

**REPORT**  
**MONITORING AND EVALUATION OF SEMESTER LEARNING PLAN**  
**DOCUMENTS**  
**ODD SEMESTER 2024/2025**

**QUALITY ASSURANCE SUB-UNIT**  
**BIOLOGY EDUCATION STUDY PROGRAM**  
**FACULTY OF MATHEMATICS EDUCATION, NATURAL SCIENCES, AND INFORMATION**  
**TECHNOLOGY**  
**UNIVERSITAS PGRI SEMARANG**  
**2025**

**REPORT**  
**MONITORING AND EVALUATION OF SEMESTER LEARNING PLAN DOCUMENTS**  
**EVEN SEMESTER 2024/2025**

**Mathematics Education QA Sub Unit Team**

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## PREFACE

Praise be to God Almighty for His blessings and grace, so that the Monitoring and Evaluation Report of SLP Documents for the Even Semester of the 2024/2025 Academic Year in the Mathematics Education Study Program, Faculty of Mathematics Education, Natural Sciences, and Information Technology, Universitas PGRI Semarang, can be properly completed.

This monitoring and evaluation activity was conducted as part of the implementation of the Internal Quality Assurance System within the Biology Education Study Program. The purpose of this activity was to ensure that the SLP documents, hereinafter referred to as SLP, prepared by course lecturers comply with the established academic quality standards and are suitable to be used as guidelines for teaching and learning activities.

The focus of this monitoring and evaluation included the alignment of the SLP with Graduate Learning Outcomes and Course Learning Outcomes, the alignment of learning methods with Graduate Learning Outcomes, the alignment of assessment with Course Learning Outcomes, the availability of teaching materials, the availability of assessment rubrics, the implementation of Student-Centered Learning principles, and the integration of lecturers' research and community service outcomes into the learning plan.

We would like to express our sincere gratitude to:

1. The Chairperson of YPLP PT Universitas PGRI Semarang;
2. The Rector of Universitas PGRI Semarang;
3. The Chairperson of the Quality Assurance Institute of Universitas PGRI Semarang;
4. The Dean of the Faculty of Mathematics Education, Natural Sciences, and Information Technology, Universitas PGRI Semarang;
5. The Head of the Biology Education Study Program;
6. The Quality Assurance Sub-Unit of the Biology Education Study Program;
7. All course lecturers in the Biology Education Study Program.

The results of this monitoring and evaluation are expected to serve as a basis for the improvement and refinement of Semester Learning Plan documents. Therefore, the Semester Learning Plan documents used in the teaching and learning process are expected to be aligned with learning outcomes, support active learning implementation, ensure objective assessment, and strengthen the culture of academic quality in the Biology Education Study Program, FPMIPATI, Universitas PGRI Semarang.

Semarang, September 17, 2025

Quality Assurance Sub-Unit

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## 1. INTRODUCTION

The SLP, or Rencana Pembelajaran Semester (SLP), is an essential academic document used by lecturers as a guideline in implementing the teaching and learning process. An SLP systematically describes the learning design, including learning outcomes, learning materials, teaching methods, student learning experiences, assessment methods, learning resources, and assessment rubrics. Therefore, the quality of SLP documents significantly determines the direction and quality of classroom learning.

Monitoring and evaluation of SLP documents are necessary to ensure that the SLP prepared by course lecturers complies with the established learning quality standards. The SLP does not merely function as an administrative document but also serves as an academic reference that connects Graduate Learning Outcomes, Course Learning Outcomes, learning methods, assessment, learning resources, and student learning activities.

In the Biology Education Study Program, Faculty of Mathematics Education, Natural Sciences, and Information Technology, Universitas PGRI Semarang, the monitoring and evaluation of SLP documents for the Even Semester of the 2024/2025 Academic Year was conducted by the Quality Assurance Sub-Unit of the Biology Education Study Program. This activity was aimed at assessing the readiness and quality of SLP documents to be used by lecturers in the teaching and learning process.

The indicators used in the monitoring and evaluation of SLP documents included the following:

- a. The SLP is prepared in accordance with Graduate Learning Outcomes and Course Learning Outcomes;
- b. The learning methods used support the achievement of Graduate Learning Outcomes;
- c. The assessment is aligned with Course Learning Outcomes;
- d. Teaching materials are available and support the learning process;
- e. Assessment rubrics are available as a basis for objective assessment;
- f. Learning activities apply the principles of Student-Centered Learning;
- g. Learning activities integrate the research and community service outcomes of course lecturers.

The legal and institutional bases for conducting this monitoring and evaluation of SLP documents are as follows:

- a. Law Number 20 of 2003 concerning the National Education System;
- b. Law Number 12 of 2012 concerning Higher Education;
- c. Regulation of the Minister of Higher Education, Science, and Technology of the Republic of Indonesia Number 39 of 2025 concerning Quality Assurance in Higher Education;
- d. Internal Quality Assurance System documents of Universitas PGRI Semarang;
- e. Learning Quality Standards of Universitas PGRI Semarang;
- f. Academic policies of the Faculty of Mathematics Education, Natural Sciences, and Information Technology, Universitas PGRI Semarang;
- g. Academic guidelines of the Biology Education Study Program, FPMIPATI, Universitas PGRI Semarang.

## **2. QUALITY STANDARDS FOR MONITORING AND EVALUATION OF SLP**

### **DOCUMENTS**

The quality standards for monitoring and evaluation of SLP documents were developed to ensure that every SLP used by lecturers in teaching has fulfilled the principles of good learning planning. An SLP must clearly demonstrate the relationship among learning outcomes, learning materials, learning strategies, student learning experiences, assessment, teaching materials, and assessment rubrics.

In an Outcome-Based Education approach, an SLP document must show a clear alignment among Graduate Learning Outcomes, Course Learning Outcomes, Sub-Course Learning Outcomes, learning methods, and assessment. Accordingly, the learning process implemented by lecturers can be directed toward achieving the competencies established by the study program.

The quality standards of SLP documents used in this monitoring and evaluation activity include the following:

- a. The SLP demonstrates alignment between Graduate Learning Outcomes and Course Learning Outcomes;
- b. The learning methods stated in the SLP support the achievement of Graduate Learning Outcomes;
- c. The assessment stated in the SLP is aligned with Course Learning Outcomes;
- d. Teaching materials are listed and support the achievement of learning outcomes;
- e. Assessment rubrics are available as a basis for objective and transparent assessment;
- f. The SLP reflects the implementation of Student-Centered Learning principles;
- g. The SLP includes the integration of lecturers' research and community service outcomes.

## **3. IMPLEMENTATION OF MONITORING AND EVALUATION OF SLP DOCUMENTS**

The monitoring and evaluation of SLP documents was conducted by the Quality Assurance Sub-Unit of the Biology Education Program, Faculty of Mathematics Education, Natural Sciences, and Information Technology, Universitas PGRI Semarang. This activity was conducted on the SLP documents of courses offered in the Even Semester of the 2024/2025 Academic Year.

A total of 20 course SLP documents were monitored. Each SLP document was reviewed based on the predetermined indicators. The review was conducted to ensure that each SLP fulfilled the components of learning planning in accordance with the quality standards of the Biology Education Study Program.

The stages of the monitoring and evaluation of SLP documents were as follows:

1. The Quality Assurance Sub-Unit of the Study Program prepared the monitoring instrument for SLP documents;
2. Course lecturers submitted or uploaded their SLP documents;
3. The monitoring team reviewed each SLP document based on the established indicators;
4. The monitoring team assigned scores to each indicator;

5. The results were recapitulated in the form of achievement percentages;
6. The monitoring team analyzed the results of the SLP document review;
7. The monitoring team formulated conclusions and follow-up recommendations;
8. The monitoring team prepared the monitoring and evaluation report of SLP documents.

#### 4. INSTRUMENTS AND RUBRICS FOR MONITORING SLP DOCUMENTS

##### a. Instrument for Monitoring SLP Documents

The instrument for monitoring SLP documents was prepared in the form of questions based on SLP quality indicators. These questions were used to assess the completeness and alignment of the SLP content.

**Table 1 Instrument for Monitoring SLP Documents**

| No. | Indicator                                                                     | Monitoring Question for SLP Document                                                                                                                   | Evidence Reviewed                                                                                                                 |
|-----|-------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| 1   | Alignment of SLP with Graduate Learning Outcomes and Course Learning Outcomes | Has the SLP been prepared in accordance with the Graduate Learning Outcomes and Course Learning Outcomes of the Biology Education Study Program?       | Formulation of Graduate Learning Outcomes, Course Learning Outcomes, Sub-Course Learning Outcomes, and their alignment in the SLP |
| 2   | Alignment of learning methods with Graduate Learning Outcomes                 | Do the learning methods stated in the SLP support the achievement of Graduate Learning Outcomes?                                                       | Learning methods, forms of learning, and student learning experiences                                                             |
| 3   | Alignment of assessment with Course Learning Outcomes                         | Is the assessment stated in the SLP aligned with the predetermined Course Learning Outcomes?                                                           | Assignments, tests, projects, portfolios, and assessment indicators                                                               |
| 4   | Availability of teaching materials                                            | Are teaching materials available and supportive of the learning process?                                                                               | Textbooks, modules, presentation materials, articles, worksheets, and digital learning resources                                  |
| 5   | Availability of assessment rubrics                                            | Are assessment rubrics available as a basis for objective assessment?                                                                                  | Rubrics for assignments, presentations, projects, practical work, and portfolios                                                  |
| 6   | Implementation of Student-Centered Learning                                   | Does the learning design in the SLP apply the principles of Student-Centered Learning?                                                                 | Discussion, case studies, problem-based learning, project-based learning, and collaborative learning                              |
| 7   | Integration of lecturers' research and community service outcomes             | Does the SLP integrate lecturers' research and community service outcomes into materials, case examples, assignments, projects, or teaching materials? | Lecturer research references, community service outcomes, case examples, project topics, and research-based teaching materials    |

##### b. Scoring Rubric

The assessment used binary scoring, namely 1 and 0.

**Table 2 Scoring Criteria**

| Score | Criteria                                       |
|-------|------------------------------------------------|
| 1     | The indicator is fulfilled in the SLP document |

| Score | Criteria                                                                     |
|-------|------------------------------------------------------------------------------|
| 0     | The indicator is not fulfilled or is not clearly visible in the SLP document |

The achievement category was determined based on the following percentage ranges.

**Table 3** *Achievement Category*

| Percentage Range | Category  | Description                                                                                                    |
|------------------|-----------|----------------------------------------------------------------------------------------------------------------|
| 85%-100%         | Excellent | The SLP document fulfills almost all quality indicators and is appropriate to be used as a learning guideline. |
| 70%-84%          | Good      | The SLP document fulfills most quality indicators, but some aspects still require improvement.                 |
| 55%-69%          | Fair      | The SLP document fulfills some indicators, but significant improvement is needed.                              |
| 40%-54%          | Poor      | The SLP document does not fulfill most quality indicators.                                                     |
| < 40%            | Very Poor | The SLP document does not meet the quality standards and requires comprehensive revision.                      |

## 5. RESULTS OF MONITORING AND EVALUATION OF SLP DOCUMENTS

### a. General Recapitulation of Monitoring Results

The results of the monitoring and evaluation of SLP documents in the Biology Education Study Program, FPMIPATI, Universitas PGRI Semarang, indicate that the overall quality of SLP documents was categorized as Excellent. Of the seven indicators assessed, five indicators were categorized as Excellent, while two indicators were categorized as Good.

The highest achievement was found in the indicator of SLP alignment with Graduate Learning Outcomes and Course Learning Outcomes, reaching 100%. This indicates that all reviewed SLP documents had demonstrated alignment between Graduate Learning Outcomes and Course Learning Outcomes. Meanwhile, the indicator of integration of lecturers' research and community service outcomes reached 85%, which indicates that this aspect requires particular attention in the improvement of future SLP documents.

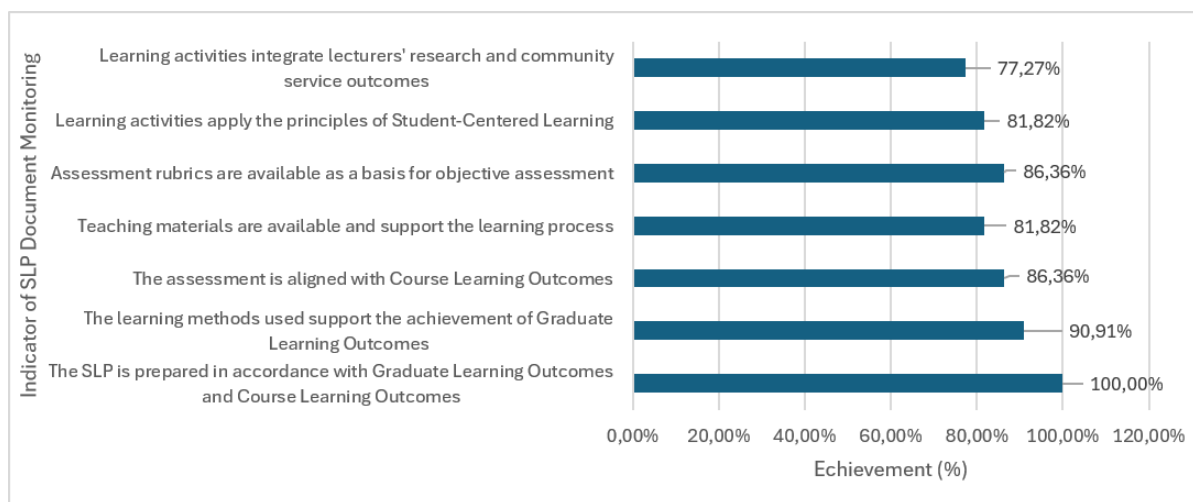
The average achievement of all indicators was 90.00%, categorized as Excellent.

### b. Recapitulation Table of SLP Document Indicator Achievement

**Table 4** *Recapitulation of SLP Document Indicator Achievement*

| No. | Indicator of SLP Document Monitoring                                                           | Number of SLP Documents Fulfilled | Percentage | Category  |
|-----|------------------------------------------------------------------------------------------------|-----------------------------------|------------|-----------|
| 1   | The SLP is prepared in accordance with Graduate Learning Outcomes and Course Learning Outcomes | 22 out of 22                      | 100%       | Excellent |

| No. | Indicator of SLP Document Monitoring                                             | Number of SLP Documents Fulfilled | Percentage | Category  |
|-----|----------------------------------------------------------------------------------|-----------------------------------|------------|-----------|
| 2   | The learning methods used support the achievement of Graduate Learning Outcomes  | 20 out of 22                      | 90.91%     | Excellent |
| 3   | The assessment is aligned with Course Learning Outcomes                          | 19 out of 22                      | 86.36%     | Excellent |
| 4   | Teaching materials are available and support the learning process                | 18 out of 22                      | 81.82%     | Excellent |
| 5   | Assessment rubrics are available as a basis for objective assessment             | 19 out of 22                      | 86.36%     | Excellent |
| 6   | Learning activities apply the principles of Student-Centered Learning            | 18 out of 22                      | 81.82%     | Excellent |
| 7   | Learning activities integrate lecturers' research and community service outcomes | 17 out of 22                      | 77.27%     | Good      |
|     | Average                                                                          | 133 out of 154                    | 86.36%     | Excellent |



**Figure 1** Indicator Achievement in SLP Document Monitoring

Based on Figure 1, the highest achievement was found in the indicator of SLP alignment with Graduate Learning Outcomes and Course Learning Outcomes, reaching 100%. This indicates that the SLP documents had been prepared by considering both study program learning outcomes and course learning outcomes.

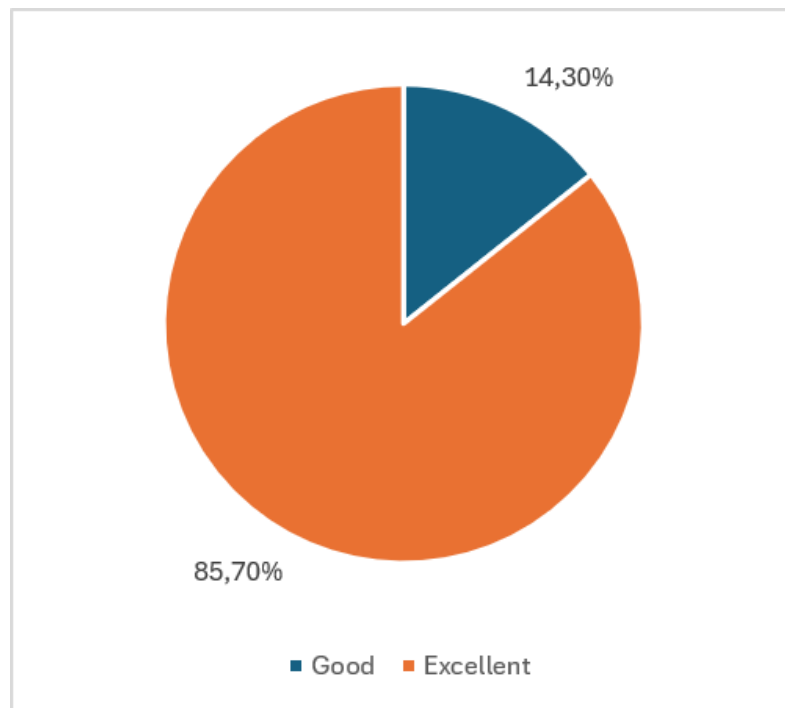
The indicators of learning methods supporting Graduate Learning Outcomes 90.91%; assessment aligned with Course Learning Outcomes each reached 86.36%. These results indicate that most SLP documents had included learning methods and assessment strategies aligned with the intended learning outcomes.

The availability of teaching materials reached 81.82%. This shows that most SLP documents had listed teaching materials that support the learning process. However, three SLP documents still need clearer and more complete teaching materials.

The availability of assessment rubrics reached 86.36% and was categorized as Good. This indicates that assessment rubrics were available in most SLP documents, but four SLP documents still require clearer or more complete rubrics.

The implementation of Student-Centered Learning reached 81.82%. This indicates that most SLP documents had reflected active learning designs, such as discussion, problem solving, presentations, group work, projects, and learning reflection.

**c. Diagram of Indicator Category Composition**



**Figure 2** *Category Composition of SLP Monitoring Indicators*

**Table 5** *Category Composition of SLP Monitoring Indicators*

| Category  | Number of Indicators | Percentage |
|-----------|----------------------|------------|
| Excellent | 5 indicators         | 85.70%     |
| Good      | 1 indicator          | 14,30%     |
| Fair      | 0 indicators         | 0%         |
| Poor      | 0 indicators         | 0%         |
| Very Poor | 0 indicators         | 0%         |

The diagram shows that most indicators of SLP documents were categorized as Excellent. One indicator was categorized as Good, namely the integration of lecturers' research and community service outcomes. Therefore, the SLP documents of the Biology Education Study Program are generally appropriate to be used as guidelines for teaching and learning, but improvement is still required in the areas of assessment rubrics and the integration of lecturers' tridharma activities.

#### d. Recapitulation of Monitoring Results by SLP Document

The indicator codes used in the following table are I1 for SLP aligned with Graduate Learning Outcomes and Course Learning Outcomes, I2 for learning methods supporting Graduate Learning Outcomes, I3 for assessment aligned with Course Learning Outcomes, I4 for teaching materials availability, I5 for assessment rubric availability, I6 for Student-Centered Learning implementation, and I7 for integration of lecturers' research and community service outcomes.

**Table 6** Recapitulation of Monitoring Results by SLP Document

| No. | Course                      | Course Lecturers                                                        | I1 | I2 | I3 | I4 | I5 | I6 | I7 | Score | Percentage | Category  |
|-----|-----------------------------|-------------------------------------------------------------------------|----|----|----|----|----|----|----|-------|------------|-----------|
| 1   | Basic Chemistry             | Dr. Maria Ulfah, M.Pd                                                   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 7/7   | 100%       | Excellent |
| 2   | Learner Development         | Rivanna Citraning Rachmawati, S.Si.; M.Pd; Reni Rakhmawati, S.Pd., M.Pd | 1  | 1  | 1  | 1  | 1  | 1  | 0  | 6/7   | 85.71%     | Excellent |
| 3   | Basic Biology               | Ipah Budi Minarti, S.Pd, M.Pd.; Fibria Kaswinarni, S.Si, M.Si           | 1  | 1  | 1  | 0  | 1  | 0  | 1  | 5/7   | 71.43%     | Good      |
| 4   | Foundations of Education    | Dr. Prasetyo, M.Pd                                                      | 1  | 1  | 1  | 0  | 1  | 0  | 1  | 5/7   | 71.43%     | Good      |
| 5   | Laboratory Techniques       | M. Anas Dzakiy, S.Si, M.Sc; Reni Rakhmawati, S.Pd, M.Pd                 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 7/7   | 100%       | Excellent |
| 6   | Biology Learning Strategies | Dr. Fenny Roshayanti, S.Pd M.Pd.; Atip Nurwahyuni, S.Si, S.Pd, M.Pd     | 1  | 1  | 1  | 1  | 1  | 1  | 0  | 6/7   | 85.71%     | Excellent |
| 7   | Animal Physiology           | Dr. Mei Sulistyoningih, M.Si; Reni Rakhmawati, S.Pd, M.Pd               | 1  | 0  | 1  | 1  | 1  | 1  | 1  | 6/7   | 85.71%     | Excellent |

| No. | Course                                | Course Lecturers                                                 | I1 | I2 | I3 | I4 | I5 | I6 | I7 | Score | Percentage | Category  |
|-----|---------------------------------------|------------------------------------------------------------------|----|----|----|----|----|----|----|-------|------------|-----------|
| 8   | Cell Biology                          | Reni Rakhmawati, S.Pd, M.Pd.; Lussana Rosita Dewi, S.Si, M.Pd.   | 1  | 1  | 1  | 1  | 1  | 1  | 0  | 6/7   | 85.71%     | Excellent |
| 9   | Development of Science Curriculum     | Dr. Eny Hartadiyati, MSi, Med. ; Dr. Sumarno, M.Pd               | 1  | 1  | 1  | 0  | 1  | 1  | 1  | 6/7   | 85.71%     | Excellent |
| 10  | Strategic and Marketing Analysis      | Dr. Mei Sulistyowati, S.Si, M.Si.                                | 1  | 1  | 1  | 1  | 0  | 1  | 1  | 6/7   | 85.71%     | Excellent |
| 11  | Human Resource Management             | Dr. Mei Sulistyowati, S.Si, M.Si.                                | 1  | 0  | 1  | 1  | 1  | 1  | 1  | 6/7   | 85.71%     | Excellent |
| 12  | Biology Learning Assessment           | Dr. Prasetyo., M.Pd; Ipah Budi Minarti, S.Pd, M.Pd               | 1  | 1  | 1  | 0  | 1  | 0  | 1  | 5/7   | 71.43%     | Good      |
| 13  | Advanced Human Anatomy and Physiology | Dr. Fenny Roshayanti, S.Pd M.Pd.; Fibria Kaswinarni, S.Si, M.Si. | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 7/7   | 100.00 %   | Excellent |
| 14  | Evolution                             | Reni Rakhmawati, S.Pd, M.Pd; Praptining Rahayu, M.Pd             | 1  | 1  | 0  | 1  | 1  | 1  | 1  | 6/7   | 85.71%     | Excellent |
| 15  | Microteaching                         | Eko Retno Mulyaningrum, M.Pd.; Dr. Syaipul Hayat, M.Pd           | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 7/7   | 100.00 %   | Excellent |
| 16  | Environmental Science                 | Dr. Ling. Maria Ulfa, M.Pd; Fibria Kaswinarni, S.Si, M.Si        | 1  | 1  | 1  | 1  | 0  | 1  | 1  | 6/7   | 85.71%     | Excellent |

| No.     | Course                 | Course Lecturers                                                       | I1   | I2      | I3      | I4      | I5      | I6      | I7      | Score | Percentage | Category  |
|---------|------------------------|------------------------------------------------------------------------|------|---------|---------|---------|---------|---------|---------|-------|------------|-----------|
| 17      | Fishery Cultivation    | Praptining Rahayu, S.Si, M.Pd; Atip Nurwahyunani, M.Pd                 | 1    | 1       | 1       | 0       | 1       | 1       | 1       | 6/7   | 85.71%     | Excellent |
| 18      | Biotechnology          | Prof. Dr. Endah Rita S.D., S.Si, M.Si; Atip Nurwahyunani, M.Pd.        | 1    | 1       | 1       | 1       | 1       | 1       | 0       | 6/7   | 85.71%     | Excellent |
| 19      | Biology Seminar        | Eko Retno Mulyaningrum S.Pd., M.Pd. dan Praptining Rahayu, S.Si., M.Pd | 1    | 1       | 0       | 1       | 1       | 1       | 1       | 6/7   | 85.71%     | Excellent |
| 20      | Scientific Publication | Lussana Rosita Dewi, S.Si, M.Pd.                                       | 1    | 1       | 0       | 1       | 1       | 1       | 1       | 6/7   | 85.71%     | Excellent |
| 21      | Orchid Cultivation     | Dr. Ling Maria Ulfa, M.Pd.; Rivanna Citraning Rachmawati, S.Si.,M.Pd   | 1    | 1       | 1       | 1       | 1       | 1       | 0       | 6/7   | 85.71%     | Excellent |
| 22      | Microbiology           | Atip Nur Wahyunani, M.Pd.; Prof. Dr. Endah Rita, M.Si                  | 1    | 1       | 1       | 1       | 0       | 0       | 1       | 5/7   | 71.43%     | Good      |
| Average |                        |                                                                        | 100% | 90,91 % | 86.36 % | 81.82 % | 86.36 % | 81.82 % | 77.27 % | 6/7   | 86.36%     | Excellent |

#### **e. Analysis of Results by Indicator**

Based on the results of SLP document monitoring, the overall achievement of the indicators shows a strong level of compliance with the expected standards of learning planning. The indicator stating that the SLP is prepared in accordance with Graduate Learning Outcomes and Course Learning Outcomes achieved the highest percentage, namely 100%. This indicates that all SLP documents have clearly reflected the alignment between Graduate Learning Outcomes and Course Learning Outcomes. This result becomes a major strength because the formulation of learning plans has been developed based on the expected competencies of graduates and the specific outcomes of each course.

The indicator related to the use of learning methods that support the achievement of Graduate Learning Outcomes reached 90.91%. This shows that most SLP documents have applied learning methods that are relevant to the characteristics of the courses and supportive of graduate competency achievement. However, the result also indicates that a small portion of the documents still needs improvement, particularly in clarifying the connection between selected learning methods and the intended Graduate Learning Outcomes.

The assessment indicator aligned with Course Learning Outcomes achieved 86.36%. This result indicates that assessment components in most SLP documents have been designed to measure the achievement of Course Learning Outcomes. Nevertheless, further refinement is still needed to ensure that each assessment method, task, or evaluation instrument is directly mapped to the expected learning outcomes. A clearer alignment will help ensure that the assessment process is more objective, measurable, and focused.

The availability of teaching materials that support the learning process reached 81.82%. This shows that most SLP documents have included teaching materials that are relevant to course content and learning objectives. However, this indicator still requires attention because teaching materials play an important role in supporting students' understanding and independent learning. Some SLP documents may need to complete, update, or specify teaching materials such as textbooks, journal articles, modules, digital resources, or other supporting references.

The indicator concerning the availability of assessment rubrics as a basis for objective assessment reached 86.36%. This result shows that most SLP documents have provided assessment rubrics to support transparent and objective evaluation. Rubrics are important because they help lecturers assess student performance based on clear criteria. However, improvement is still needed to ensure that the rubrics are detailed, consistent, and applicable to various forms of assessment, such as assignments, presentations, projects, portfolios, and practical work.

The implementation of Student-Centered Learning in learning activities reached 81.82%. This indicates that most SLP documents have included learning activities that encourage student participation, interaction, discussion, problem-solving, and active learning. However, this indicator still needs to be strengthened so that the principles of Student-Centered Learning are more explicitly reflected in the learning design. Learning activities should clearly describe the role of students as active learners and the role of lecturers as facilitators.

The lowest achievement was found in the indicator related to the integration of lecturers' research and community service outcomes, which reached 77.27%. Although this percentage still indicates a good level of achievement, it shows that this aspect requires the most improvement compared to other indicators. The integration of research and community service outcomes is important to enrich learning with contextual, updated, and practice-based knowledge. Therefore, SLP documents need to strengthen the use of lecturers' research findings, community service outputs, case studies, project-based assignments, and relevant references in learning activities.

Overall, the monitoring results indicate that the SLP documents have generally met the expected standards, especially in terms of alignment with Graduate Learning Outcomes and Course Learning Outcomes. However, several aspects still need improvement, particularly the availability of teaching materials, the implementation of Student-Centered Learning, and the integration of lecturers' research and community service outcomes. Continuous improvement in these areas will strengthen the quality of learning planning and support the achievement of graduate competencies in a more systematic and measurable way.

#### **f. Findings of SLP Document Monitoring and Evaluation**

Based on the monitoring and evaluation of SLP documents, the following findings were identified:

1. All SLP documents demonstrated alignment with Graduate Learning Outcomes and Course Learning Outcomes.
2. Most SLP documents included learning methods that support the achievement of Graduate Learning Outcomes.
3. Most assessments stated in the SLP documents were aligned with Course Learning Outcomes.
4. Teaching materials were available in most SLP documents, but three SLP documents still need improvement in this aspect.
5. Assessment rubrics were available in most SLP documents, but four SLP documents still need to clarify or complete the rubrics.
6. Student-Centered Learning principles were reflected in most learning designs stated in the SLP documents.
7. The integration of lecturers' research and community service outcomes still needs to be strengthened, as five SLP documents did not yet show this integration clearly.

8. In general, the SLP documents of the Biology Education Study Program were categorized as Excellent and were appropriate to be used as learning guidelines.

## 6. CONCLUSION

Based on the results of the monitoring and evaluation of SLP documents for the Even Semester of the 2024/2025 Academic Year in the Biology Education Study Program, FPMIPATI, Universitas PGRI Semarang, it can be concluded that the overall quality of the SLP documents was categorized as Excellent.

The average achievement of SLP document monitoring indicators was 86.36%. The highest achievement was found in the indicator of SLP alignment with Graduate Learning Outcomes and Course Learning Outcomes, reaching 100%. This indicates that the SLP documents had been prepared in accordance with the learning outcome orientation of both the study program and the courses.

The indicators of learning methods supporting Graduate Learning Outcomes and assessment aligned with Course Learning Outcomes reached 90.91%. The indicator of teaching materials availability reached 81.82%, the availability of assessment rubrics reached 86.36%, and the implementation of Student-Centered Learning reached 81.82%.

Meanwhile, the indicator of integrating lecturers' research and community service outcomes reached 77.27% and was categorized as Good. Therefore, this aspect should become a major concern in the follow-up improvement of SLP documents in the following semester.

## 7. RECOMMENDATIONS

Based on the results of the monitoring and evaluation of SLP documents, the following recommendations are proposed:

- a. The Biology Education Study Program should maintain the quality of SLP preparation, particularly the alignment between Graduate Learning Outcomes and Course Learning Outcomes.
- b. Course lecturers should continuously ensure that the learning methods stated in the SLP support the achievement of Graduate Learning Outcomes.
- c. Assessments stated in the SLP should be continuously aligned with Course Learning Outcomes so that student achievement can be measured accurately.
- d. Teaching materials in the SLP should be updated and completed regularly to ensure relevance to scientific development, technological advancement, and learning needs.
- e. Assessment rubrics should be attached or described in more detail in the SLP, particularly for assignments, projects, presentations, practical work, portfolios, and examinations.
- f. The SLP should more explicitly demonstrate Student-Centered Learning activities, such as discussions, problem solving, projects, case studies, collaboration, and learning reflection.

- g. Course lecturers should improve the integration of research and community service outcomes into the SLP, whether in the form of teaching materials, case studies, references, assignments, or student projects.
- h. The Quality Assurance Sub-Unit of the Biology Education Study Program should provide assistance in SLP preparation so that all quality indicators can be fulfilled more evenly.
- i. Monitoring SLP documents should be conducted regularly every semester before the documents are used in the teaching and learning process.

## **8. CLOSING**

This Monitoring and Evaluation Report of SLP Documents was prepared as part of the implementation of the Internal Quality Assurance System in the Biology Education Study Program, FPMIPATI, Universitas PGRI Semarang.

The monitoring and evaluation results indicate that the SLP documents used by lecturers in teaching were generally categorized as Excellent. Nevertheless, continuous improvement remains necessary, particularly in the completeness of teaching materials, the availability of assessment rubrics, the strengthening of Student-Centered Learning, and the integration of lecturers' research and community service outcomes.

This report is expected to serve as a basis for reflection and follow-up actions for the study program, course lecturers, and the Quality Assurance Sub-Unit of the Biology Education Study Program in improving the quality of SLP documents and maintaining sustainable academic quality.

## 10. APPENDICES

### Appendix 1. Instrument for Monitoring SLP Documents

**Table A1** *Instrument for Monitoring SLP Documents*

| No. | Indicator                                                                                      | Monitoring Question                                                                                                 | Score 1                   | Score 0                       |
|-----|------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|---------------------------|-------------------------------|
| 1   | The SLP is prepared in accordance with Graduate Learning Outcomes and Course Learning Outcomes | Does the SLP clearly state Graduate Learning Outcomes, Course Learning Outcomes, and the relationship between them? | Available and appropriate | Not available/not clear       |
| 2   | Learning methods support the achievement of Graduate Learning Outcomes                         | Do the learning methods in the SLP support the achievement of Graduate Learning Outcomes?                           | Available and appropriate | Not available/not appropriate |
| 3   | Assessment is aligned with Course Learning Outcomes                                            | Is the assessment in the SLP aligned with Course Learning Outcomes?                                                 | Available and appropriate | Not available/not appropriate |
| 4   | Teaching materials are available and support the learning process                              | Does the SLP list relevant teaching materials that can be used by students?                                         | Available and supportive  | Not available/not clear       |
| 5   | Assessment rubrics are available as a basis for objective assessment                           | Are assessment rubrics available in the SLP or as attachments to the SLP?                                           | Available and clear       | Not available/not clear       |
| 6   | Learning applies Student-Centered Learning principles                                          | Do the learning activities in the SLP show active student involvement in the learning process?                      | Available and clear       | Not available/not clear       |
| 7   | Integration of lecturers' research and community service outcomes                              | Does the SLP include the integration of lecturers' research and/or community service outcomes?                      | Available and clear       | Not available/not clear       |

## Appendix 2. Recapitulation of SLP Document Monitoring Results by Course

Note: 1 means that the indicator was fulfilled, while 0 means that the indicator was not fulfilled or was not clearly visible.

**Table A2** Recapitulation of SLP Document Monitoring Results by Course

| No. | Course                                | I1   | I2     | I3     | I4     | I5     | I6     | I7     | Score | Percentage | Category  |
|-----|---------------------------------------|------|--------|--------|--------|--------|--------|--------|-------|------------|-----------|
| 1   | Basic Chemistry                       | 1    | 1      | 1      | 1      | 1      | 1      | 1      | 7/7   | 100%       | Excellent |
| 2   | Learner Development                   | 1    | 1      | 1      | 1      | 1      | 1      | 0      | 6/7   | 85.71%     | Excellent |
| 3   | Basic Biology                         | 1    | 1      | 1      | 0      | 1      | 0      | 1      | 5/7   | 71.43%     | Good      |
| 4   | Foundations of Education              | 1    | 1      | 1      | 0      | 1      | 0      | 1      | 5/7   | 71.43%     | Good      |
| 5   | Laboratory Techniques                 | 1    | 1      | 1      | 1      | 1      | 1      | 1      | 7/7   | 100%       | Excellent |
| 6   | Biology Learning Strategies           | 1    | 1      | 1      | 1      | 1      | 1      | 0      | 6/7   | 85.71%     | Excellent |
| 7   | Animal Physiology                     | 1    | 0      | 1      | 1      | 1      | 1      | 1      | 6/7   | 85.71%     | Excellent |
| 8   | Cell Biology                          | 1    | 1      | 1      | 1      | 1      | 1      | 0      | 6/7   | 85.71%     | Excellent |
| 9   | Development of Science Curriculum     | 1    | 1      | 1      | 0      | 1      | 1      | 1      | 6/7   | 85.71%     | Excellent |
| 10  | Strategic and Marketing Analysis      | 1    | 1      | 1      | 1      | 0      | 1      | 1      | 6/7   | 85.71%     | Excellent |
| 11  | Human Resource Management             | 1    | 0      | 1      | 1      | 1      | 1      | 1      | 6/7   | 85.71%     | Excellent |
| 12  | Biology Learning Assessment           | 1    | 1      | 1      | 0      | 1      | 0      | 1      | 5/7   | 71.43%     | Good      |
| 13  | Advanced Human Anatomy and Physiology | 1    | 1      | 1      | 1      | 1      | 1      | 1      | 7/7   | 100.00%    | Excellent |
| 14  | Evolution                             | 1    | 1      | 0      | 1      | 1      | 1      | 1      | 6/7   | 85.71%     | Excellent |
| 15  | Microteaching                         | 1    | 1      | 1      | 1      | 1      | 1      | 1      | 7/7   | 100.00%    | Excellent |
| 16  | Environmental Science                 | 1    | 1      | 1      | 1      | 0      | 1      | 1      | 6/7   | 85.71%     | Excellent |
| 17  | Fishery Cultivation                   | 1    | 1      | 1      | 0      | 1      | 1      | 1      | 6/7   | 85.71%     | Excellent |
| 18  | Biotechnology                         | 1    | 1      | 1      | 1      | 1      | 1      | 0      | 6/7   | 85.71%     | Excellent |
| 19  | Biology Seminar                       | 1    | 1      | 0      | 1      | 1      | 1      | 1      | 6/7   | 85.71%     | Excellent |
| 20  | Scientific Publication                | 1    | 1      | 0      | 1      | 1      | 1      | 1      | 6/7   | 85.71%     | Excellent |
| 21  | Orchid Cultivation                    | 1    | 1      | 1      | 1      | 1      | 1      | 0      | 6/7   | 85.71%     | Excellent |
| 22  | Microbiology                          | 1    | 1      | 1      | 1      | 0      | 0      | 1      | 5/7   | 71.43%     | Good      |
|     | Average                               | 100% | 90,91% | 86.36% | 81.82% | 86.36% | 81.82% | 77.27% | 6/7   | 86.36%     | Excellent |

**Table A3 Recapitulation of Indicator Fulfillment**

| Indicator | Number Fulfilled | Total SLP Documents | Percentage |
|-----------|------------------|---------------------|------------|
| I1        | 22               | 22                  | 100,00%    |
| I2        | 20               | 22                  | 90,91%     |
| I3        | 19               | 22                  | 86,36%     |
| I4        | 18               | 22                  | 81,82%     |
| I5        | 19               | 22                  | 86,36%     |
| I6        | 18               | 22                  | 81,82%     |
| I7        | 17               | 22                  | 77,27%     |
| Total     | 133              | 157                 | 86.36%     |

**Appendix 3. List of Monitored SLP Documents****Table A4***List of Monitored SLP Documents*

| No. | Course                            | Course Lecturers                                                        | SLP Document Status | Notes                                                                |
|-----|-----------------------------------|-------------------------------------------------------------------------|---------------------|----------------------------------------------------------------------|
| 1   | Basic Chemistry                   | Dr. Maria Ulfah, M.Pd                                                   | Available           | Rubric and research/community service integration need strengthening |
| 2   | Learner Development               | Rivanna Citraning Rachmawati, S.Si.; M.Pd; Reni Rakhmawati, S.Pd., M.Pd | Available           | Research/community service integration needs strengthening           |
| 3   | Basic Biology                     | Ipah Budi Minarti, S.Pd, M.Pd.; Fibria Kaswinarni, S.Si, M.Si           | Available           | Complete                                                             |
| 4   | Foundations of Education          | Dr. Prasetyo, M.Pd                                                      | Available           | Complete                                                             |
| 5   | Laboratory Techniques             | M. Anas Dzakiy, S.Si, M.Sc; Reni Rakhmawati, S.Pd, M.Pd                 | Available           | Complete                                                             |
| 6   | Biology Learning Strategies       | Dr. Fenny Roshayanti, S.Pd M.Pd.; Atip Nurwahyunani, S.Si, S.Pd, M.Pd   | Available           | Research/community service integration needs strengthening           |
| 7   | Animal Physiology                 | Dr. Mei Sulistyoningih, M.Si; Reni Rakhmawati, S.Pd, M.Pd               | Available           | Complete                                                             |
| 8   | Cell Biology                      | Reni Rakhmawati, S.Pd, M.Pd.; Lussana Rosita Dewi, S.Si, M.Pd.          | Available           | Complete                                                             |
| 9   | Development of Science Curriculum | Dr. Eny Hartadiyati, MSi, Med. ; Dr. Sumarno, M.Pd                      | Available           | Teaching materials need completion                                   |
| 10  | Strategic and Marketing Analysis  | Dr. Mei Sulistyowati, S.Si, M.Si.                                       | Available           | Complete                                                             |

| No. | Course                                | Course Lecturers                                                       | SLP Document Status | Notes                                                      |
|-----|---------------------------------------|------------------------------------------------------------------------|---------------------|------------------------------------------------------------|
| 11  | Human Resource Management             | Dr. Mei Sulistyowati, S.Si, M.Si.                                      | Available           | Learning method and assessment rubric need strengthening   |
| 12  | Biology Learning Assessment           | Dr. Prasetyo., M.Pd; Ipah Budi Minarti, S.Pd, M.Pd                     | Available           | Research/community service integration needs strengthening |
| 13  | Advanced Human Anatomy and Physiology | Dr. Fenny Roshayanti, S.Pd M.Pd.; Fibria Kaswinarni, S.Si, M.Si.       | Available           | Complete                                                   |
| 14  | Evolution                             | Reni Rakhmawati, S.Pd, M.Pd; Praptining Rahayu, M.Pd                   | Available           | Assessment alignment with CLOs needs strengthening         |
| 15  | Microteaching                         | Eko Retno Mulyaningrum, M.Pd.; Dr. Syaipul Hayat, M.Pd                 | Available           | Complete                                                   |
| 16  | Environmental Science                 | Dr. Ling. Maria Ulfa, M.Pd; Fibria Kaswinarni, S.Si, M.Si              | Available           | Complete                                                   |
| 17  | Fishery Cultivation                   | Praptining Rahayu, S.Si, M.Pd; Atip Nurwahyunani, M.Pd                 | Available           | Teaching materials and assessment rubric need completion   |
| 18  | Biotechnology                         | Prof. Dr. Endah Rita S.D., S.Si, M.Si; Atip Nurwahyunani, M.Pd.        | Available           | SCL design needs strengthening                             |
| 19  | Biology Seminar                       | Eko Retno Mulyaningrum S.Pd., M.Pd. dan Praptining Rahayu, S.Si., M.Pd | Available           | Complete                                                   |
| 20  | Scientific Publication                | Lussana Rosita Dewi, S.Si, M.Pd.                                       | Available           | SCL design needs strengthening                             |
| 21  | Orchid Cultivation                    | Dr. Ling Maria Ulfa, M.Pd.; Rivanna Citraning Rachmawati, S.Si.,M.Pd   | Available           | Complete                                                   |
| 22  | Microbiology                          | Atip Nur Wahyunani, M.Pd.; Prof. Dr. Endah Rita, M.Si                  | Available           | Complete                                                   |

#### Appendix 4. Recapitulation of Teaching Material Availability in SLP Documents

**Table A5** *Teaching Material Availability in SLP Documents*

| No. | Course                            | Teaching Material Status | Types of Teaching Materials Listed                       | Notes            |
|-----|-----------------------------------|--------------------------|----------------------------------------------------------|------------------|
| 1   | Basic Chemistry                   | Available                | Textbooks, presentation materials                        | Fulfilled        |
| 2   | Learner Development               | Available                | Modules, presentation materials, exercises               | Fulfilled        |
| 3   | Basic Biology                     | Available                | Textbooks, digital teaching materials                    | Fulfilled        |
| 4   | Foundations of Education          | Available                | Textbooks, exercises                                     | Fulfilled        |
| 5   | Laboratory Techniques             | Available                | Modules, presentation materials                          | Fulfilled        |
| 6   | Biology Learning Strategies       | Available                | Textbooks, exercises                                     | Fulfilled        |
| 7   | Animal Physiology                 | Available                | Textbooks, supporting articles                           | Fulfilled        |
| 8   | Cell Biology                      | Available                | Textbooks, presentation materials, student worksheets    | Fulfilled        |
| 9   | Development of Science Curriculum | Not yet clear            | Teaching materials have not been specified               | Needs completion |
| 10  | Strategic and Marketing Analysis  | Available                | Modules, sample lesson plans/SLP, presentation materials | Fulfilled        |
| 11  | Human Resource Management         | Available                | Modules, computational practice materials                | Fulfilled        |

| No. | Course                                | Teaching Material Status | Types of Teaching Materials Listed                  | Notes            |
|-----|---------------------------------------|--------------------------|-----------------------------------------------------|------------------|
| 12  | Biology Learning Assessment           | Available                | Textbooks, exercises                                | Fulfilled        |
| 13  | Advanced Human Anatomy and Physiology | Available                | Application modules, practical materials, tutorials | Fulfilled        |
| 14  | Evolution                             | Available                | Modules, case studies, presentation materials       | Fulfilled        |
| 15  | Microteaching                         | Available                | Modules, student worksheets, presentation materials | Fulfilled        |
| 16  | Environmental Science                 | Available                | Textbooks, exercises                                | Fulfilled        |
| 17  | Fishery Cultivation                   | Not yet clear            | Teaching materials have not been specified          | Needs completion |
| 18  | Biotechnology                         | Available                | Textbooks, exercises                                | Fulfilled        |
| 19  | Biology Seminar                       | Available                | Textbooks, digital teaching materials               | Fulfilled        |
| 20  | Scientific Publication                | Available                | Practical modules, computational materials          | Fulfilled        |
| 21  | Orchid Cultivation                    | Available                | Textbooks, digital teaching materials               | Fulfilled        |
| 22  | Microbiology                          | Available                | Practical modules, computational materials          | Fulfilled        |

**Table A6 Recapitulation of Teaching Material Availability**

| Status                                               | Number of SLP Documents | Percentage |
|------------------------------------------------------|-------------------------|------------|
| Teaching materials are available and supportive      | 20                      | 90.90%     |
| Teaching materials are not yet clear/need completion | 2                       | 9.10%      |
| Total                                                | 22                      | 100%       |

## Appendix 5. Recapitulation of Assessment Rubric Availability in SLP Documents

**Table A7 Assessment Rubric Availability in SLP Documents**

| No. | Course                         | Assessment of Rubric Status | Types of Rubrics Listed         | Notes            |
|-----|--------------------------------|-----------------------------|---------------------------------|------------------|
| 1   | Genetics                       | Not yet clear               | Not specified                   | Needs completion |
| 2   | Ethics and Teaching Profession | Available                   | Assignment and exercise rubrics | Fulfilled        |

| No. | Course                                                  | Assessment of Rubric Status | Types of Rubrics Listed              | Notes            |
|-----|---------------------------------------------------------|-----------------------------|--------------------------------------|------------------|
| 3   | Information and Communication Technology                | Available                   | Assignment and test rubrics          | Fulfilled        |
| 4   | Animal Developmental Structure                          | Available                   | Assignment and test rubrics          | Fulfilled        |
| 5   | Fundamentals of Biology Learning                        | Available                   | Assignment and test rubrics          | Fulfilled        |
| 6   | Biology Seminar                                         | Available                   | Assignment and test rubrics          | Fulfilled        |
| 7   | Biotechnology                                           | Available                   | Assignment and participation rubrics | Fulfilled        |
| 8   | Environmental Science (A)                               | Available                   | Learning tool development rubrics    | Fulfilled        |
| 9   | Environmental Science (B)                               | Available                   | Practice and product rubrics         | Fulfilled        |
| 10  | Educational Research Methodology                        | Available                   | Learning tool development rubrics    | Fulfilled        |
| 11  | Plant Physiology                                        | Not yet clear               | Rubric has not been specified        | Needs completion |
| 12  | Plant Developmental Structure                           | Available                   | Assignment and test rubrics          | Fulfilled        |
| 13  | Animal Diversity                                        | Available                   | Learning media project rubrics       | Fulfilled        |
| 14  | Plant Diversity                                         | Available                   | Business project rubrics             | Fulfilled        |
| 15  | Basic Human Anatomy and Physiology                      | Available                   | Exploration and presentation rubrics | Fulfilled        |
| 16  | Development of Biology Learning Curriculum              | Available                   | Assignment and test rubrics          | Fulfilled        |
| 17  | Development of Biology Learning Resources and Materials | Not yet clear               | Rubric has not been specified        | Needs completion |
| 18  | Biological Research Methodology                         | Available                   | Assignment and test rubrics          | Fulfilled        |
| 19  | Digital Learning Media Innovation                       | Available                   | Assignment and test rubrics          | Fulfilled        |
| 20  | Classroom Management                                    | Available                   | Computational practice rubrics       | Fulfilled        |
| 21  | Orchid Cultivation                                      | Available                   | Assignment and test rubrics          | Fulfilled        |
| 22  | Microbiology                                            | Available                   | Assignment and test rubrics          | Fulfilled        |

**Table A8 Recapitulation of Assessment Rubric Availability**

| Status                                    | Number of SLP Documents | Percentage |
|-------------------------------------------|-------------------------|------------|
| Assessment rubrics are available          | 19                      | 86.36%     |
| Rubrics are not yet clear/need completion | 3                       | 13.64%     |
| Total                                     | 22                      | 100%       |

## Appendix 6. Recapitulation of Research and Community Service Integration in SLP Documents

**Table A9 Research and Community Service Integration in SLP Documents**

| No. | Course                                                  | Research/Community Service Integration Status | Form of Integration in the SLP                                               | Notes               |
|-----|---------------------------------------------------------|-----------------------------------------------|------------------------------------------------------------------------------|---------------------|
| 1   | Genetics                                                | Integrated                                    | Lecturer research/community service outcomes have not been explicitly stated | Fulfilled           |
| 2   | Ethics and Teaching Profession                          | Integrated                                    | Examples of lecturers' research outcomes have not been explicitly stated     | Fulfilled           |
| 3   | Information and Communication Technology                | Integrated                                    | Examples and references related to mathematics learning development          | Fulfilled           |
| 4   | Animal Developmental Structure                          | Integrated                                    | Statistical and probability case examples in learning                        | Fulfilled           |
| 5   | Fundamentals of Biology Learning                        | Integrated                                    | Integration of applied algebraic studies in learning                         | Fulfilled           |
| 6   | Biology Seminar                                         | Not yet clear                                 | Research/community service integration is not yet clearly visible            | Needs strengthening |
| 7   | Biotechnology                                           | Integrated                                    | Professional ethics cases and educational community service                  | Fulfilled           |
| 8   | Environmental Science (A)                               | Integrated                                    | Integration of learning tools and school-based community service outcomes    | Fulfilled           |
| 9   | Environmental Science (B)                               | Integrated                                    | Learning products and practice activities based on school needs              | Fulfilled           |
| 10  | Educational Research Methodology                        | Integrated                                    | Learning tools based on studies and community service outcomes               | Fulfilled           |
| 11  | Plant Physiology                                        | Integrated                                    | Computational examples based on real-world problems                          | Fulfilled           |
| 12  | Plant Developmental Structure                           | Not yet clear                                 | Research/community service integration has not been explicitly stated        | Needs strengthening |
| 13  | Animal Diversity                                        | Integrated                                    | Development of research-based learning media                                 | Fulfilled           |
| 14  | Plant Diversity                                         | Integrated                                    | Entrepreneurship case studies and community service activities               | Fulfilled           |
| 15  | Basic Human Anatomy and Physiology                      | Integrated                                    | Learning exploration based on lecturers' academic studies                    | Fulfilled           |
| 16  | Development of Biology Learning Curriculum              | Integrated                                    | Examples of mathematical modeling applications                               | Fulfilled           |
| 17  | Development of Biology Learning Resources and Materials | Integrated                                    | Problem-based learning activities related to school contexts                 | Fulfilled           |
| 18  | Biological Research Methodology                         | Integrated                                    | Examples of statistical applications in research                             | Fulfilled           |
| 19  | Digital Learning Media Innovation                       | Integrated                                    | Integration of conceptual reinforcement and theoretical studies              | Fulfilled           |
| 20  | Classroom Management                                    | Integrated                                    | Research-based data analysis practice                                        | Fulfilled           |
| 21  | Orchid Cultivation                                      | Not yet clear                                 | Examples of lecturers' research outcomes have not been explicitly stated     | Needs strengthening |
| 22  | Microbiology                                            | Integrated                                    | Examples and references related to mathematics learning development          | Fulfilled           |

**Table A10** *Recapitulation of Research and Community Service Integration*

| Status                                                    | Number of SLP Documents | Percentage |
|-----------------------------------------------------------|-------------------------|------------|
| Research/community service integration is clearly visible | 19                      | 86.36%     |
| Integration is not yet clear/needs strengthening          | 3                       | 13.64%     |
| Total                                                     | 22                      | 100%       |