tidak eksplisit dan tidak dapat menjawab pertanyaan peserta dengan tepat dan detail<br>4.Skor 1 jika presentasi dilengkapi dengan PPT tetapi dipaparkan dengan tidak jelas dan eksplisit<br><br><b>Bentuk Penilaian :</b><br>Penilaian Hasil Project / Penilaian Produk | Presentasi dan tanya jawab<br>150 menit |  | <b>Materi:</b> Model-model pembelajaran<br><b>Pustaka:</b> 1. <i>Arends, R.I. (2012). Learning to teach. Boston: McGraw-Hill.</i><br><b>Materi:</b> The nature of science<br><b>Pustaka:</b> 2. <i>Bell, R.I. (2008). Teaching the nature of science through process skill. New York: Allyn and Bacon.</i><br><b>Materi:</b> STEAM/STEM<br><b>Pustaka:</b> 1. <i>Coference book of Educational of science, technology, engineering, and mathematics International Conference (ESTEMIC) 2021. Bandung: UIN GJ.</i> | 20% |
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| 8 | <p>1. Menjelaskan model-model TCT: Inquiry-based learning dan discovery learning</p> <p>2. Menjelaskan model-model cooperative dan collaborative learning</p> <p>3. Menjelaskan model-model project-based learning dan problem-based learning</p> <p>4. Menjelaskan pendekatan pembelajaran STEAM/STEM dan Blended learning</p> | <p>1.</p> <p>2. Menjelaskan model-model pembelajaran dan implementasinya dalam pembelajaran sains</p> | <p><b>Kriteria:</b></p> <p>1. Skor 4 jika dapat menjelaskan dengan detail dan tepat tujuan setiap model/pendekatan pembelajaran, teori pendukung, implementasi model dalam pembelajaran IPA, dan factor-faktor yang mempengaruhi efektivitas penerapan model/pendekatan pembelajaran</p> <p>2. Skor 3 jika dapat menjelaskan tujuan setiap model/pendekatan pembelajaran, teori pendukung, implementasi model dalam pembelajaran IPA, tetapi belum dapat menjelaskan secara detail faktor-faktor yang mempengaruhi efektivitas penerapan model/pendekatan pembelajaran</p> <p>3. Skor 2 jika dapat menjelaskan dengan benar tetapi kurang detail tentang tujuan setiap model/pendekatan pembelajaran, teori pendukung, implementasi model dalam pembelajaran IPA, dan faktor-faktor yang mempengaruhi efektivitas penerapan model/pendekatan pembelajaran</p> <p>4. Skor 1 jika kurang detail dan sebagian kurang tepat dalam menjelaskan tujuan setiap model/pendekatan pembelajaran, teori pendukung, implementasi model dalam pembelajaran IPA, dan factor-faktor yang mempengaruhi efektivitas penerapan model/pendekatan pembelajaran</p> | UTS<br>100 menit |  | <p><b>Materi:</b> Model-model pembelajaran<br/><b>Pustaka:</b> Arends, R.I. (2012). <i>Learning to teach</i>. Boston: McGraw-Hill.</p> <p><b>Materi:</b> Inquiry dan discovery learning<br/><b>Pustaka:</b> Erman et al. (2018). <i>Scientific thinking skills: Why junior high school science teachers cannot use discovery and inquiry models in classroom</i>. ICST, Atlantis Press.</p> <p><b>Materi:</b> Project based learning dan problem based learning<br/><b>Pustaka:</b> Erman (2023). <i>Project-based learning implementation in science class: Challenges for Indonesian educational system</i>. Surabaya: Paper in Agreement implementation between Science Education Department Unesa and PG Chemistry Vykrum University Ujjain India</p> <p><b>Materi:</b> STEM/STEAM<br/><b>Pustaka:</b> Erman (2021). <i>STEM-based learning in science classes: Challenges for Indonesian educational system</i>. Bandung ESTEMIC 2021</p> <p><b>Materi:</b> Blended learning<br/><b>Pustaka:</b> Wahyuni, Sanjaya, Erman, dan Jatmiko (2019). <i>Edmodo-Based Blended Learning Model as an Alternative of Science Learning to Motivate and Improve Junior High School Students' Scientific Critical Thinking Skills</i>. Ijet, 14(7)</p> | 0% |
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| 9 |  | <p>1. Mengembangkan buku ajar</p> <p>2. Mengembangkan perangkat pembelajaran</p> | <p><b>Kriteria:</b></p> <p>1. Skor 4 jika buku ajar sesuai format, ada kebaruan, koheren, kajian logis, dipaparkan secara eksplisit, dan sesuai topik dan dilengkapi dengan perangkat pembelajarannya, diterbitkan ber-ISBN dan bersertifikat HKI</p> <p>2. Skor 3 jika buku ajar sesuai format, ada kebaruan, menarik, kajian logis, dan sesuai topik, eksplisit paparannya, kurang koheren, dan dilengkapi dengan perangkat pembelajarannya, tetapi belum diterbitkan dan bersertifikat HKI</p> <p>3. Skor 2 jika buku ajar sesuai format, ada kebaruan, koheren, kajian logis, dan sesuai topik tetapi kurang eksplisit paparannya, dan tidak dilengkapi dengan perangkat pembelajarannya, tidak diterbitkan dan bersertifikat</p> <p><b>Bentuk Penilaian :</b><br/>Penilaian Hasil Project / Penilaian Produk</p> |  | <p>Project:<br/>Pengembangan buku ajar<br/>150 menit</p> | <p><b>Materi:</b> Model-model pembelajaran</p> <p><b>Pustaka:</b> 1. Arends, R.I. (2012). <i>Learning to teach</i>. Boston: McGraw-Hill.</p> <hr/> <p><b>Materi:</b> The nature of science</p> <p><b>Pustaka:</b> 2. Bell, R.I. (2008). <i>Teaching the nature of science through process skill</i>. New York: Allyn and Bacon.</p> <hr/> <p><b>Materi:</b> Model inquiry dan discovery</p> <p><b>Pustaka:</b> 5. Erman et al. (2018). <i>Scientific thinking skills: Why junior high school science teachers cannot use discovery and inquiry models in classroom</i>. ICST, Atlantis Press.</p> <hr/> <p><b>Materi:</b> Project-based learning</p> <p><b>Pustaka:</b> 3. Erman (2023). <i>Project-based learning implementation in science class: Challenges for Indonesian educational system</i>. Surabaya: Paper in Agreement implementation between Science Education Department Unesa and PG Chemistry Vykrum University Ujjain India</p> <hr/> <p><b>Materi:</b> STEAM</p> <p><b>Pustaka:</b> 4. Erman (2021). <i>STEM-based learning in science classes: Challenges for Indonesian educational system</i>. Bandung ESTEMIC 2021</p> | 0% |
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| 10 | Pelaksanaan project pengembangan bahan ajar/buku ajar model cooperative learning dan collaborative learning | 1. Mengembangkan buku ajar<br>2. Mengembangkan perangkat pembelajaran | <b>Kriteria:</b><br>1. Skor 4 jika buku ajar sesuai format, ada kebaruan, koheren, kajian logis, dipaparkan secara eksplisit, dan sesuai topik dan dilengkapi dengan perangkat pembelajarannya, diterbitkan ber-ISBN dan bersertifikat HKI<br>2. Skor 3 jika buku ajar sesuai format, ada kebaruan, menarik, kajian logis, dan sesuai topik, eksplisit paparannya, kurang koheren, dan dilengkapi dengan perangkat pembelajarannya, tetapi belum diterbitkan dan bersertifikat HKI<br>3. Skor 2 jika buku ajar sesuai format, ada kebaruan, koheren, kajian logis, dan sesuai topik tetapi kurang eksplisit paparannya, dan tidak dilengkapi dengan perangkat pembelajarannya, tidak diterbitkan dan bersertifikat<br>4. Skor 1 jika buku ajar sesuai format, tidak ada kebaruan, tidak koheren, kajian kurang sesuai dengan topiknya, kurang eksplisit paparannya, dan tidak dilengkapi dengan perangkat pembelajarannya, tidak diterbitkan, dan bersertifikat<br><br><b>Bentuk Penilaian :</b><br>Penilaian Hasil Project / Penilaian Produk | Project pengembangan bahan ajar 150 menit | <b>Materi:</b> Model-model pembelajaran<br><b>Pustaka:</b> 1. <i>Arends, R.I. (2012). Learning to teach. Boston: McGraw-Hill.</i><br><b>Materi:</b> The nature of science<br><b>Pustaka:</b> 2. <i>Bell, R.I. (2008). Teaching the nature of science through process skill. New York: Allyn and Bacon.</i><br><b>Materi:</b> Teaching and learning<br><b>Pustaka:</b> 4. <i>Cbism, N. (2007). Peer review of teaching: a sourcebook. Bolton, Massachussetts: Angker Publishing Co.</i> | 0% |
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| 11 | Pelaksanaan project pengembangan bahan ajar/buku ajar model project-based learning dan problem-based learning | 1.Mengembangkan buku ajar<br>2.Mengembangkan perangkat pembelajaran | <p><b>Kriteria:</b></p> <p>1.Skor 4 jika buku ajar sesuai format, ada kebaruan, koheren, kajian logis, dipaparkan secara eksplisit, dan sesuai topik dan dilengkapi dengan perangkat pembelajarannya, diterbitkan ber-ISBN dan bersertifikat HKI</p> <p>2.Skor 3 jika buku ajar sesuai format, ada kebaruan, menarik, kajian logis, dan sesuai topik, eksplisit paparannya, kurang koheren, dan dilengkapi dengan perangkat pembelajarannya, tetapi belum diterbitkan dan bersertifikat H</p> <p>3.Skor 2 jika buku ajar sesuai format, ada kebaruan, koheren, kajian logis, dan sesuai topik tetapi kurang eksplisit paparannya, dan tidak dilengkapi dengan perangkat pembelajarannya, tidak diterbitkan dan bersertifikat</p> <p><b>Bentuk Penilaian :</b><br/>Penilaian Hasil Project / Penilaian Produk</p> |  | Project pengembangan bahan ajar<br>150 | <p><b>Materi:</b> Model-model pembelajaran</p> <p><b>Pustaka:</b> 1. <i>Arends, R.I. (2012). Learning to teach. Boston: McGraw-Hill.</i></p> <hr/> <p><b>Materi:</b> Project based learning dan problem based learning</p> <p><b>Pustaka:</b> 3. <i>Erman (2023). Project-based learning implementation in science class: Challenges for Indonesian educational system. Surabaya: Paper in Agreement implementation between Science Education Department Unesa and PG Chemistry Vykrum University Ujjain Indoa</i></p> <hr/> <p><b>Materi:</b> The nature of science</p> <p><b>Pustaka:</b> 2. <i>Bell, R.I. (2008). Teaching the nature of science through process skill. New York: Allyn and Bacon.</i></p> | 0% |
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|----|--------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| 12 | Pelaksanaan project pengembangan bahan ajar/buku ajar pendekatan STEM/STEAM dan blended learning | 1.Mengembangkan buku ajar<br>2.Mengembangkan perangkat pembelajaran | <b>Kriteria:</b><br>1.Skor 4 jika buku ajar sesuai format, ada kebaruan, koheren, kajian logis, dipaparkan secara eksplisit, dan sesuai topik dan dilengkapi dengan perangkat pembelajarannya, diterbitkan ber-ISBN dan bersertifikat HK<br>2.Skor 3 jika buku ajar sesuai format, ada kebaruan, menarik, kajian logis, dan sesuai topik, eksplisit paparannya, kurang koheren, dan dilengkapi dengan perangkat pembelajarannya, tetapi belum diterbitkan dan bersertifikat HKI<br>3.Skor 2 jika buku ajar sesuai format, ada kebaruan, koheren, kajian logis, dan sesuai topik tetapi kurang eksplisit paparannya, dan tidak dilengkapi dengan perangkat pembelajarannya, tidak diterbitkan dan bersertifikat HKI<br>4.Skor 1 jika buku ajar sesuai format, tidak ada kebaruan, tidak koheren, kajian kurang sesuai dengan topiknya, kurang eksplisit paparannya, dan tidak dilengkapi dengan perangkat pembelajarannya, tidak diterbitkan, dan bersertifikat<br><br><b>Bentuk Penilaian :</b><br>Penilaian Hasil Project / Penilaian Produk | Project pengembangan buku ajar 150 menit | <b>Materi:</b> Model-model pembelajaran<br><b>Pustaka:</b> 1. <i>Arends, R.I. (2012). Learning to teach. Boston: McGraw-Hill.</i><br><b>Materi:</b> STEAM<br><b>Pustaka:</b> 4. <i>Erman (2021). STEM-based learning in science classes: Challenges for Indonesian educational system. Bandung ESTEMIC 2021</i><br><b>Materi:</b> Blended learning<br><b>Pustaka:</b> <i>Wahyuni, Sanjaya, Erman, dan Jatmiko (2019). Edmodo-Based Blended Learning Model as an Alternative of Science Learning to Motivate and Improve Junior High School Students' Scientific Critical Thinking Skills. Ijjet, 14(7)</i> | 0% |
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| 13 |  | <p>1.Mengembangkan buku ajar</p> <p>2.Mengembangkan perangkat pembelajaran</p> | <p><b>Kriteria:</b></p> <p>1.Skor 4 jika buku ajar sesuai format, ada kebaruan, koheren, kajian logis, dipaparkan secara eksplisit, dan sesuai topik dan dilengkapi dengan perangkat pembelajarannya, diterbitkan ber-ISBN dan bersertifikat HK</p> <p>2.Skor 3 jika buku ajar sesuai format, ada kebaruan, menarik, kajian logis, dan sesuai topik, eksplisit paparannya, kurang koheren, dan dilengkapi dengan perangkat pembelajarannya, tetapi belum diterbitkan dan bersertifikat HKI</p> <p>3.Skor 2 jika buku ajar sesuai format, ada kebaruan, koheren, kajian logis, dan sesuai topik tetapi kurang eksplisit paparannya, dan tidak dilengkapi dengan perangkat pembelajarannya, tidak diterbitkan dan bersertifikat</p> <p>4.Skor 1 jika buku ajar sesuai format, tidak ada kebaruan, tidak koheren, kajian kurang sesuai dengan topiknya, kurang eksplisit paparannya, dan tidak dilengkapi dengan perangkat pembelajarannya, tidak diterbitkan, dan bersertifikat</p> <p><b>Bentuk Penilaian :</b><br/>Penilaian Hasil Project / Penilaian Produk</p> |  | <p>Project bahan ajar: Revisi produk 150</p> | <p><b>Materi:</b> Model-model pembelajaran</p> <p><b>Pustaka:</b> 1. Arends, R.I. (2012). <i>Learning to teach</i>. Boston: McGraw-Hill.</p> <hr/> <p><b>Materi:</b> Model discovery learning</p> <p><b>Pustaka:</b> Erman et al. (2018). <i>Model Discovery. PPt Presentasi PKM Prodi S2/S3 Pendidikan Sains di Lombok</i>.</p> <hr/> <p><b>Materi:</b> Model inquiry</p> <p><b>Pustaka:</b> Erman et al. (2018). <i>Scientific thinking skills: Why junior high school science teachers cannot use discovery and inquiry models in classroom</i>. ICST, Atlantis Press.</p> | 20% |
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| 14 | Pelaksanaan project pengembangan bahan ajar/buku ajar model inquiry-based learning dan discovery learning | 1.Mengembangkan buku ajar<br>2.Mengembangkan perangkat pembelajaran | <b>Kriteria:</b><br>1.Skor 4 jika buku ajar sesuai format, ada kebaruan, koheren, kajian logis, dipaparkan secara eksplisit, dan sesuai topik dan dilengkapi dengan perangkat pembelajarannya, diterbitkan ber-ISBN dan bersertifikat HKI<br>2.Skor 3 jika presentasi dilengkapi dengan slide PPT yang menarik, dipaparkan secara eksplisit dan logis, tetapi belum menjawab pertanyaan peserta dengan tepat dan detail.<br>3.Skor 2 jika buku ajar sesuai format, ada kebaruan, koheren, kajian logis, dan sesuai topik tetapi kurang eksplisit paparannya, dan tidak dilengkapi dengan perangkat pembelajarannya, tidak diterbitkan dan bersertifikat<br>4.Skor 1 jika buku ajar sesuai format, tidak ada kebaruan, tidak koheren, kajian kurang sesuai dengan topiknya, kurang eksplisit paparannya, dan tidak dilengkapi dengan perangkat pembelajarannya, tidak diterbitkan, dan bersertifikat<br><br><b>Bentuk Penilaian :</b><br>Penilaian Hasil Project / Penilaian Produk | Project buku ajar: Revisi produk 150 | <b>Materi:</b> Model-model pembelajaran<br><b>Pustaka:</b> 1. <i>Arends, R.I. (2012). Learning to teach. Boston: McGraw-Hill.</i><br><b>Materi:</b> The nature of science<br><b>Pustaka:</b> 2. <i>Bell, R.I. (2008). Teaching the nature of science through process skill. New York: Allyn and Bacon.</i><br><b>Materi:</b> STEAM<br><b>Pustaka:</b> 4. <i>Erman (2021). STEM-based learning in science classes: Challenges for Indonesian educational system. Bandung ESTEMIC 2021</i> | 0% |
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| 15 | Pelaksanaan project pengembangan bahan ajar/buku ajar model inquiry-based learning dan discovery learning | 1.Mengembangkan buku ajar<br>2.Mengembangkan perangkat pembelajaran | <b>Kriteria:</b><br>1.Skor 4 jika buku ajar sesuai format, ada kebaruan, koheren, kajian logis, dipaparkan secara eksplisit, dan sesuai topik dan dilengkapi dengan perangkat pembelajarannya, diterbitkan ber-ISBN dan bersertifikat HKI<br>2.Skor 3 jika buku ajar sesuai format, ada kebaruan, menarik, kajian logis, dan sesuai topik, eksplisit paparannya, kurang koheren, dan dilengkapi dengan perangkat pembelajarannya, tetapi belum diterbitkan dan bersertifikat HKI<br>3.Skor 2 jika buku ajar sesuai format, ada kebaruan, koheren, kajian logis, dan sesuai topik tetapi kurang eksplisit paparannya, dan tidak dilengkapi dengan perangkat pembelajarannya, tidak diterbitkan dan bersertifikat<br>4.Skor 1 jika buku ajar sesuai format, tidak ada kebaruan, tidak koheren, kajian kurang sesuai dengan topiknya, kurang eksplisit paparannya, dan tidak dilengkapi dengan perangkat pembelajarannya, tidak diterbitkan, dan bersertifikat<br><br><b>Bentuk Penilaian :</b><br>Penilaian Hasil Project / Penilaian Produk |  | Project dan presentasi produk: Finalisasi 150 menit | <b>Materi:</b> Model-model pembelajaran<br><b>Pustaka:</b> 1. <i>Arends, R.I. (2012). Learning to teach. Boston: McGraw-Hill.</i> | 45% |
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| 16 |  | <p>1.Mengembangkan buku ajar</p> <p>2.Mengembangkan perangkat pembelajaran</p> | <p><b>Kriteria:</b></p> <p>1.Skor 4 jika buku ajar sesuai format, ada kebaruan, koheren, kajian logis, dipaparkan secara eksplisit, dan sesuai topik dan dilengkapi dengan perangkat pembelajarannya, diterbitkan ber-ISBN dan bersertifikat HKI</p> <p>2.Skor 3 jika buku ajar sesuai format, ada kebaruan, menarik, kajian logis, dan sesuai topik, eksplisit paparannya, kurang koheren, dan dilengkapi dengan perangkat pembelajarannya, tetapi belum diterbitkan dan bersertifikat HKI</p> <p>3.Skor 2 jika buku ajar sesuai format, ada kebaruan, koheren, kajian logis, dan sesuai topik tetapi kurang eksplisit paparannya, dan tidak dilengkapi dengan perangkat pembelajarannya, tidak diterbitkan dan bersertifikat</p> <p>4.Skor 1 jika buku ajar sesuai format, tidak ada kebaruan, tidak koheren, kajian kurang sesuai dengan topiknya, kurang eksplisit paparannya, dan tidak dilengkapi dengan perangkat pembelajarannya, tidak diterbitkan, dan bersertifikat</p> <p><b>Bentuk Penilaian :</b><br/>Penilaian Hasil Project / Penilaian Produk</p> | <p>Ujian akhir semester (UAS)<br/>100 menit</p> |  | <p><b>Materi:</b> Model-model pembelajaran</p> <p><b>Pustaka:</b> 1. Arends, R.I. (2012). <i>Learning to teach</i>. Boston: McGraw-Hill.</p> <hr/> <p><b>Materi:</b> Model inquiry dan discovery learning</p> <p><b>Pustaka:</b> 5. Erman et al. (2018). <i>Scientific thinking skills: Why junior high school science teachers cannot use discovery and inquiry models in classroom</i>. ICST, Atlantis Press.</p> <hr/> <p><b>Materi:</b> Model discovery</p> <p><b>Pustaka:</b> 2. Erman et al. (2018). <i>Model Discovery. PPT Presentasi PKM Prodi S2/S3 Pendidikan Sains di Lombok</i>.</p> <hr/> <p><b>Materi:</b> Project based learning dan problem based learning</p> <p><b>Pustaka:</b> 3. Erman (2023). <i>Project-based learning implementation in science class: Challenges for Indonesian educational system</i>. Surabaya: Paper in Agreement implementation between Science Education Department Unesa and PG Chemistry Vykrum University Ujjain India</p> <hr/> <p><b>Materi:</b> Blended learning</p> <p><b>Pustaka:</b> Wahyuni, Sanjaya, Erman, dan Jatmiko (2019). <i>Edmodo-Based Blended Learning Model as an Alternative of Science Learning to Motivate and Improve Junior High School Students' Scientific Critical Thinking Skills</i>. Ijett, 14(7)</p> | 30% |
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**Rekap Persentase Evaluasi : Project Based Learning**

| No | Evaluasi                                   | Persentase |
|----|--------------------------------------------|------------|
| 1. | Penilaian Hasil Project / Penilaian Produk | 135%       |
| 2. | Penilaian Portofolio                       | 10%        |
| 3. | Praktik / Unjuk Kerja                      | 10%        |
|    |                                            | 100%       |

**Catatan**

1. **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.
2. **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.
3. **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.
4. **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.
5. **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.
6. **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.
7. **Bentuk penilaian:** tes dan non-tes.
8. **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.
9. **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.
10. **Materi Pembelajaran** adalah rincian atau uraian dari bahan kajian yg dapat disajikan dalam bentuk beberapa pokok dan sub-pokok bahasan.
11. **Bobot penilaian** adalah prosentasi penilaian terhadap setiap pencapaian sub-CPMK yang besarnya proposional dengan tingkat kesulitan pencapaian sub-CPMK tsb., dan totalnya 100%.
12. TM=Tatap Muka, PT=Penugasan terstruktur, BM=Belajar mandiri.